

# **A Clinical Exploration of Value Creation and Destruction in Acquisitions: Organizational Design, Incentives, and Internal Capital Markets**

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## **Abstract**

This paper presents clinically-based studies of two acquisitions that received very different stock market reactions at announcements one positive and one negative. Despite the differing market reactions, we find that, ultimately, neither acquisition created value overall. In exploring the reasons for the acquisition outcomes, we rely primarily on interviews with managers and on internally generated performance data. We compare the results of these analyses to those from analyses of post-acquisition operating and stock price performance traditionally applied to large samples.

We draw two primary conclusions. (1) Our findings highlight the difficulty of implementing a successful acquisition strategy and of running an effective internal capital market. Post-acquisition difficulties resulted because: (a) managers of the acquiring company did not deeply understand the target company at the time of the acquisition; (b) the acquirer imposed an inappropriate organizational design on the target as part of the post-acquisition integration process; and (c) inappropriate management incentives existed at both the top management and division level. (2) Measures of operating performance used in large sample studies are weakly correlated with actual post-acquisition operating performance.

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**A Clinical Exploration of Value Creation and Destruction in Acquisitions:  
Organizational Design, Incentives, and Internal Capital Markets**

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**1. Introduction.**

This paper attempts to further our knowledge of the sources of value creation and destruction in acquisitions. Prior work by economists consists primarily of large-sample studies that provide mixed, incomplete, and, sometimes, conflicting evidence. Furthermore, these studies typically do not attempt to identify the organizational mechanisms and management practices that affect changes in productivity and performance.

In this paper, we ask two questions. First, when, how, and why is value created or destroyed in mergers and acquisitions? Second, how well do large sample performance measures reflect the underlying economics of acquisitions? To answer these questions, we present clinical analyses of two acquisitions: Cooper Industries' acquisition of Cameron Iron Works in 1989 and Premark's acquisition of Florida Tile (formally known as Sikes Corporation) in 1990. These acquisitions were selected because they received very different stock price responses at the time of their announcement – Cooper Industries' acquisition was viewed positively, while Premark's acquisition of Florida Tile was viewed negatively. Despite the different market reactions, neither acquisition, ultimately created value. In exploring the reasons for these negative outcomes, we rely primarily on interviews with managers and on internally-generated (and non-public) performance data. We compare the results of these analyses to those from analyses of post-acquisition operating and stock price performance traditionally applied to large samples.

Taken together, our analyses of these two acquisitions suggest the following:

(1) It is very difficult to implement a value-creating acquisition strategy (and run an effective internal capital market). In both cases, post-acquisition difficulties resulted because:

a) Managers of the acquiring company did not deeply understand the target company. Despite the fact that Cooper Industries had operations in Cameron Iron Works' industry (the petroleum equipment business), Cooper's management did not understand that its expertise in manufacturing technology and internal control would not translate into success for Cameron. As Cameron

managers described it, Cooper did not understand that Cameron was not a manufacturing business. It was a service business with a manufacturing component. Similarly, Premark managers recognized only after the fact that they did not have sufficient expertise in Florida Tile's business. At the time of the acquisition, they viewed Florida Tile as an expansion of their decorative products division. As Premark's chief executive officer (CEO), Jim Ringler noted, "what we learned [from the Florida Tile acquisition] is that no matter how simple a business appears, it is complex in its execution."

(b) An inappropriate organizational design was imposed on the target as part of the post-acquisition integration process. After the acquisition, Cooper implemented its standard organizational structures and control procedures at Cameron. This process has been lionized as "Cooperization" in the popular press and in a widely-taught corporate strategy case on Cooper (Collis and Stuart [1991] and Collis [1991]). Cooperization was inefficient for Cameron's business, and, we hypothesize, ultimately for Cooper as a whole. For Cameron, it created an over-centralized, highly bureaucratic organization that stifled innovation and motivation. In July 1995, Cooper split-off its energy-related businesses, including Cameron, creating a new firm called Cooper Cameron. Following the split-off, Cooper Cameron's new management team redesigned the organization and implemented new control procedures and incentive compensation plans. Many of these changes effectively undid Cooperization, and appear largely responsible for the split-off's outstanding performance. Premark made Florida Tile part of its decorative products division and then essentially managed Florida Tile from headquarters. Premark also made no major changes in Florida Tile's organizational design. The distance between Premark headquarters and Florida Tile's operations were responsible for Premark's slow response to production problems at Florida Tile.

(c) Inappropriate management incentives existed at both the top management and division level. After Cameron was acquired, Cooper implemented its standard incentive compensation system. Described by Cameron executives as "mysterious," divisional executives asserted they did not know what determined their compensation. Similarly, Premark's compensation system did not tie compensation to performance in any substantial way. In fact, Premark's governance process and capital budgeting system actually encouraged managers to spend free cash flow rather than return it to shareholders.

It is worth emphasizing that in both cases, managers of acquiring firms expected synergies from the acquisition because the businesses were seen as related. While there is considerable disagreement as to whether mergers create value in general (which we describe below), there is something of a consensus that combinations of related companies can realize synergies and are, therefore, more valuable than unrelated combinations. These two cases, however, provide counter-examples that illustrate the difficulty of realizing synergies even when managers have the best of intentions. We hypothesize that potential synergies are often illusive and sometimes mythical in organizations; they appear as possibilities but never materialize either because they are difficult to achieve or never actually existed.

(2) Standard measures of operating performance used in large sample studies are weakly correlated, if at all, with actual post-acquisition operating performance. Standard large sample measures of operating performance—company changes in operating margins and operating return on assets—indicate incorrectly that both the Cooper and Premark acquisitions were successful.

We also argue that while neither acquisition created value, the initial stock-market reaction to the acquisitions at the time were arguably reasonable. The market reacted positively to Cooper's acquisition of Cameron because the two firms appeared to operate in the same industry and there was an expectation that overlapping functions could be eliminated. Moreover, Cooper had a multi-decade long track record of making successful acquisitions (see Collis and Stuart [1991]). In contrast, the market reacted negatively to Premark's acquisition of Florida Tile because the market understood that Premark had substantial free cash flow from its Tupperware division, and management provided no concrete explanation of how Florida Tile would add value to the organization. In addition, the acquisition would divert management's attention from Tupperware, its primary business, which was deteriorating.

We also discuss the biases that our research design uncovered and, likely affect most clinical or case-based research projects. We asked four candidate acquisitions to participate in this study. Two turned us down immediately—one was a poor performer, the other had a long-standing non-disclosure policy. Another firm agreed to participate and then was only mildly cooperative. Only one candidate participated, and even their participation was limited to target management. In this sense, our sample is selected or biased.

We believe that such selection bias is unavoidable in clinical research and teaching case studies. Thus, it is important to place clinical evidence in the context of the large-sample literature. While clinical

research likely suffers from some bias, its strength is that it facilitates the study of phenomenon that cannot be examined through large-sample approaches, for example research into the structural models underlying the phenomenon in question. It also has the potential to identify important factors that might then be studied in large-sample contexts. Thus, the two lines of empirical work are complementary.

The paper proceeds as follows. In section 2, we both summarize the existing (large sample) evidence on mergers and acquisitions and discuss the omissions in that literature. In section 3, we discuss our research design and sample selection. In this section, we also illustrate some of the biases that affect clinical or case-based research. In section 4, we analyze Cooper Industries' acquisition of Cameron Iron Works. In section 5, we analyze Premark's acquisition of Florida Tile. For both acquisitions, we (a) discuss the motivations for the acquisitions; (b) detail the acquisitions' effects on operating performance and the sources of value creation and destruction; and (c) perform both a traditional operating performance analysis and longer-term stock performance analysis. In section 6, we discuss our conclusions, the generalizability of those conclusions, and their implications for future research.

## **2. Existing evidence on mergers and acquisitions (and lack thereof).**

The existing evidence on the effects of mergers and acquisitions comes from two basic types of large sample studies: event studies and performance studies.

Event studies consistently find positive average combined returns to acquirer and target stockholders around the announcement of an acquisition. This suggests that the market anticipates that acquisitions will create value on average. These studies (and reactions) do not, however, provide deep insight into the sources of value changes in mergers, or whether those market expectations are ultimately realized. Furthermore, the combined returns cover a broad range of responses from very positive to very negative.

Cross-sectional analyses of event-period returns provide some evidence that the broad range of combined announcement-period returns reflects the market's ability to forecast an acquisition's success. For example, both Mitchell and Lehn (1990) and Kaplan and Weisbach (1992) find that there is a relation between (1) acquirer and combined returns and (2) the ultimate outcome of the acquisition. Mitchell and Lehn find that acquirers earning low returns are subsequently more likely to become the target of a hostile takeover bid. Similarly, Kaplan and Weisbach find that both low acquirer and combined returns are associated with an increased likelihood of subsequent divestiture at a loss to the acquirer. Morck, Shleifer

and Vishny (1990) find that acquirer returns are greater in acquisitions in which the acquirer and the target are in the same line of business. Other studies examine a number of different determinants of the cross-sectional variation in returns associated with acquisitions. (For example, Lang, Stulz and Walkling [1991], Maloney, McCormick and Mitchell [1993], and Servaes [1991].)

While cross-sectional analyses of event-period returns provide insight into the nature of the market reaction to acquisition announcements, they do not examine whether the anticipated value creation or improved productivity materializes. Nor do they have a great deal to say about the organizational mechanisms and management practices that drive acquisition success or failure.

Performance studies attempt to measure the longer-term implications of mergers and acquisitions. These studies use both accounting and stock return data to measure performance. Independent of the type of data analyzed, these studies fail to find consistent evidence of improved performance or productivity gains. For example, Healy, Palepu and Ruback (1990) study the post-merger operating performance of 50 large mergers completed in the early 1980s. Although they document an increase in return on the market value of assets, Healy et al. find no evidence of changes in operating margins or capital expenditures. Similarly, Ravenscraft and Scherer (1987) find no evidence of margin improvements in a large sample of acquisitions completed in the 1960s and 1970s. In contrast, Lichtenberg and Siegel (1987) report evidence of productivity improvements at the plant level for a sample of 1970s acquisitions. Studies that focus on acquirers' long-term stock performance also find mixed results: abnormally negative stock returns after the acquisition (Aggrawal et al. [1992]), no abnormal returns (Franks et al. [1991]), and negative abnormal returns only for stock mergers (Mitchell and Stafford [1996]). Like the announcement-period event studies, longer-term performance and event studies document substantial cross-sectional variation in performance. But again, they do not provide deep insight into the sources of value changes in mergers and acquisitions.

Also relevant to this paper is a growing literature that attempts to explain overall merger activity by documenting aggregate, institutional, and industry trends in acquisitions. For example, see, Jensen (1993), Comment and Schwert (1995), Comment and Jarrell (1995), Mitchell and Mulherin (1996), and Andrade and Stafford (1996). While these studies link acquisition activity to legal, regulatory, industry, or technological changes, they do not study whether these acquisitions achieve their objectives or meet the market's expectations.

We also surveyed the relevant literature in the field of corporate strategy and discussed that literature with our strategy colleagues. Again, we found no study that examined the link between the outcomes of acquisitions and organizational strategy and structure.

In sum, the voluminous economics, finance, and strategy literatures on takeovers during the past twenty years offer little insight to practitioners or academics on what managers do to influence whether mergers succeed or fail. Prior clinical work, such as Baker and Wruck (1992) and Wruck (1994), documents a connection between value creation and the nature of a firm's governance structure, organizational design, and compensation systems. However, these studies examine firms undertaking highly leveraged transactions, not mergers and acquisitions.

### **3. Research design and sample selection.**

We chose candidate sample firms from a sample of mergers and acquisitions created by the Center for Research in Security Prices (CRSP) at the University of Chicago. The sample includes all firms delisted from the CRSP database between 1955 and 1995. We restricted our sample to acquisitions that were completed between 1987 and 1994. We began with 1987 because we wanted the acquisition to be sufficiently fresh in the minds of the executives we interviewed. We ended with 1994 to ensure that at least two years had elapsed since the acquisition. Because we were interested only in acquisitions by non-financial firms, we eliminated acquisitions by financial firms.

We then ranked acquisitions based on the market's announcement-period response. We classified the reaction as positive if the combined value of the acquirer and target increased by more than 5% (net of the return on the S&P 500) over the eleven days around the announcement. In these cases, the market anticipated that the value of the two companies in combination exceeded their stand-alone values. We classified the reaction as negative if the bidder's stock declined by more than the increase in the target's stock. In these cases, the market anticipated that the combination would destroy value.

This ranking process generated 34 positive candidates and 14 negative candidates. We then approached two positive and two negative candidates, based on geographical proximity and school connections to executives at the acquirer. We approached each of the four companies by calling and/or writing a letter to the chief executive officer or other top manager explaining our project and asking if they would participate. In each letter, we mentioned the contact who had referred us to the company.

These contacts included two directors, the development office at one of the authorís schools, and an alumnus of one of the authorís schools. The acquisitions are:

- 1) American Home Products' 1994 acquisition of American Cyanamid. The acquisition had announcement period returns (3 and 11-day) of -\$122 million and -\$108 million to American Home Products, and \$2.65 billion and \$2.81 billion to American Cyanamid. The combined value increase was \$2.53 billion and \$2.70 billion from an initial value of American Cyanamid of \$5.52 billion.
- 2) Cooper Industries' 1989 acquisition of Cameron Iron Works. The acquisition had announcement period returns (3 and 11-day) of \$113 million and \$207 million to Cooper, and -\$13 million and -\$8 million to Cameron. The combined value increase was \$100 million and \$199 million from an initial value of Cameron of \$703 million.<sup>1</sup> Cooper Industries also acquired Champion Spark Plugs in 1989. This acquisition had announcement period returns (3 and 11-day) of -\$34 million and +\$5 million to Cooper, and \$166 million and \$254 million to Champion. The combined value increase was \$132 million and \$259 million from an initial value of Champion of \$556 million.
- 3) Maytag's 1988 acquisition of Chicago Pacific (1988). The acquisition had announcement period returns (3 and 11-day) of -\$175 million and -\$195 million to Maytag, and \$165 million and \$167 million to Chicago Pacific. The combined value change was -\$10 million and -\$28 million from an initial value of Chicago Pacific of \$518 million.
- 4) Premark International's 1990 acquisition of Sikes Corporation. Sikes Corporation primary operating unit was Florida Tile. The acquisition had announcement period returns (3 and 11-day) of -\$48 million and -\$183 million to Premark, and \$29 million and \$30 million to Sikes. The combined value change was -\$19 million and -\$153 million from an initial value of Sikes of \$103 million.

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<sup>1</sup> This understates the value increase in this acquisition. As described in section 4, Cameron's share price had risen substantially several months earlier when its largest shareholder announced that its shares were for sale.

American Home Products turned us down immediately. The vice president we contacted explained that American Home Products has a long-standing policy of not participating in such projects. This outcome is consistent with the experience of several colleagues who have attempted to study this company.

Cooper Industries made two acquisitions we were interested in studying. Cooper Industries, however, did not want to participate. As mentioned above, in 1995, Cooper Industries split-off Cooper Cameron which included the remaining assets of Cameron Iron Works. Cooper Industries' CEO suggested that we contact Cooper Cameron and Cooper Cameron's top management agreed to participate.

Maytag turned us down immediately. An assistant to the CEO stated that the acquisition of Chicago Pacific had been an extremely painful chapter in Maytag's history. Maytag had spent years undoing the damage that had been done by the acquisition. Subsequently, we learned that the *Wall Street Journal* had written an extremely critical front page story on the acquisition (January 31, 1991).

Premark agreed to participate. We met with the CEO and the CFO for one afternoon at Premark's headquarters. At that time, they agreed to continue with the project and provide us with more detailed information. Several weeks after this meeting, Premark's CFO informed us that the company did not wish to continue its participation. Accordingly, our analysis of this acquisition relies on publicly available data and our one on-site meeting. Although we were unable to conduct as detailed an analysis as we originally anticipated, our findings are of interest and lend support to our conclusions.

To ensure the integrity of the research, we asked the firms to agree that they would not dictate the analysis or conclusions, but would have the right to review the information we published for factual accuracy and for sensitive competitive information.

### **3.1. Sample biases and benefits here and in clinical studies in general.**

Our experience in obtaining the sample makes clear that clinical and case-based research is subject to selection biases. We strongly suspect that firms with negative performance, such as Maytag, and are less likely to participate. Even Cooper Industries, whose CEO was extremely helpful to us, did not want to participate directly. Both these organizations cited the counter-productive effects of revisiting the past as important factors in reaching their decision. In addition, firms with non-disclosure or non-participation policies are not potential research sites even when they do well, as was the case with American Home

Products. Finally, we found that our access to firms was easier when we (as individuals or through our institution) had management contacts.

Although we are not sure what the effect of these biases is on our paper, we feel it is important to report them. It is also important to point out that biases arose in spite of the fact that we attempted to minimize them through our sample selection method. As stated earlier, a critical part of the value of clinical work is to identify important phenomena that are unlikely to emerge from large-sample studies. Once identified, it is possible to study those phenomena more broadly in a larger sample context. However, the potential for biases in clinical work makes it essential that these biases be identified so that particular firms and transactions can be grounded in the context of the large-sample literature.

#### **4. Cooper Industries' acquisition of Cameron Iron Works.**

##### **4.1. Company descriptions.**

In 1988, the year before the Cameron acquisition, Cooper Industries had sales of \$4.25 billion and operating cash flow (also referred to as earnings before interest, taxes, depreciation, and amortization or EBITDA) of \$610 million. The company operated in three segments. The largest, electrical and electronics, generated more than half of Cooper's sales and operating profits. Its products included power transmission and distribution systems, lighting products, wire and cable, and protective electrical equipment. Cooper entered this segment with its 1981 acquisition of Crouse-Hinds. The second segment, Cooper's commercial and industrial segment, included hand-tool, window treatment, and automotive businesses. It generated roughly 30% of sales and operating profits. The third segment, compression, drilling and energy equipment business, generated roughly 20% of sales and 10% of operating profit. This segment's performance was the most highly variable, and had been hurt by the collapse of the energy market in the early 1980s. As recently as 1981, it had generated more than half of Cooper's sales and operating profits.

Based on reported SIC codes, this acquisition would be considered unrelated using COMPUSTAT primary SIC codes, CRSP primary SIC codes, and Value Line industry classifications, but related at the three-digit level using the primary and secondary SIC codes listed in the million Dollar Directory. COMPUSTAT lists Cooper Industries' primary 4-digit SIC code as 3640 (electrical wiring and lighting equipment). In contrast, CRSP assigns Cooper a 4-digit SIC code of 3511 (steam, gas and hydraulic

turbines). In the year before the Cameron acquisition, Dun and Bradstreet's million Dollar Directory listed Cooper with a primary SIC code of 3469 (metal stamping), and secondary SIC codes of 3646 (commercial and industrial electric lighting fixtures), 3643 (current-carrying wiring devices), 3613 (switchgear and switchboard applications), 3679 (electronic components), and 3625 (relays and industrial controls). The Value Line Investment Survey includes Cooper in the Electrical Equipment Industry.

Cameron Iron Works had two operating divisions. The larger of the two, the Oil Tool Division manufactured pressure control equipment used at the wellhead in the drilling for and production of oil and gas, both onshore and offshore.<sup>2</sup> The Oil Tool Division had sales of \$428.7 million and EBITDA of \$50.7 million in 1989. The smaller division, Forged Products, made forged and extruded metal products, some of which were sold to the Oil Tool Division. The Forged Products Division had sales of \$182.3 million and EBITDA of \$19.3 million in 1989.

COMPUSTAT assigns Cameron a primary 4-digit SIC code of 3533 (oil and gas field machinery and equipment). Again, in contrast, CRSP assigns Cameron a 4-digit SIC code of 3462 (iron and steel forging). Dun and Bradstreet's million Dollar Directory lists Cameron with a primary SIC code of 3533, and secondary codes of 3462, 3494 (valves and pipe fittings), and 5084 (wholesale industrial machinery and equipment) in the year prior to the acquisition. Value Line includes Cameron in the Oilfield Services Industry.

#### **4.2. Acquisition motivation and events.**

At the time of the acquisition, Cooper's Energy Services division manufactured large compressors that pushed natural gas through pipelines and pumped oil out of the ground. Cameron had operated in related businesses since its founding in 1921. The potential for synergies with Cooper's energy businesses and the opportunity to improve efficiency through consolidation and cost-cutting made Cameron an attractive takeover target to Cooper. Cooper and Cameron sold to many of the same customers, and Cameron had a strong brand name and a reputation for technological excellence and high quality products.

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<sup>2</sup> See Cameron Iron Works Annual Report, 1989.

Cameron became a likely acquisition candidate on March 3, 1989, when Cameron Iron Works' largest shareholder, the Robinson Family Trusts, announced its intention to sell its interests in Cameron or sell the company as a whole. The trusts, which were owned and controlled by the family of Cameron's founder, held 47.5% of Cameron's common stock. The founder's daughter owned an additional 7.5% of the company. On March 16, 1989, Cameron announced that it had held a special board meeting and had authorized its financial advisors to consider alternatives that included selling the company.

Cameron's investment bankers, First Boston and Goldman Sachs, contacted 126 potential buyers for Cameron.<sup>3</sup> Ultimately, five of these buyers submitted bids. The bids were discussed and evaluated by Cameron's board of directors and Cooper's was chosen as the winner. On July 24, 1989, the *Wall Street Journal* reported that Cameron and Cooper had entered into negotiations concerning a merger of the two companies. On August 1, 1989, Cooper and Cameron announced that they had signed a merger agreement.

The acquisition of Cameron by Cooper Industries was completed on November 28, 1989. The acquisition was structured as a tax-free exchange of Cooper Industries' preferred stock for Cameron's common stock. In addition to acquiring Cameron's equity, valued at \$710 million, Cooper also assumed \$257 million of Cameron debt resulting in a total transaction value of \$967 million.

Cooper Industries' firm value at the end of the year before the acquisition was \$2.7 billion. Thus the acquisition increased Cooper's size by over one-third. In its 1989 Annual Report, Cooper provided this optimistic assessment of the acquisition:

[the Cameron oil tool business] operations complement Cooper's existing valve and wellhead business. There are many opportunities to combine marketing and distribution and to reduce costs even further, although Cameron's management had done an excellent job of cutting operating costs. This acquisition puts Cooper in a very strong position to benefit from an expected upturn in the energy markets.

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<sup>3</sup> This section is based on conversations with John Deakins, Cameron's chief financial officer before the acquisition, and his son, Derrick.

### **4.3. Cooper's acquisition strategy and Cooperization.**

This section and those that follow rely on both publicly available information—particularly Collis and Stuart (1991), Collis (1991), and Keller (1983)—and our interviews with William Berger, Vice President of Finance and Administration the Cameron division of Cooper Cameron; Joe Chamberlain, Cooper Cameron's Corporate Controller; Shel Erikson, Cooper Cameron's CEO; Thomas Hix, Cooper Cameron's Chief Financial Officer (CFO); and James Deakins, Cameron Iron Works' CFO. The four Cooper Cameron executives worked for Cooper Cameron at the time of the interviews in August 1996. Both Berger and Chamberlain had worked for Cooper Industries for many years before the acquisition. John Deakins was Cameron's CFO at the time of the acquisition and had joined Cameron in the 1970s.

#### **4.3.1. The evolution of Cooper's acquisition strategy.**

For Cooper, Cameron Iron Works was the latest in a long series of acquisitions resulting from an acquisition program that began in the 1960s and accelerated in the late 1970s and early 1980s. Table 1 presents a history of Cooper's profitability and size from 1960 to 1995. In 1960, Cooper's firm value was \$36.8 million; sales were \$61.4 million. Over the next three decades, Cooper made more than forty acquisitions (as well as over thirty divestitures) of firms in related industries. Its value increased 213-fold, while revenues climbed 99 times and operating profit increased 173 times. Cooper's substantial increase in size was in large part due to its aggressive acquisition strategy.

Cooper's acquisition strategy was rooted in its history. Since its founding, the company had maintained a strong presence in the manufacture of heavy equipment for energy-related applications. The high volatility of cash flows from these energy-related applications led to what managers described as "low quality" earnings. To address this problem, Cooper's management decided to use acquisitions both as a source of growth and to provide a hedge against the operating risk associated with Cooper's large investment in the energy sector. This strategy is articulated in a late 1950s memo from Gene Miller, the first non-family president of Cooper, to corporate officers and division managers:

Over the long term, our basic corporate objective is growth. Specifically, it is a rate of growth that will increase earnings per share (before tax) at a compound annual rate of 11 percent. Growth by itself, however, will not be sufficient. We must also improve the quality of earnings by reducing the fluctuations of income that have characterized our company in the past. Stability of earnings, therefore, represent a collateral objective. This objective implies a careful examination of opportunities in less cyclical and countercyclical areas as well as a continuing effort to expand

our current businesses. We will have achieved stability along with growth when our earnings in any one year never fall below those of the previous year.

There are two reasons why the achievement of these objectives is essential. First, the resulting earnings performance will ensure an above-average return on shareholders' investment, in terms of dividend income and increased market value of Cooper shares. Second, the growth inherent in this performance is necessary to provide the opportunities for individual growth and development that will enable us to attract and hold high talent personnel. (Keller [1983], p.140).

Robert Cizik, who became Cooper's chief operating officer in 1969 and led the company as Chairman and CEO until 1996, refined Cooper's acquisition strategy. The company established three criteria for identifying potential acquisitions: (1) the companies should be in industries in which Cooper could become a major player; (2) the companies should be in relatively stable, low-tech manufacturing industries; and (3) only companies with leading market positions should be considered. Cooper looked for companies with strong brand name recognition and strong marketing programs. Family owned and operated businesses were often attractive candidates because they offered the possibility of value creation through an infusion of capital and the addition of Cooper's management expertise. Cooper pursued both complementary business acquisitions that would build upon established product lines, and diversifying acquisitions that would put another leg on the stool of the company.

In a 1977 address, Cizik described the principles underlying Cooper's diversification program (which remained an integral part of the firm's strategy well into the 1990s):

In general, our diversification program has been very selective, carried out at a methodical and deliberate pace ... My point is that on every occasion, top corporate management controlled each major move. No move was made unless it offered Cooper the opportunity to become a principal factor and potential leader in a major and growing market. New diversifications were never attempted until earlier ones were thoroughly understood and under control.

...Diversification is the means by which an organization is preserved and temporal resources are replaced. As management strives to strengthen and adapt the organization to changing economic conditions, markets and environments, untapped talents and capacities will emerge, creating opportunities for expansion into new areas. By diversifying into new products and subsequently exploiting new markets, acquiring new facilities, and infusing new blood into its organization, a company can restore depleting resources. Diversification is the natural outcome of foresight and the instinct to survive in a changing world, and it is made possible through the wise use of financial assets, or more specifically, cash.

...Throughout its existence, an organization must deal with the challenge created by the cash flow cycle—that is, cash into the business and cash out of the business. It must continually search for sources of funds and opportunities for investment. In a very real sense, its health and survival depends on its success in these searches. If a company cannot finance its growth, financially

stronger competitors will relegate it to the corporate backwaters. Similarly, a mature company that fails to translate today's cash into tomorrow's profits will decay. The latter problem can be solved in part through diversification. When businesses are combined, those with cash flow surpluses can feed those with a need for cash. Later, as investments made in one line of business come to fruition and opportunities emerge in another, their roles can be reversed.

...In my opinion, it is not a question of whether diversification should occur, but rather how much and in what direction. (Keller [1983], p. 242).

Through the late 1970s, Cooper's acquisitions were relatively small. The company concentrated on building what it called its "toolbasket," making a series of acquisitions in the handtool industry that included Ken-Tool Manufacturing, Lufkin Rule, Crescent Niagara, Nicholson File, Xcelite, and J. Wiss & Sons (Keller (1983)). The firm also assembled an aircraft services segment, in addition to its petroleum-related compression and drilling segment.

With its May, 1979 acquisition of Gardner-Denver, however, Cooper's acquisition strategy changed. Gardner-Denver was about the same size as Cooper, with revenues of \$642 million versus Cooper's \$780 million. In addition, Gardner-Denver operated in the cyclical energy business, manufacturing machinery for petroleum exploration and mining. Because Gardner-Denver was perceived as being poorly managed and in a related business, Cooper management saw Gardner-Denver as an attractive target.

Less than two years later, in November, 1980, Cooper made a white knight tender offer for Crouse Hinds which was in the midst of a takeover contest. Crouse Hinds had 1980 revenues of \$754 million, making it roughly equal in size to both Cooper and Gardner-Denver prior to the acquisitions. Crouse-Hinds produced electrical plugs, receptacles, and industrial lighting, and was itself in the process of acquiring Belden, a electrical wire, cable and cord producer. The acquisition of Crouse-Hinds represented a new business segment for Cooper. After 1980, Cooper continued acquiring, both smaller and larger companies. McGraw-Edison—acquired in 1985 for \$1.1 billion—and Champion Spark Plug—acquired for \$800 million in 1989—were the two largest of these.

#### **4.3.2. Integrating acquisitions: Cooperization.**

In conjunction with its acquisition strategy, Cooper's management had developed a systematic approach for absorbing newly acquired companies that became known both internally and externally as "Cooperization." Cooper and Cooperization became the subject of two well-known teaching cases. The earlier of the two, Piper (1974), focuses on Cooper's 1972 acquisition of the Nicholson File Company,

which was part of its strategy to assemble a strong presence in the non-powered hand tool industry. The latter, Collis and Stuart (1991), addresses Cooper's acquisition strategy and its purchase of Champion Spark Plug and Cameron Iron Works. Both cases present Cooper as a successful acquirer and strong performer. In fact, Collis (1991) goes so far as to say that for the only time in his course, he is willing to make a normative statement, "Cooper is a great company." Collis also notes that "Cooper is a wonderful example of a large, successful and diversified company which has grown through acquisition, but remains fundamentally an operating company." He bases this conclusion on the fact that Cooper's stock price performance cumulated over several decades outperforms the S&P 500, and his assessment that Cooper's strategy is internally consistent. As we show later, analysis utilizing more appropriate performance measures and our qualitative organizational evidence provides strong evidence to the contrary for the Cameron acquisition.

***Overview of Cooperization.*** Following an acquisition, Cooper implemented its manufacturing practices and accounting and control systems at the target firm. Cooper did not become heavily involved in the strategy or marketing aspects of acquired businesses. Instead, they selected target firms based in some large part on the strength of target management teams in these areas. In our visit to Cooper Cameron, William Berger, formerly with Cooper Industries, now Vice President of Finance and Administration for the Cameron division of Cooper Cameron, described "Cooperization" as follows:

In my view, Cooperization was comprised of the following: (1) leave the best managers in the acquired business in place and bring in a few key Cooper managers; (2) revamp the financial reporting structure; and (3) put in Cooper's fundamental management and control policies and procedures. The Cooperization process was a process of internalizing management control systems and accounting systems. It was not intended to change product market strategies or even to understand them at first. That knowledge came over time.

Cooper would always find ways to get cash out of a company. They implemented new working capital management practices; found market niches; implemented better product pricing structures; stripped out product lines that had become fixtures in the organization, but weren't carrying their weight; consolidated fragmented businesses when part of an acquired business fit with something they already owned—they put the two together and reduced administrative and overhead costs.

The impetus didn't come because Cooper management was expert in the businesses they acquired. It came from taking a fresh look at the acquired business, a willingness to infuse capital, and asking management a lot of questions about why things were the way they were. For example, why do we make this product? Why are we in this business?

This characterization of Cooperization is consistent with the one in Collis and Stuart (1991) and with our readings of analyst reports.

***Manufacturing services.*** Manufacturing improvement was an important part of Cooperization. To this end, Cooper headquarters maintained a manufacturing services group of roughly 15 professionals to provide management and consulting services to new acquisitions as well as existing units of the firm. Furthermore, the manufacturing services group oversaw Cooper's capital budget (Collis and Stuart (1991)). Cooper invested heavily in the companies it acquired both to improve manufacturing processes and to bring financial reporting and control practices up to speed.

Manufacturing services focused on eliminating weak old fixture product lines, improving product pricing structures, consolidating operations where it found synergies with existing businesses, and reducing spending on perquisites. The slogan "cash is king" became an integral part of each target's working vocabulary. In addition to being held accountable for profitability, managers were encouraged to utilize working capital efficiently through a system that charged them interest on its use.

Joe Chamberlain, who had worked on Cooper's acquisitions and divestitures as a controller at Cooper, elaborated:

Cooper bought businesses where they manufactured something. It was the job of the senior vice-president of the manufacturing services group to oversee the implementation of modern manufacturing technology in acquired firms. Cooper invested in businesses that hadn't had a whole lot invested in them. They put lots of money into businesses that couldn't afford it. Cooper also put in modern control systems. The idea was that the combination of modern manufacturing practices and modern management control would generate tremendous cash flow that would repay the debt from the acquisitions. Then they could do it all over again.

Because of this heavy involvement with and investment in manufacturing, Cooper became known as one of the leaders of American manufacturing. For example, Cizik was named outstanding chief executive in the machinery industry in both 1980 and 1981, and was president of the National Association of Manufacturers in 1993.

***Accounting and control systems.*** Following an acquisition, Cooper invested in the target's accounting and control systems to make them consistent with Cooper's systems. In addition, as part of its implementation of the purchase method of accounting for acquisitions, Cooper headquarters established and managed reserve accounts for each target firm. Consistent with purchase accounting, Cooper routinely estimated liabilities that would be incurred as part of the Cooperization process. These included

anticipated expenditures required to revamp facilities, shutdown parts of operations, and perform necessary maintenance. The anticipated liabilities were credited to "other long-term liabilities." The offsetting debit was to "goodwill." Because goodwill is amortized over 40 years, this accounting treatment allowed Cooper to spend heavily on improvements soon after the acquisition without a concomitant reduction in reported earnings. Berger commented:

Cooper was on the leading edge of technology with respect to acquisition accounting. For example, in 1990, after the Cameron acquisition they set up reserves for people who were on the payroll today that would be terminated under restructuring. Their salaries from January 1 through their termination were put in the reserve.

Both Berger and Chamberlain viewed Cooper's purchase accounting practices as motivated by management's desire to deliver consistent growth in earnings per share to shareholders.

Cooper's aggressive approach to purchase accounting is reflected in the growth of intangible assets on the firm's balance sheet from \$6.4 million in 1970 to \$238.3 million in 1980 and \$2,609.5 million in 1990. The offsetting entries are reflected in the growth of liability accounts (not presented in Table 1). As intangible assets increased, so did split-adjusted EPS from \$0.35 in 1970 to \$1.07 in 1980. EPS did dip to \$0.70 in 1985, a poor year for the energy business, but bounced back, reaching \$2.81 in 1990.

***Evaluating the success of Cooperization before the Cameron acquisition.*** Based on Cooper's stock performance, Cooper's acquisition strategy was arguably a success through the time of the Cameron acquisition. Figures 1 and 2 present Cooper's stock performance (including dividends) from 1970 to 1995 and from 1980 to 1995, respectively. Figure 1 compares the returns to strategies of buying and holding Cooper Industries stock, the S&P 500, and an equal-weighted portfolio of stocks listed on CRSP as having an SIC code of 3511, Cooper's primary SIC code at the start of the period. Figure 1 indicates that from 1970 to 1989—the year of the Cameron acquisition—Cooper outperforms both its industry and the S&P 500.<sup>4</sup>

Figure 2 measures Cooper's performance from the beginning of 1980 to 1995 relative to the S&P 500, and to an equal-weighted portfolio of stocks listed by CRSP as having SIC codes of 3511 and 3640. (Crouse-Hinds had a CRSP SIC code of 3640.) The beginning of 1980 is chosen because it marks the start

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<sup>4</sup> We use the term arguably at the start of the paragraph, because these comparisons and the ones that follow are not based on statistical tests.

of the period in which Cooper began to make substantially larger acquisitions. Figure 2 indicates that from 1980 to 1989, Cooper underperformed the S&P 500. This underperformance, however, appears to be driven by the poor performance of Cooper's two primary industries. During this period, Cooper outperformed both industry indices by a substantial margin.

#### **4.4. Initial market reaction to the Cameron acquisition.**

Table 2 presents the stock price response of Cooper and Cameron shareholders to events associated with the merger for a three-day window centered on the announcement date, and the corresponding eleven-day window. Performance is based on market-model abnormal returns and their associated abnormal dollar value. Both companies' market value increased at the merger announcement. Our estimate of the market's expectation of the total value created by Cooper's acquisition of Cameron is \$300.0 million based on the three-day window and \$352.8 million based on the eleven-day window.

For Cameron's shareholders, the abnormal dollar value across all events total \$188.2 million measured during the three-day window and \$146.1 million measured during the eleven-day window. Most of this value increase occurred around the first indications that the firm would be sold, both when the Robinson Family trusts announced their intention to sell and when Cameron's board held its special meeting on March 16, 1989. It is worth adding that these abnormal returns imply that Cameron's capital value without the acquisition would have been roughly \$800 million, \$779 million or \$821 million, based on Cameron's capital value in the acquisition of \$967 million.

For Cooper's shareholders, the abnormal dollar value across all events total \$112.8 million measured during the three-day window and \$206.7 million measured during the eleven-day window. Most of this value accrued when the two companies signed a merger agreement. For the three days around July 24, 1989, when Cooper and Cameron announced they were negotiating, Cooper's share price fell by a significant 4.42%; the corresponding value decline was \$148.1 million. Roughly one week later, on August 1, 1989, when the merger agreement was signed, Cooper's abnormal return was a significant 8.04% for the three day and 10.92% for the eleven day window. The corresponding abnormal dollar values were \$260.9 million and \$356.1 million, respectively.

The market's positive reaction is consistent with the hypothesis that investors expect the past success of Cooper's acquisition strategy to continue. In fact, at the time several analyst reports describing the acquisition made this argument.

#### **4.5. Clinical analysis of post-acquisition outcome.**

All of the measures of productivity change associated with Cooper's acquisition of Cameron that we consider indicate that the combination was unsuccessful. As mentioned earlier, a little over five years after the acquisition, Cooper divested Cameron and three other energy-related divisions through a tax free split-off transaction / exchange offer in which Cooper's shareholders could exchange Cooper shares for shares in the new Cooper Cameron. The new company, Cooper Cameron Corporation, consisted of Cameron (Cooper Oil Tools), Cooper Energy Services (Cooper's original energy-related business), Cooper Turbocompressor, and Wheeling Machine Products. In connection with the split-off, Cooper recognized a \$313 million (accounting) charge or write-down. Immediately after the split-off, Cooper Cameron wrote down an additional \$441 million. In accounting terms, therefore, the Cameron acquisition is associated with \$441 million to \$754 million in write-downs of a total purchase price of \$967 million. To the extent that the write-downs reflect real losses, the write-downs imply realized capital values for Cameron of \$213 to \$526 million. These values are consistent with a substantial deterioration in Cameron's value following the acquisition and/or substantial overpayment by Cooper.

As we discuss below, the qualitative and quantitative evidence we have collected strongly corroborates the write-off data. We find that the acquisition destroyed \$400 to \$500 million in value (relative to the initial value of \$800 million). The Cooperization process failed to function effectively in integrating Cameron. In giving us his assessment of the Cameron acquisition, Shel Erikson, CEO of Cooper Cameron, argued: "The thing that hurt Cooper in its acquisition of Cameron was the lack of success of the "Cooperization" process." In fact, given that Cooper is no longer an active acquirer, it appears that Cooperization might have failed not only in Cameron's case, but more broadly.

Our evidence in this section comes from one manager of (the pre-acquisition) Cameron Iron Works and from several managers of Cooper Cameron. They provided us with a perspective on the pre-acquisition Cameron, the Cameron acquisition, the Cameron operations as a part of Cooper, and on the actions taken following the split-off to create value. The post-split-off actions are associated with outstanding stock performance for Cooper Cameron shareholders. Figure 3 indicates that from the split-

off date, July 19, 1995 through October 1, 1996, Cooper Cameron's stock returned 160.3%. The corresponding return to the S&P 500 was 25.1%. Cooper Cameron's stock return also exceeded the return to other companies in its industry. Over the same period, firms in the Dow Jones Oil Equipment Services Index returned 37.2%. The return to Cooper Cameron's stock represents value creation of \$388 (\$890) million in 1989 (1995) dollars, adjusted for industry performance. (This value creation includes both Cameron and Cooper Energy Services.). Thus, Cooper's decision to split-off Cooper Cameron allowed shareholders that chose to retain the Cooper Cameron shares to recover some, but not all, of the value destroyed following the acquisition.

The actions that led to Cooper Cameron's stock performance provide indirect evidence on how value was destroyed while Cameron was part of Cooper: what the split-off managers choose to do differently when running a free-standing organization provides insight into how Cooper could have managed Cameron more effectively.

As we describe below in detail, the story we heard from the Cooper Cameron managers was that the Cooperization process and organization structures were inappropriate for Cameron. In addition, an increasing number of acquisition and divestiture transactions per year took more and more of top management's time at Cooper, so less time was spent on operating and strategic management issues. As this occurred, Cooper's management systems were ineffective in addressing fundamental problems with leadership or strategy at Cameron. Finally, Cooper's compensation system which Cameron's managers described as "mysterious" failed to provide strong incentives. We hypothesize that Cameron's experience is consistent with the Cooperization process moving from an initially effective system to an overly-centralized and bureaucratic process that inhibited management decision-making.

#### **4.5.1. Organizational design.**

*Over-centralization and bureaucratic creep.* Cooper's organization of Cameron (and Cooper Energy Services) was overly centralized. As Shel Erikson, Cooper Cameron's Chief Executive Officer, explained:

Cooper organized Cameron functionally out of Houston as one profit center. The president of Cameron was accountable for those profits. This doesn't put profit responsibility where it is best managed. Roughly 2/3 of Cameron's business was outside the U.S. Yet under Cooper, people in the field had to get OKs from Houston. Obviously this was very time consuming.

Michael Grimes, President of Cooper Cameron's Energy Systems Division, who had recently joined the firm from General Electric Power Systems concurred with Erikson's assessment. He noted that Cooper had organized Cameron and Cooper Energy Services as very tall functional chimneys with lots of layers within each chimney. This centralization made it difficult for sales executives in the field to obtain cooperation from operations' executives in Houston.

John Deakins, Cameron's pre-acquisition CFO, provided independent corroboration of the view that Cooper was overly centralized relative to Cameron:

Cooper was forms-oriented, while Cameron was people-oriented. Cameron sold big ticket items with multi-million dollar prices where personal relationships mattered while Cooper sold more commodity-type products. Cooper's style and culture were completely the opposite of Cameron's.

Consistent with the excessive centralization, immediately after the split-off, Cooper Cameron's new management reorganized both Cameron and Cooper Energy Services. According to Erikson, "We toyed with different organization concepts. We came up with a matrix. We had three regions ... These regions were matrixed against products..." This new organization put decision-making closer to the customer and allowed Cameron to manage regionally and by product.

At the same time that Cooper became overly centralized, it also appears to have become overly bureaucratized. As Berger explained:

Part of the Cooperization process is to establish a consistent methodology of reporting financial performance. The idea was to gain management control/internal control over the business. This became an end unto itself rather than an effective way to run a business.

In the final analysis, the Cooperization process went too far. By the time Cooper had digested Champion and Cameron, managers were so concerned about control that it was difficult for divisions to make decisions. The internal control process was overbearing. The amount of time we spent on bureaucratic administration versus running the business was unbelievable. The internal controls were taken to a point where they hamstrung businesses and kept them from making decisions. That has changed under Cooper Cameron. We are making significant changes without the bureaucracy associated with heavy internal control. We had to unravel the bureaucracy that we had established through the Cooperization process.

Grimes added:

The management control system in this organization [was] unbelievable. It was one of the first things I encountered. When I put in a \$3000 request for a laptop computer. It required ten signatures. This is a very control-oriented culture.

The first thing I did was to get the bureaucracy out by delayering. I didn't want to redefine the processes to get the job done. We took reports out and layers out, but we didn't want to confuse people about the fundamentals of the business.

Chamberlain gave this story as an example of how the system took on a life of its own:

One year, Cizik said to each of his seven direct reports that he wanted a monthly report on how their business was doing. So each of them requested a monthly report of their direct reports and so on. On average, one or two days a month were spent generating a report telling us what we were doing all month. Each month, Cizik got a 70-80 page report from each of his direct reports. In the treasury department, they kept logs of our activities so we could accurately report what we'd done. This is the kind of thing that happened. It's the kind of thing that happens in big companies when one man at the top says "give me this." There was a fear of asking the boss, "is this what you want? Do you want this to happen?"

Cooper's Manufacturing Services Group evaluated capital requests. All of the requests went through an extensive process. To spend \$600,000 for a machine tool you had to fill out a request that was 25 pages long. It would be reviewed by a bunch of people. Then finally approved. The approval process took several weeks. We [the new Cooper Cameron] are trying to get it down to 2 to 3 pages, including a summary of the expected return. We want to emphasize that the return is the most important thing. The new process takes two days at most.

***Preoccupation with acquisition and divestiture transactions.*** As Cooper increased the size and number of acquisition and divestiture transactions, they became an increasingly large part of activity at corporate headquarters. It appears that completing transactions successfully became as or more important than whether or not the transactions were strong ones. Chamberlain explained:

As viewed in hindsight, Cooper became too involved in acquisitions and divestitures—they were doing 7 to 8 a year. Headquarters was focused on doing acquisitions and not on the process of managing businesses. Acquisitions and divestitures chew up a tremendous amount of resources. Cooper tended to do all of the work internally. All aspects of the corporate office were involved in each acquisition and divestiture. Acquisitions were fun, more fun than running the business. At the end of the year kudos would go to the general manager who suggested we acquire XYZ business and we acquired it. What a great acquisition! Success was measured by making acquisitions and divestitures. They didn't have to be good. It was a failure if something we wanted was for sale and we didn't get it. We started worrying about the next one before we had figured out what to do with this one. We did conduct post-acquisition reviews, but the numbers were really soft because we would often be absorbing a new business and new products into our existing product lines.

At Cooper Cameron, I feel like I see a lot more attention to what's going on with the businesses.

***Inability to understand business and confront strategy and leadership problems.*** As described earlier, part of Cooper's acquisition strategy was to acquire manufacturing businesses in related areas, invest resources to improve efficiency, cut costs, and implement modern management control systems.

According to Cooper Cameron managers, this approach proved a particularly bad fit for Cameron. In Erikson's view, Cooper misunderstood the importance of manufacturing versus service and marketing in Cameron's businesses. He explained:

Cameron didn't fit the Cooper style. There was a lack of understanding of what the oil field market was all about. Cooper was a manufacturing company. Bob Cizik was president of the National Association of Manufacturers. But this is not a manufacturing business. It is a service business with an equipment manufacturing component. Cooper missed the marketing and service side of the business, and the changes in this direction that were taking place in the market.

Cooper had an effective business strategy that was manufacturing-oriented. It was not focused on the customer (and most of their products were sold through distributors). When it was running Cameron, Cooper was constantly trying to improve the manufacturing processes.

Here is an example of a mistake they made. Cameron was a franchise business when Cooper bought it. They changed its name to Cooper Oil Tools. This was wasteful. We changed back to Cooper Cameron. Cooper did this because it was part of their strategy to call everything Cooper, and because they didn't understand that our business was a service business.

John Deakins also questioned whether Cooper understood what it was buying in Cameron:

Not only did the nature of Cooper's and Cameron's businesses differ, but Cameron had already spent the greater part of the 1980s improving quality and wringing out costs. I had worked for Cooper briefly in 1973 and greatly respected what they did in the area of quality and cost management. During the 1980s downturn, we instituted a quality management program and worked on reducing costs. Employment declined to 5,500 from 14,000 and we wrung out 20% of our costs. I do not know that Cooper understood that we had done that.

Cameron's problems were exacerbated by a slump in the oil industry that began in 1992. Cameron's poor performance during this period significantly affected Cooper's earnings. Management hired outside consultants to assess Cameron's market position. Their report was unfavorable, stating that the division was losing market share. Cameron's president disagreed, claiming that the performance was to be expected in light of business conditions, but that they were not losing share. Top management accepted the division manager's analysis. Berger described the situation:

The two years following the acquisition were great. Around the time of the Gulf War, business started to fall off dramatically. In August 1992, orders fell away. They did not recover until early to mid 1995. But in 1992, we were still profitable. In 1993 we broke even. In 1994, we lost significant dollars. It was virtually a disaster. In response, we did a lot of consolidation. We went from 6500 employees in 1991 to 4200 employees in 1995.

Cooper knew there were problems. Cameron was in a cycle headed into a trough and it was affecting Cooper's earnings and stock price. At the 1993 annual meeting, Cizik talked about the

company's weak outlook. The stock price fell from \$51 to \$43 in a day. The rest of Cooper's businesses were doing fine.

Booz Allen was hired to do a market analysis of Cameron. In their report, Booz Allen concluded that we were losing market share. The president of Cameron was able to discredit the Booz Allen report and convince Cizik and other top managers [incorrectly] that we hadn't lost market share. There was no management or organizational response to the data from Booz Allen. But their data shouldn't have been necessary. Our own financial statements provided us with data that there was a problem.

Cameron's management knew the market so well that we [Cooper's managers] had convinced ourselves that we could not find someone who knew the business like they did. They were always saying that performance was going to improve and they seemed to be taking the right actions. They convinced us that when the market rectified itself the performance was going to be there. All of us had the arrogance of the dominant competitor in the industry. We let competitors penetrate the low-tech end of the business. We couldn't respond as they were able to respond. We weren't focused on our competitors so we were losing market share.

Nine days after the split-off, Cameron's president was let go. Following its split-off, Cooper Cameron changed its organizational structure to focus on customers and marketing rather than manufacturing.

#### **4.5.2. Compensation and incentives.**

Cooper used the Hay System of job classifications to set salary levels (Collis and Stuart [1991], p. 13). Under the Hay system, each job is assigned a number of points based on measures of job size, including number of persons managed and size of the budget under a manager's control. The objective of the system is to allow cross-job comparisons that help the firm pay similar salaries to managers with similar jobs. At Cooper, management felt that the uniform pay scales resulting from the Hay system allowed managers to move easily between divisions. Unfortunately, the Hay system also creates incentives for managers to increase personnel and resources under their control. Taken in combination with Cooper's strategy of growth through acquisition, managers arguably had a strong incentive to grow the firm beyond its optimal size.<sup>5</sup> While empirically establishing the optimal size of an organization is not possible, our findings are consistent with the hypothesis that Cooper destroyed value, in part, by becoming too large.

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<sup>5</sup> This issue is related to the more general problem of the tradeoff between using promotions for incentives and to place individuals in the appropriate job which is discussed in Baker, Jensen and Murphy (1988), and Baker (1990).

Cooper also paid bonuses which could reach 20% to 40% of base salaries. The bonuses were determined by executives at headquarters. Collis and Stuart (1991) emphasize Cooper's Management Development and Planning (MD&P) system for evaluating key managers. Under MD&P, managers developed detailed goals for the forthcoming year and then were evaluated on their attainment of those goals. "The program uncovered existing or potential management gaps and identified people worthy of succession." (Collis and Stuart [1991]).

In fact, the managers we spoke with did not understand Cooper's compensation and incentive system and were critical of it. They felt Cooper's bonus allocations were largely independent of performance—theirs or the company's—and, therefore, provided little motivation for performance. A sample of comments concerning compensation at Cooper follows:

Cooper described bonuses as discretionary, subject to a maximum and they were. They were whatever they wanted to pay any individual.

There is one word that best describes Cooper's compensation system: mystery. It was an absolute mystery. I never knew why my salary was what it was. Bonuses were even more mysterious. There were two years where I got no bonus. I never knew why. One year, I was managing a small part of the business and we had turned around performance from a \$750 thousand loss to a \$3 million gain. My incentive bonus that year was \$6500, I thought it should have been triple that. I scratched my head forever on the compensation issue.

Cooper paid bonuses, but no one knew why they got what they got. It was kind of like getting a Christmas turkey.

We commiserated about it all the time. We would cry on each other's shoulders, we didn't understand it. We put trust in the division president to get us a decent bonus.

It is difficult to argue that these comments are those of disgruntled employees because the executives who made them did well at Cooper and were consistently promoted.

Immediately after the split-off from Cooper, Cooper Cameron adopted a very different compensation philosophy that relied heavily on bonuses tied to objective performance goals (known by employees) and equity-based compensation. Upon taking control, Erikson and Hix tied the compensation of their managers to EBITDA. Moreover, Erikson and Hix, arranged to be paid entirely in stock options. Erikson explained:

Before Cooper Cameron was split-off, Cooper did a search for someone to run the division. That was in October of 1994. I joined Cooper in January of 1995. At that time I was still the CEO of a publicly traded company [The Western Company of North America] that we were in the process of selling. Tom Hix also came from The Western Company. When we talked about

compensation, I told them I wanted all options, no salary. That's what I got. That's Tom's arrangement as well. Our board also takes only options for compensation.

Hix explained his compensation philosophy succinctly:

Compensation is the single most important thing in business. People will follow whatever path you've laid out. If you have a weak compensation system, you get what you deserve.

It is also possible to see the different emphases on incentives before and after the split-off by comparing the equity ownership of top management at Cooper Industries and at Cooper Cameron. At the time of the split-off in 1995, Cooper's directors and executive officers as a group owned directly or through options approximately 0.76% of the company's stock. In contrast, Cooper Cameron directors and executive officers as a group owned stock and options for 4.87% of Cooper Cameron—1.89% directly or through vested options and an additional 2.98% in options that would vest by the year 2000.

#### **4.5.3. Informed operating performance.**

In this section, we analyze the success of Cooper's acquisition of Cameron using financial data provided to us by Cooper Cameron management. It is difficult, if not impossible, to measure the performance of Cooper's acquisition of Cameron using publicly available data for two reasons. First, data are unavailable for 1990 and 1991 because Cooper did not report Cameron's results separately. Second, while Cooper Cameron does report EBITDA (and capital expenditures) for Cameron's segment from 1992 to 1995, those data do not include Cooper's expenditures out of "acquisition reserves."

Table 3 presents our analysis of Cameron's operating performance before and after the acquisition. Table 3 indicates that both EBITDA to assets and EBITDA to sales declined significantly after the acquisition, both nominally and adjusted for industry performance. It is worth emphasizing that the industry-adjusted results are insensitive to the type of industry-adjustment. Table 3 reports industry-adjusted results using the median performance of COMPUSTAT firms in Cameron's primary COMPUSTAT SIC code of 3533. We obtain similar, albeit slightly more negative, results using firms in the same Value Line Industry. We also obtain similar results when we restrict the industry controls to firms similar in size (as measured by assets) to Cameron.

Given the interim cash flow data, it is also possible to analyze the overall impact of the Cameron acquisition on Cooper's shareholders. To do this, we perform an analysis similar to that performed by Kaplan (1989a), Kaplan (1989b), and Kaplan (1994). The analysis is presented in tables 4, 5, and 6.

Table 4 reports that Cooper Cameron had an initial market value of total capital of \$1 billion on July 19, 1995 when it was split-off from Cooper Industries. It is not possible to assign a precise value to Cameron at this time because Cooper Cameron included Cameron as well as the assets of Cooper Energy Services. Table 4 reports the EBITDA, sales and assets of Cooper Cameron's two segments for fiscal year 1994. The petroleum production equipment (PPE) segment consisted largely of Cameron. As a percentage of the entire company, the PPE segment contributed 11% of EBITDA, 51% of sales, and 77% of assets. Based on these percentages, we assume, in what follows, Cameron contributes 50% of the value of Cooper Cameron. In other words, we assume Cameron has a capital value of \$500 million on July 19, 1995. Because Cameron's (book value) assets are the least reliable of these figures, 50% may overstate Cameron's true value.

Table 5 reports the cash flows generated by the assets of Cameron from January 1990 through June 1995. The cash flows are measured as EBITDA less capital expenditures less the increase in net working capital plus the proceeds of asset sales. These cash flows differ from those that would be produced from Cameron's (or Cooper's) financial statements because they include expenditures associated with the acquisition that Cooper capitalized at the time of the acquisition and did not run through the income statement. It also is worth noting that these cash flows are before tax and, therefore, likely overstate the cash flows that would have been available to Cameron investors.

Table 6 presents the estimated post-acquisition market value of Cameron and compares it to both the value paid by Cooper (\$967 million) and the implied pre-merger value of Cameron (\$821 million which excludes the increases in Cameron's stock price from announcements related to the acquisition using the eleven-day window). The table presents these values in nominal terms, industry-adjusted to November 1989 and July 1995, and market-adjusted to November 1989 and July 1995. The industry- and market-adjusted values are calculated by discounting (or growing) the interim cash flows and the value of the remaining assets by the returns on, respectively, an equal-weighted index of firms in COMPUSTAT with Cameron's SIC code and the S&P 500.

Table 6 indicates that in November 1989 dollars, Cooper realized a value of only \$382 million market-adjusted, or \$311 million industry-adjusted, from its acquisition of Cameron. Relative to the \$967 million capital value that Cooper paid in November 1989, this represents an overpayment by Cooper of \$586 million to \$656 million. If we use the implied pre-merger value, taking into consideration the

\$146 million premium Cooper paid to Cameron's shareholders, we estimate that the acquisition lost or destroyed \$440 million to \$510 million in value.

The results in Table 6 accurately reflect the value realized by Cooper from its investment in Cameron as of the date of the split-off. These results also reflect the effects of Cooperization on Cameron. These results do not reflect the total value or returns realized by Cooper because Cooper retained a 20% stake in Cooper Cameron after the split-off. As we reported earlier, Cooper Cameron's shares substantially outperformed the market after the split-off. Through October 1, 1996, Cooper Cameron's stock increased in value by an industry-adjusted \$388 in 1989 dollars and \$890 million in 1995 dollars. Assuming that Cooper Energy Services and Cameron contributed equally to this increase in value, Cameron increased in value by \$194 million in 1989 dollars and (\$445) in 1995 dollars. Under this assumption, Cooper's 20% stake increased Cooper's value by \$39 million in 1989 dollars, or less than 10% of the overall loss to Cooper's shareholders.

#### **4.6. Traditional operating performance.**

As noted earlier, researchers typically measure performance using the ratios of EBITDA to both assets and sales. Healy, Palepu, and Ruback (1992) introduce an additional performance measure that deflates by the market value of the firm's capital (the sum of market value of equity and book value of debt) rather than assets or sales. Before the acquisition, we obtain these ratios by adding the relevant variables for both the acquirer and the target. After the acquisition, we use the values for Cooper Industries as a whole.

We adjust for industry performance using the median performance of COMPUSTAT firms in Cameron's primary COMPUSTAT SIC code of 3533 and Cooper's primary COMPUSTAT SIC code of 3640. We weight overall industry performance by the appropriate relative amount of Cooper and Cameron assets, sales, or value.

Panel A of Table 7 presents operating performance variables for the combination of Cooper Industries and Cameron Iron Works from 1984 to 1994. Panel B presents the industry-adjusted results. The industry-adjusted results are qualitatively similar using Value Line Industry control firms and for industry and size-matched control firms.

Table 7 indicates that EBITDA to assets and EBITDA to sales increased after Cooper's acquisition of Cameron, both nominally and adjusting for industry. This is completely at odds with the actual acquisition outcome described above. The EBITDA to value measure, in contrast, rises and then declines after the acquisition, successfully matching the pattern of actual acquisition results.

It is worth adding here, that our analysis uses EBITDA reported by Cooper Industries after the acquisition. As we noted earlier, this EBITDA overstates true EBITDA by a substantial amount because Cooper created liability accounts at the time of the acquisition for expenses that would otherwise have reduced EBITDA. For example, Cooper Cameron's financial statements report changes in other assets and liabilities of -48.6 million and -56.2 million in 1992 and 1993. Our internal data are consistent with this order of magnitude.

#### **4.7. Longer-term stock performance.**

From the time Cooper acquired Cameron until the split-off, Figure 2 indicates that Cooper's stock underperformed both the S&P 500 and its two primary industries. Subsequent to the split-off (through October 1, 1996), Cooper continued to underperform the S&P 500. This deterioration in stock performance coincides with the Cameron Iron Works acquisition and is consistent with the internal deterioration in organizational practices described earlier.

Furthermore, following a downturn in oil prices in 1991, Cooper reported poor earnings due largely to the performance of Cameron and Cooper's other oil tools businesses. These announcements generated an extremely strong, negative response from the market, the press and financial analysts. Cooper's announcement that its 1991 earnings and sales in its petroleum and industrial segment would be off was greeted with a return 17.8% below the S&P 500 over the 11 surrounding days. Cizik's announcement on January 26, 1994, that 1993 earnings would drop substantially due to a slump in the oil industry coincided with a Cooper stock price decline of 21.2% relative to the S&P 500. Both declines are statistically significant.

#### **4.8. Summary of sources of value creation and destruction.**

Based on our clinical and quantitative analyses, we conclude that Cooper's acquisition of Cameron destroyed value rather than increased it. Although Cameron operated in the same industry as one of

Cooper's divisions, Cameron's business was substantially different from Cooper's. The imposition of Cooper's centralized organizational design and incentives was particularly inappropriate for Cameron. Although the stock market initially responded positively to the acquisition of Cameron, in large part due to Cooper's past acquisition successes, Cooper's stock price ultimately declined, reflecting the failure of the Cameron acquisition.

We suspect that Cooperization failed more generally, and that Cooper's stock price decline has reflected that failure. While proving this suspicion or hypothesis is beyond the scope of this paper, it seems impossible to argue that Cooper's acquisition strategy did not ultimately fail.

## **5. Premark's acquisition of Florida Tile.**

### **5.1. Company descriptions.**

In 1989, the year before the Florida Tile acquisition, Premark had sales of \$2.6 billion and EBITDA of \$231 million. Premark operated in three business segments: (1) The Tupperware division produced plastic food storage and serving containers, and generated 40% and 56%, respectively, of Premark's sales and operating profit in 1989. (2) The Food Equipment Group manufactured commercial food equipment, and generated 36% and 12%, respectively, of Premark's sales and operating profit in 1989. The Food Equipment Group consisted of the Hobart and Vulcan-Hart Corporations. (3) The Consumer and Decorative Products segment consisted of the Decorative Products Group and the Consumer Products Group, and generated 24% and 32%, respectively, of Premark's sales and operating profit in 1989. The Decorative Products Group was comprised of Ralph Wilson Plastics which made decorative plastic laminates under the Wilsonart label and Tibbal Flooring which manufactured and sold oak flooring under the Hartco name. The Consumer Products Group was comprised of West Bend and Precor. This Group sold small electric appliances under the West Bend trademark and home physical equipment under the Precor, West Bend, and Total Gym trademarks. West Bend also manufactured bathroom scales under the Borg trademark.

Premark's primary SIC code is listed as 3089 (plastic products) by COMPUSTAT, CRSP, and the million Dollar Directory. The million Dollar Directory also lists Premark as operating in industries with SIC codes of 3944 (games, toys, children's vehicles, excluding dolls), 3589 (service industry

machinery), 3556 (food products machinery), 3596 (scales and balances, excluding laboratories), and 3565 (packaging machinery). Value Line assigns Premark to its diversified industry classification.

Florida Tile (Sikes Corporation) engaged primarily in the business of manufacturing and selling glazed ceramic wall and floor tile for residential and commercial uses.<sup>6</sup> The company's products were marketed under the Florida Tile brand name. In the fiscal year ended February 1989, Florida Tile had EBITDA of \$23.9 million.

Florida Tile's primary SIC code is listed as 3250 (structural clay products) by COMPUSTAT and as 3253 (ceramic wall and floor tile) by both CRSP and the million Dollar Directory. The million Dollar Directory also lists Sikes as operating in industries with SIC codes of 5032 (brick and related construction material, wholesale) and 3544 (special dies, tools, and die sets). Florida Tile was not listed in Value Line.

The SIC code listings indicate that this acquisition would be considered unrelated using the primary SIC codes in COMPUSTAT and CRSP. Using the million Dollar Directory and the secondary SIC codes, the acquisition would be considered related at the two-digit level.

## **5.2. Acquisition motivation and events.**

Before the Florida Tile acquisition, Premark made one successful and two unsuccessful attempts to acquire firms in the decorative products industry. Management viewed acquisitions in this area as synergistic with its prosperous laminate business, which was a part of Wilson Plastics. In 1988, Premark completed its first acquisition in this area when it acquired Hartco (Tibbal Flooring). In 1989, Premark attempted to buy American Olean, one of the leading companies in the wall and floor tile business, but was outbid by Armstrong World Industries. In 1990, another tile company, Dal Tile, was put up for sale. Again, Premark was unsuccessful in buying the company, losing out to a private equity fund, AEA.

After missing out on two opportunities, Premark's management told us they felt strongly at the time that they could not miss out again when Florida Tile put itself up for sale. James Ringler, Premark's current CEO, recalled, "there was an organizational momentum that we had to do something. The momentum rolled right over the top of that thing."

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<sup>6</sup> Sikes Corporate 1989 10-K, page 2.

On September 12, 1989, Florida Tile announced that it had received an informal and unsolicited expression of interest from a foreign company in the \$190 to \$200 million dollar range. On October 16, 1989, Florida Tile announced that it was seeking a buyer. In December, Florida Tile announced that it was still in the process of seeking a buyer. In February, a Lebanese investor group, Cerabati acquired a 5.4% stake in Florida Tile. Also in February, Florida Tile considered and turned down an offer from a French ceramic company. On April 23, 1990, Florida Tile announced an agreement to be acquired by Premark. Premark paid \$201 million for Florida Tile's equity and assumed \$14 million in debt for a total price of \$215 million. Premark's firm value at the end of the year prior to the acquisition was \$1.5 billion. The acquisition, therefore, increased Premark's firm value by only 14%.

### **5.3. Premark's acquisition strategy.**

This section and those that follow rely on publicly available information as well as interviews with James Ringler, Premark's current chief executive officer, and Larry Skatoff, Premark's current chief financial officer. At the time of the transaction, James Ringler had just been hired as an executive vice president to run the non-Tupperware businesses. Larry Skatoff joined the firm in 1991. At the time of the transaction, Warren Batts served as Premark's chief executive officer.

As was the case with Cooper, it seems that Premark's acquisition strategy was strongly influenced by its history. Premark was created in 1989 through a spin-off by Dart and Kraft. It was comprised of a hodgepodge of businesses that did not fit with one another or with Dart and Kraft's remaining businesses. According to Dart and Kraft's 8-K describing the spin-off, the lines of business to be assigned to Premark have not fully developed their potential. (See Schipper and Smith [1988]). So rather than being the result of a conscious diversification strategy, Premark's combination of businesses was the result of happenstance. At the time of the Florida Tile acquisition, according to Ringler, "Premark was a conglomerate with no specific focus." As we detail below, Premark's acquisition strategy lacked focus as well.

Premark's acquisition strategy was to be smart, opportunistic buyers. Ringler explained, "Tupperware was Premark's cash cow. The issue was how to redeploy the cash." Inside the organization, distributing cash to shareholders either as a dividend or share repurchase was not viewed as a viable option. In fact, one or two years **after** the Florida Tile acquisition, Larry Skatoff made a presentation to the board of directors concerning a possible share repurchase. He felt his presentation "was not well received." In his

view, the board viewed a repurchase as a cop out. It was something a weak management did when they could not think of anything else to do.<sup>7</sup> This description of Premark's approach to internal resource allocation parallels the arguments in Jensen (1986) concerning the potential for value destroying investment by organizations with free cash flow.

Also as did Cooper's, Premark's managers felt that growth was critical to the success of their organization. Ringler explained:

Our real issue is where to get growth in a mature industry. Managers are not interested in empire building or being bigger. To me, I don't care whether my company is \$2 million in sales, \$2.5 billion in sales, or even \$5 billion in sales. The real issue is that managers live in constant fear that by not growing or investing in the business it will stagnate and ultimately you will lose it. You don't want to lose the attributes that make you successful because the other guy does something and you don't and that hurts you.

At the request of top managers, executives in the corporate strategy area evaluated potential acquisitions and investments. After detailed research, the strategy group and Premark's top management determined that additional investment in the decorative products business would be attractive. This decision was reached at headquarters with little input from division managers, but strong support from an outside consulting firm.

#### **5.4. Initial market reaction to the acquisition.**

Table 8 presents the stock price response of Premark and Sikes / Florida Tile shareholders to the merger for a three-day window from days -1 to 1, and an eleven-day window from days -5 to 5. Again, performance is based on market-model abnormal returns and their associated abnormal dollar value.<sup>7</sup> As a result of the merger, combined value decreased by \$19.3 million based on the three-day window, and \$152.8 million based on the eleven-day window. Value increased for Florida Tile shareholders, while it declined for Premark's shareholders. For Florida Tile shareholders, the abnormal dollar value totals \$29.1 million measured during the three-day windows and \$30.1 million measured during the eleven-day windows. The corresponding total value decreases for Premark's shareholders are \$48.4 million and \$182.9 million.

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<sup>7</sup> The estimation period runs from 200 to 21 days prior to the first announcement of Florida Tile's possible sale.

According to Ringler, the acquisition and concomitant decline in Premark's market value was not received well by investors and analysts. Shortly after the acquisition, he and Warren Batts, then the CEO of Premark, went to New York to meet with a group of equity analysts shortly after the acquisition. Ringler described their experience as follows:

There were about 75 to 100 people there. They were incredibly angry. They were personally insulting to Warren. They asked questions like, "Are you as dumb as you look?" It was as ugly a business session as I have ever been to. We decided that the primary Premark shareholder was a Tupperware-oriented person. They were buying because they liked Tupperware. The other businesses were background pains that they had to tolerate.

The strong investor reaction (\$183 million decline for a \$215 million acquisition) is consistent both with (1) their expectation that the Florida Tile would be unsuccessful; and (2) their mounting frustration over Premark's decision not to distribute free cash flow to its shareholders and an expectation that Premark would continue to make poor decisions concerning how to allocate that free cash flow. Large sample evidence in Lang, Stulz and Walkling (1991) also finds that acquirer shareholders react negatively to acquisitions by acquirers with high free cash flow. In the eyes of Premark executives, the market reaction to the Florida Tile acquisition was unpleasantly negative, but had an underlying rationale that in retrospect seemed reasonable.

### **5.5. Clinical analysis of post-acquisition outcome.**

Premark's top management do not view the Florida Tile acquisition as a success. Motivated by the possibility of synergies, Premark bought Florida Tile, only to learn that it didn't have as much in common with its pre-existing businesses as it had anticipated. According to Ringler, "we did not know the decorative products business, we knew laminates." Wilson Plastics had produced attractive returns for Premark, but Florida Tile "was a laminates company and it served a different market." In retrospect, they felt that Premark had "no skills on the acquisition side, but we acted as if we did. We jumped in and then were stuck. If we were going to go down this road and do acquisitions, we had to commit more resources and more money. We were not an acquisition factory. What we learned is that every business is complex in its execution. We had no expertise and no synergies."

Another problem arose because acquisition decisions were made centrally at headquarters. Managers of related divisions did not participate and their input was not actively sought. This made it unlikely that potential synergies, if they existed, would be realized.

### **5.5.1. Organizational design.**

After the acquisition, Premark managed Florida Tile as it managed its other businesses. Each operating unit had a division president who was local. None of Premark's businesses was in Chicago where Premark was headquartered, and there were no operating people in headquarters. The division presidents typically reported to the operating executive vice president (then Ringler) who reported to the CEO (then Batts).

The president of Wilson Plastics was made the group president of Decorative Products. In this role, he oversaw Wilson Plastics, Hartco, and Florida Tile. This was somewhat unusual in that he was both a division president and a group president. Ringler recalled that, in anticipation of Premark's increased emphasis on decorative products, we thought about moving him up to headquarters from Texas, but he didn't want to come.

To monitor its divisions, Premark had formal quarterly review sessions. These were one or two day meetings between (1) the division president and chief financial officer (CFO); and (2) the corporate CEO, Chief Operating Officer (COO), CFO, and roughly twelve other corporate staff people. According to Ringler:

This wasn't an enjoyable process for anyone, but particularly for the division people. A root canal without anesthesia would have been more enjoyable. At these meetings we talked about strategic issues, not financial performance. It was issue-oriented as opposed to looking at the numbers.

Over the course of the year, Ringler also would visit all of the individual units. The time Ringler spent at each division was about proportional to the size of and problems at the division. The distance between Premark headquarters and Florida Tile's operations made it more difficult for Premark's management to know when Florida Tiles was experiencing problems. This was particularly important in Premark's slow response to production problems at Florida Tile.

### **5.5.2. Compensation and incentives.**

It does not appear that Premark / Florida Tile took an innovative or well-thought out approach to compensation or to capital allocation. According to Ringler:

The division presidents were compensated based on financial performance that was essentially profit after tax relative to budget. We had a few other bells and whistles in there like working capital charges, but it boiled down to after tax net income.

In addition, the company decided which projects to do in the coming year at a two-day strategic budgeting meeting that was attended by corporate and division officers. According to Ringler:

... the context of the company was that we were cash rich and so cash was not a scarce resource that had to be allocated. Often we encouraged division presidents to spend more rather than less. We'd ask them, 'why don't you try this or spend on that?'

Thus, Premark did not measure cash flow relative to any cost of capital either in compensating its executives or in choosing capital projects.

### **5.5.3. Informed operating performance.**

According to Ringler, Florida Tile (and Hartco) never performed well:

The acquisition momentum turned out to be at corporate and nowhere else in the organization. We controlled it, the divisions sat back. No one at Wilson Plastics cared about it. We began to have to manage it out of headquarters.

About a year after the Florida Tile acquisition, we realized we were in trouble. We realized that we had overpaid and that we were not committed to ten more acquisitions in decorative products. And that the whole idea of a decorative products business didn't make strategic sense.

Entry is pretty easy in the tile business. It's pretty much controlled by the Italian tile equipment manufacturers and what they are willing to sell. For \$20 million to \$40 million, you can order the equipment and within 12 months have a new state of the art plant up and running. For example, take Siam Cement (a Thai company); they did exactly that. Also, imports came in to the U.S. market from Mexico, Spain and Italy.

In 1992/93 we realized that Florida Tiles was more poorly run than we thought. Then we fired the president and cleaned house. We were afraid to do anything before that because we didn't know the business. We thought the management knew what they were doing. As we learned more about the business we became less satisfied with their responses. We started to think that they didn't know what they were doing and we knew enough that we felt comfortable with their leaving. Also, although Florida Tile has been a problem, it's a small business and its problems quickly got put on the back burner. Especially when Tupperware's cash flow swamped its monthly losses. When Tupperware was in trouble, turning its performance around was our top priority.

Because Hartco's performance had deteriorated so badly over the two years after we bought it, we almost congratulated ourselves that Florida Tile, although it did poorly, didn't do as horribly. Right now, its performance is about where it was when we bought it.<sup>8</sup>

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<sup>8</sup> The company would not release figures that were any more detailed than this.

Although this is what management said, analyst reports indicate that Florida Tile generated substantially less in operating profits in 1995 than the \$16 million it generated in the fiscal year ended February 1989. According to a May, 1996 analyst report from Advest Inc.:

... these two acquisitions (Florida Tile and Hartco) were mistakes in our opinion. Premark paid too much for them, they have been largely unprofitable and have held back the company's overall returns. By last year, the two businesses had at least reached break-even and we are not presuming they will do any better in the foreseeable future.

#### **5.5.4. Other Premark operations.**

At about the same time that Premark acquired Florida Tile, Premark's Tupperware and Food Equipment businesses began to experience difficulties. By the fiscal year ending December, 1990, Tupperware's operating income had declined to \$64.9 million from \$115.7 million in fiscal year 1988. The Food Equipment Group's had declined to \$26.9 million from \$57.8 million. In large part because of this, Premark's stock price declined from \$30.75 per share at the start of 1990 to \$13 per share by the fall of 1990. Ringler explained:

The biggest factor behind the decline (at Tupperware) was that Premark made two major mistakes. First, we went after the microwave cooking product to the exclusion of other products. This was a product intended to go from freezer to a 400 degree oven. It worked great, except it shattered into thousands of pieces when you dropped it. When you offer a lifetime guarantee, this poses a real problem.

Second, we started a new distribution program called Tupperware Express which shipped the product directly to the customer. Before we started Tupperware Express, orders would be taken at a Tupperware party and then ordered from the company by the salesperson. The order would be delivered to the hostess who would see that the order was given to the person who ordered it. Under Tupperware Express, the orders would be shipped directly to the customer. We built a \$100 million warehouse to handle this program. It worked great for a while. Then UPS told us they weren't making money on delivering our product and that they would have to raise the rates \$2 to \$3 per package. This wiped out our profits. The problem was that most people ordering Tupperware didn't live somewhere that you could just drop off the package and not worry about it being stolen. That meant it had to be delivered to a person and that meant multiple trips to the home by UPS. That's what made it so expensive. Last year [1995] we pulled out of Tupperware Express completely.

Analyst reports at the time bear this out. For example, an analyst report from PNC Institutional Investor Service dated December 19, 1989 described Tupperware Express and noted that, "start-up costs have been high and implementation is running 18 months behind schedule .... As a result, sales have

declined in markets where the program has been introduced. Market research has revealed that dealers have found it difficult to adapt to the shift ....

In 1992, Premark focused on the three most important businesses it owned—Tupperware, Food Equipment, and Wilson Plastics. According to Ringler, the company became better at managing what it had. The company stopped making acquisitions and decided to fix what we had. Premark brought in new presidents to run both Tupperware and the Food Equipment Group. Premark also eliminated the strategic function at headquarters and reduced headquarters employment from 300 to 150.

By 1994, Tupperware had recovered, obtaining an operating profit of \$200 million. In November, 1995, Premark announced it was spinning off Tupperware to shareholders. Ringler explained the reason behind the spin-off:

We realized that our shareholders were never going to let us do anything with the cash but repurchase shares. The market would unleash the wrath of God on us if we acquired anything with Tupperware's cash flow. We also felt we were 2/3 of the way up the hill on improving the operations of all our businesses. It was like two people at a picnic in a sack race. We could each run fine on our own. Why were we each putting one of our legs in a bag and trying to run together? It didn't make sense. Also, we wanted to do it in our own time, not the markets. We knew we would have to do it eventually. Why not now?

It is worth noting that the Tupperware spin-off immediately reduced Premark's free cash flow problem. By eliminating the firm's major source of internally generated cash, it imposed a discipline on the remaining businesses to become self-sufficient. Ringler believed that Premark would have been forced to do the spin-off several years earlier by the external capital markets if the takeover and junk bond markets had not declined in the early 1990s.

## **5.6. Traditional operating performance.**

Table 9 presents the traditional accounting performance measures for the combination of Premark and Florida Tile from 1986 to 1994. We use 1989, the last pre-acquisition fiscal year as the reference year. We adjust for industry using the median performance of COMPUSTAT firms in Florida Tiles' primary COMPUSTAT SIC code of 3253 and Premark's primary COMPUSTAT SIC code of 3089. We weight overall industry performance by the appropriate relative amount of Florida Tile and Premark assets, sales, or value. Again, the industry-adjusted results are qualitatively similar using industry and size-matched control firms.

Despite the fact that the acquisition of Florida Tile was not successful, panel A indicates that all three measures using EBITDA exceed their 1989 values from 1991 onward. Adjusting for industry, panel B finds essentially no post-acquisition change in performance. In contrast to the Cooper-Cameron acquisition where the EBITDA to value measure was the only one that tracked the acquisition success by declining, the EBITDA to value measure registers the largest increase in performance.

It also is worth looking more closely at the patterns generated by deflating by the market value of a firm's capital. This method shows a substantial improvement in Premark's performance in 1991 as EBITDA to value increases from 0.179 to 0.260 (unadjusted for industry) and from 0.049 to 0.143 (adjusted for industry). The method then shows a substantial decline in 1994 when the ratio declines to 0.155 and 0.014 (unadjusted and adjusted for industry). The explanation for this pattern is straightforward. Operating performance appears to improve because Premark's stock price declines substantially and the denominator declines substantially. Operating performance appears to decline because Premark's stock price increases substantially and the denominator increases substantially. This pattern suggests that the measure of operating performance developed in Healy, Palepu and Ruback (1992) may be inappropriate for evaluating acquisition success.

### **5.7. Longer-term stock performance.**

Figure 4 details the performance of Premark's stock versus the S&P 500 and an equal-weighted index of firms in COMPUSTAT with Premark's primary SIC code (3089). The chart indicates that Premark's stock declined substantially from late 1989 to late 1990 as the difficulties at Tupperware became apparent. From late 1990 to the end of 1995, as the company fixed the problems at Tupperware, Premark's stock improved substantially, increasing by more than a factor of seven (with dividends reinvested). Premark's stock performance from the acquisition through 1995 is substantially better than that of the S&P 500 and approximately the same as the industry.

### **5.8. Summary of sources of value creation and destruction**

Based on our analysis and conversations with Premark top management, we conclude that Premark's acquisition of Florida Tile reduced value overall and to Premark's shareholders, consistent with the market's initial assessment.

We think that Premark's experience illustrates the pressures excess cash flow places on top managers and the difficulties in using that cash flow to make successful acquisitions in unrelated businesses. Partially because the company had no focused acquisition strategy, Premark overpaid for a target firm that had no synergies with its existing businesses.

Furthermore, shortly after the Florida Tile acquisition, Tupperware's performance began to deteriorate. Management turned its attention toward resolving problems in that business, and only once they were resolved did they have the time to devote to problems at Florida Tile.

## **6. Discussion and implications.**

While our findings are based on only two acquisitions, they suggest three hypotheses or conclusions concerning the determinants of acquisition success or failure. These analyses and hypotheses illustrate the strengths of clinical research in that large-sample studies have been relatively silent on this important issue. Given the limited research on what organizations do following acquisitions, we also believe that our hypotheses can serve as a guide to developing large-sample studies of those determinants.

First, it is important for an acquirer to have a deep understanding of the target's business and industry when the acquirer begins to negotiate. While it seems obvious or tautological that an acquirer will know its target well, the facts suggest otherwise. In both acquisitions we studied, the managers of the acquirers based their acquisition decisions on potential synergies that never materialized. Premark did not understand Florida Tile nor, surprisingly, did Cooper understand Cameron.

A possible challenge to this hypothesis is that it relies on hindsight, i.e., it is not obvious whether the acquirers could have known more, *ex ante*. For example, in the Cooper-Cameron acquisition, perhaps it was reasonable, *ex ante*, for Cooper to acquire Cameron and attempt to Cooperize it. According to this view, the outcome was a surprise. While we cannot reject this view with certainty, we believe it is implausible. It should have been clear that Cameron's products and markets were substantially different from those of Cooper. And even if this was not clear at the time of the acquisition, it is difficult to understand why the problems became as severe as they did following the acquisition. Furthermore, at the time of the acquisition, Cameron's managers and some financial analysts knew that Cameron had spent the last decade reducing costs. Thus, Cooperization-type measures were an unlikely source of post-acquisition value creation. In our view, it seems likely that more careful and intensive research,

including a willingness to critically test the potential for synergies, would help acquirers avoid bad outcomes.<sup>9</sup>

Our findings also suggest that measures of relatedness based on SIC codes are poor measures of an acquirer's understanding of a target's businesses. Future research would do well to develop better measures to reflect that understanding.

Second, organizational design and structures are important sources of value in acquisitions. For Cooper Industries, appropriate design and structure was probably a source of value creation in early acquisitions while inappropriate design was a source of value destruction in the Cameron acquisition. Although not fully developed in this paper, we suspect that organizational design and structure issues are highly related to corporate culture and its influence on decision making. Indeed, we believe that an acquirer should analyze the organizational design not only of the target, but also of itself, in light of the changes that a particular acquisition may bring. Future research would be strengthened by the development of measures of the extent to which the acquirer places the appropriate organizational structure on the target and the combined company.

Third, incentives matter a great deal in determining the success of an acquisition. Neither Cooper nor Premark utilized high-powered incentives after their acquisitions. In contrast, after the split-off, Cooper Cameron introduced high-powered incentives—equity-based and EBITDA-based compensation—and experienced substantial performance improvements. This suggests that such incentives were particularly appropriate for Cameron. Future research that studies post-acquisition incentives would be of great interest and value.

The second and third hypotheses in the context of Cooper and Cameron suggest an additional question or puzzle. By 1995, the management of Cooper Industries recognized the problems at Cameron and hired Erikson (and Hix) to repair them. Despite this recognition, Cooper decided to split-off Cameron (and Cooper Energy Services) as a separate entity rather than keep them as divisions of Cooper. The question is why Erikson could not run Cameron under Cooper's ownership, change the organizational

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<sup>9</sup> Anecdotally, we have heard this recommendation in conversations with senior consultants at several consulting firms. We also are personally aware of a number of other acquisitions in which this recommendation was not followed.

design, and introduce high-powered incentives? We suspect that the answer to this question will inform the debate on the costs and benefits of corporate diversification and focus.

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**TABLE 1**  
**COOPER INDUSTRIES' HISTORY OF PROFITABILITY, SALES AND ASSETS**  
**FISCAL YEARS 1960 THROUGH 1995**  
**(DOLLARS IN MILLIONS)**

COOPER'S PERFORMANCE (\$MILLIONS) (a)	1960	1965	1970	1975	1980	1985	1990	1991	1995
Sales	\$61.4	\$118.5	\$225.7	\$478.1	\$1,836.7	\$3,061.8	\$6,206.2	\$6,155.3	\$4,848.7
Operating profit before depreciation	\$6.2	\$17.5	\$32.1	\$76.9	\$347.0	\$437.4	\$1,065.2	\$1,080.5	\$810.6
Net Income	\$3.0	\$7.0	\$31.1	\$12.4	\$146.7	\$135.1	\$361.4	\$393.2	\$94.0
Earnings Per Share (b)	\$0.35	\$0.56	\$0.35	\$0.76	\$1.07	\$0.70	\$2.81	\$3.04	\$2.51
Total Assets	\$45.9	\$61.6	\$183.9	\$369.2	\$1,613.4	\$3,635.9	\$7,167.5	\$7,148.6	\$6063.9
Intangible Assets	—	—	\$6.4	—	\$238.3	\$863.5	\$2,609.5	\$2,543.8	\$2,226.0
Firm Value	\$36.8	\$90.8	\$173.7	\$310.4	\$1,880.6	\$3,051.1	\$6,196.1	\$7,902.8	\$5,829.8
Five Year Increase In Firm Value	—	146.7%	91.3%	78.7%	505.9%	62.2%	103.1%		-26.2%
Five Year Stock Return	—	103.6%	50.1%	84.5%	433.0%	-2.93%	129.9%		4.0%
Five Year Return to S&P 500	—	86.3%	17.8%	17.1%	92.1%	98.6%	85.4%		98.7%

— not available.

(a) Data items are taken from COMPUSTAT and Cooper Industries Annual Reports.

(b) Adjusted for subsequent stock splits. Between 1960 and 1995, Cooper Industries had 4 2-for-1 splits occurring on 11/4/66, 3/26/76, 4/21/80 and 4/10/89.

**TABLE 2**  
**STOCK PRICE RESPONSE TO EVENTS ASSOCIATED WITH COOPER INDUSTRIES' ACQUISITION OF CAMERON IRON WORKS**  
**(DOLLARS IN MILLIONS)**

Event Description (Date)	Days -1 through 1 % Abnormal Return and <i>Abnormal Dollars</i>			Days -5 through 5 % Abnormal Return and <i>Abnormal Dollars</i>		
	Cooper Industries Common Stock	Cameron Iron Works Common Stock	Total Abnormal Dollars	Cooper Industries Common Stock	Cameron Iron Works Common Stock	Total Abnormal Dollars
Robinson Family Trust files a 13-D discussing the possibility of selling their shares. (3/03/89)		15.97%*			15.29%*	
		\$85.0	\$85.0		\$77.8	\$77.8
Cameron holds special board meeting to consider alternatives, including selling the company (3/16/89)		13.25%*			8.39%	
		\$81.0	\$81.0		\$49.4	\$49.4
Cameron's board authorizes financial advisors to explore alternatives (4/5/89)		4.94%			9.03%	
		\$34.2	\$34.2		\$60.1	\$60.1
Cameron and Cooper announcement they have entered into negotiations (7/24/89)	-4.42%*	2.19%		-0.31%	1.23%	
	(\$148.1)	\$15.1	(\$133.0)	(\$10.2)	\$8.7	(\$1.5)
Cameron and Cooper sign a merger agreement (8/1/89)	8.04%*	-1.26%		10.92%*	-3.89%	
	\$260.9	(\$28.1)	\$232.8	\$356.1	(\$15.4)	\$340.7
<b>Total Abnormal Dollars</b>	<b>\$112.8</b>	<b>\$188.2</b>	<b>\$300.0</b>	<b>\$206.7</b>	<b>\$146.1</b>	<b>\$352.8</b>

\* Abnormal return is significantly different from zero at the .05 level, two-tailed test.

(a) Abnormal returns are computed based on market models estimates from days -200 through -21 prior to the first announcement for both Cooper Industries and Cameron Iron Works.

(b) Abnormal dollars for eleven-day windows are not additive because of window overlap.

**TABLE 3**  
**INFORMED OPERATING PERFORMANCE FOR CAMERON IRON WORKS**  
**PRE- AND POST- ACQUISITION**

Changes and industry-adjusted changes in operating income before depreciation (EBITDA) to sales and assets for Cameron Iron Works and Cooper Oil Tools only, using internal data provided by Cooper Cameron. Industry-adjusted performance based on median performance of firms in Cameron's COMPUSTAT primary SIC Code of 3533.

	<u>EBITDA</u> Assets	<u>EBITDA</u> Sales
<b>Panel A: Nominal operating performance</b>		
<i>Pre-Acquisition:</i>		
1984	0.025	0.041
1985	0.084	0.127
1986	0.081	0.112
1987	0.042	0.066
1988	0.034	0.051
<b>Average</b>	<b>0.053</b>	<b>0.079</b>
<b>1989</b>	<b>0.093</b>	<b>0.113</b>
<i>Post-Acquisition:</i>		
1990	0.089	0.091
1991	0.088	0.081
1992	0.103	0.080
1993	-0.011	-0.010
1994	-0.064	-0.071
<b>Average</b>	<b>0.041</b>	<b>0.034</b>
<b>Panel B: Industry-adjusted operating performance</b>		
<i>Pre-Acquisition:</i>		
1984	-0.074	-0.119
1985	-0.010	0.006
1986	0.142	0.237
1987	0.166	0.209
1988	-0.003	-0.025
<b>Average</b>	<b>0.044</b>	<b>0.062</b>
<b>1989</b>	<b>0.007</b>	<b>0.021</b>
<i>Post-Acquisition:</i>		
1990	0.008	-0.042
1991	-0.055	-0.020
1992	0.027	0.000
1993	-0.103	-0.129
1994	-0.180	-0.212
<b>Average</b>	<b>-0.061</b>	<b>-0.081</b>

**TABLE 4**  
**MARKET VALUE OF REMAINING ASSETS OF CAMERON AS OF JULY 19, 1995**

Estimated market value of remaining assets of Cameron Iron Works as of July 19, 1995, calculated using Cooper Cameron split-off prospectus and CRSP stock prices. Values are in millions of dollars.

<b>Market Value of Cooper Cameron</b>			
Debt	\$ 375		
Equity	<u>\$ 625</u>		
Total Market Value	\$1,000		
	<b>Petroleum Production Equipment</b>	<b>Compression and Power Equipment</b>	<b>% Attributable to Cameron Iron Works</b>
	[Cameron Iron Works]	[Cooper Industries, Energy Services]	
EBITDA	\$10.6	\$90.2	10.5%
Sales	\$562.7	\$46.0	50.8%
Assets	\$1,286.7	\$379.9	77.2%

**TABLE 5**  
**CAMERON IRON WORKS INTERIM CASH FLOW**

Interim cash flow equals earnings before interest, taxes, depreciation, and amortization (EBITDA) less purchases of property, plant, and equipment (CAPEX), plus the estimated cash from (used in) noncash working capital (NWC), plus asset sale proceeds. These cash flows include expenditures that Cooper Industries capitalized at the parent level. The interim cash flows were provided from internal records by William Berger of Cooper Cameron. All values are in millions of dollars.

	<b>Period Ending:</b>					
	<u><b>12/90</b></u>	<u><b>12/91</b></u>	<u><b>12/92</b></u>	<u><b>12/93</b></u>	<u><b>12/94</b></u>	<u><b>12/95</b></u>
EBITDA	68.6	68.5	63.0	(6.6)	(38.4)	8.6
CAPX	(52.1)	(88.4)	(40.3)	(39.6)	(39.6)	(9.4)
Cash flow in NWC	10.2	10.0	74.9	(6.8)	6.3	40.5
Asset Sale Proceeds	<u>34.8</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>81.3</u>	<u>0.0</u>
<b>Interim Cash Flow</b>	<b>61.5</b>	<b>(9.9)</b>	<b>97.6</b>	<b>(53.0)</b>	<b>9.6</b>	<b>39.7</b>

**TABLE 6**  
**POST-ACQUISITION VALUE OF CAMERON COMPARED TO PURCHASE PRICE.**

Nominal, industry-, and market-adjusted values<sup>1</sup> of Cameron Iron Works post-acquisition compared to acquisition value. Post-acquisition value equals the sum of asset sales, interim cash flows, and the value of remaining Cameron assets. All values are in millions of dollars.

	Nominal Cash Flow	Industry Adjusted		Market Adjusted	
		11/89	7/95	11/89	7/95
<b>A. Cameron Iron Work's post-acquisition market value</b>					
Interim Cash Flows <sup>2</sup>	145.5	92.8	212.6	120.3	230.1
Value Remaining Assets <sup>3</sup>	<u>500.0</u>	<u>218.2</u>	<u>500.0</u>	<u>261.4</u>	<u>500.0</u>
Total	645.5	311.0	712.6	381.7	730.1
<b>B. Price paid by Cooper for Cameron Iron Works<sup>4</sup></b>					
	967.4	967.4	2217.2	967.4	1850.6
<b>C. Implied pre-merger value of Cameron Iron Works<sup>5</sup></b>					
	821.3	821.3	1882.4	821.3	1571.1
<b>D. Value lost or destroyed by Cooper Industries on the Acquisition<sup>6</sup></b>					
	175.8	510.3	1169.8	439.6	841.0
<b>E. Overpayment (ex post) by Cooper Industries in the Acquisition<sup>7</sup></b>					
	321.9	656.4	1504.6	585.7	1120.5

<sup>1</sup> Nominal value equals actual value. Industry-adjusted (market-adjusted) values in November, 1989 equal the actual values discounted from the month in which they occur to November 30, 1989 by the return on the equal weighted index of firms in COMPUSTAT with Cameron Iron Works SIC code of 3533 (S&P 500). The industry- (or market-) adjusted values in July, 1995 equal the actual values adjusted from the month in which they occur to July, 1995 by the return on the equal-weighted industry index (S&P 500) over that period.

<sup>2</sup> Interim cash flow is from table 5. Interim cash flows equal EBITDA less capital expenditures less the increase in non-cash net working capital plus the proceeds from asset sales.

<sup>3</sup> The value of the remaining assets is based on table 4 and assumes that the Cameron assets comprised 50% of the market value of Cooper Cameron.

<sup>4</sup> Purchase price paid by Cooper Industries for Cameron Iron Works is the sum of the market value paid for the equity and the book value of Cameron's debt outstanding on November, 1989.

<sup>5</sup> Implied pre-merger value of Cameron Iron Works is the purchase price paid by Cooper Industries less the abnormal return earned by Cameron Iron Works shareholders of \$146.1 million over the eleven-day window described in table 2.

<sup>6</sup> Value lost or destroyed by Cooper Industries equals Cameron Iron Works' implied pre-merger value less Cameron's post-acquisition value.

<sup>7</sup> Overpayment (ex post) by Cooper Industries equals the price paid by Cooper less Cameron Iron Works' post-acquisition value.

**TABLE 7**  
**TRADITIONAL OPERATING PERFORMANCE FOR COOPER INDUSTRIES AND CAMERON**  
**IRON WORKS PRE- AND POST- ACQUISITION**

Changes and industry-adjusted changes in operating income before depreciation (EBITDA) to sales, assets, and value for Cooper Industries' acquisition of Cameron Iron Works using publicly available data.

	<u>EBITDA</u> Assets	<u>EBITDA</u> Sales	<u>EBITDA</u> Value
<b>Panel A: Nominal operating performance</b>			
<i>Pre-Acquisition (a):</i>			
1984	0.112	0.124	0.127
1985	0.113	0.140	0.264
1986	0.129	0.136	0.151
1987	0.116	0.130	0.158
1988	0.124	0.134	0.154
<b>Average</b>	<b>0.119</b>	<b>0.133</b>	<b>0.171</b>
<b>1989</b>	<b>0.114</b>	<b>0.149</b>	<b>0.189</b>
<i>Post-Acquisition:</i>			
1990	0.149	0.172	0.159
1991	0.151	0.176	0.185
1992	0.127	0.154	0.125
1993	0.141	0.161	0.147
1994	0.116	0.163	0.114
<b>Average</b>	<b>0.137</b>	<b>0.165</b>	<b>0.146</b>
<b>Panel B: Industry-adjusted operating performance (b)</b>			
<i>Pre-Acquisition (a):</i>			
1984	-0.023	0.013	-0.020
1985	-0.014	0.029	0.118
1986	-0.002	0.053	0.044
1987	-0.011	0.042	0.071
1988	-0.028	0.029	0.021
<b>Average</b>	<b>-0.016</b>	<b>0.033</b>	<b>0.047</b>
<b>1989</b>	<b>-0.034</b>	<b>0.042</b>	<b>0.049</b>
<i>Post-Acquisition:</i>			
1990	0.027	0.072	0.043
1991	0.032	0.087	0.073
1992	-0.013	0.055	-0.010
1993	-0.004	0.064	0.007
1994	-0.017	0.063	-0.041
<b>Average</b>	<b>0.005</b>	<b>0.068</b>	<b>0.014</b>

(a) Pre-acquisition performance is measured by combining the performance of Cooper and Cameron. Post-acquisition performance is measured based on data from Cooper's financial statements.

(b) Industry-adjusted performance based on median performance of firms in Cooper's and Cameron's COMPUSTAT primary SIC Codes.

**TABLE 8**  
**STOCK PRICE RESPONSE TO EVENTS ASSOCIATED WITH PREMARK'S ACQUISITION OF SIKES / FLORIDA TILE (DOLLARS IN MILLIONS)**

Event Description (Date)	Days -1 through 1 % Abnormal Return and <i>Abnormal Dollars</i>			Days -5 through 5 % Abnormal Return and <i>Abnormal Dollars</i>		
	Premark International's Common Stock	Sikes'/Florida Tile's Common Stock	Total Abnormal Dollars	Premark International's Common Stock	Sikes/Florida Tile's Common Stock	Total Abnormal Dollars
Premark agrees to acquire Florida Tile for \$201 million (4/23/90)	(5.95%)*	28.50%*		(19.24%)*	29.16%*	
	(\$48.4)	\$29.1	(\$19.3)	(\$182.9)	\$30.1	(\$152.8)

\* Abnormal return is significantly different from zero at the .05 level, two-tailed test.

(a) Abnormal returns are computed based on market model estimates from days -200 through -21 prior to the first announcement for both Premark and Sikes / Florida Tile. Returns based on the excess of firm returns over the S&P 500 yield similar results.

**TABLE 9**  
**TRADITIONAL OPERATING PERFORMANCE OF PREMARK AND FLORIDA TILE**  
**PRE- AND POST- ACQUISITION**

Changes and industry-adjusted changes in operating income before depreciation (EBITDA) to sales, assets, and value for Premark's acquisition of Florida Tile.

	<u>EBITDA</u> Assets	<u>EBITDA</u> Sales	<u>EBITDA</u> Value
<b>Panel A: Nominal operating performance</b>			
<i>Pre-Acquisition (a):</i>			
1986	0.138	0.100	NA
1987	0.136	0.099	0.216
1988	0.170	0.119	0.274
<b>Average</b>	<b>0.148</b>	<b>0.106</b>	<b>0.245</b>
<b>1989</b>	<b>0.145</b>	<b>0.094</b>	<b>0.179</b>
<i>Post-Acquisition:</i>			
1990	0.124	0.093	0.171
1991	0.151	0.109	0.260
1992	0.156	0.103	0.180
1993	0.169	0.116	0.209
1994	0.190	0.130	0.155
<b>Average</b>	<b>0.158</b>	<b>0.110</b>	<b>0.193</b>
<b>Panel B: Industry-adjusted operating performance</b>			
<i>Pre-Acquisition:</i>			
1986	-0.008	-0.010	NA
1987	-0.018	-0.007	0.036
1988	0.004	0.012	0.096
<b>Average</b>	<b>-0.007</b>	<b>-0.002</b>	<b>0.066</b>
<b>1989</b>	<b>0.032</b>	<b>0.018</b>	<b>0.049</b>
<i>Post-Acquisition:</i>			
1990	0.007	0.005	0.047
1991	0.056	0.024	0.143
1992	0.021	-0.003	0.048
1993	0.030	-0.001	0.054
1994	0.031	0.003	0.014
<b>Average</b>	<b>0.029</b>	<b>0.006</b>	<b>0.061</b>

(a) Pre-acquisition performance is measured by combining the performance of Premark and Florida Tile. Post-acquisition performance is measured based on data from Premark's financial statements.

(b) Industry-adjusted performance based on median performance of firms in Premark's and Florida Tile's COMPUSTAT primary 4-digit SIC code.