



## Federated Industries (A)

In July 1984, Thomas Connors once again studied the internal consulting staff's report, "Federated Pricing in the Capacitor Market." Appointed manager of Federated's Capacitor Division in June 1983, Connors had completed a rough inaugural year. While Federated held the dominant market-share position in this low-growth industry, its performance hardly mirrored the descriptions of "cash cow" operations Connors had often read in the popular press. In fact, the division had lost more than \$1 million in 1983. (See **Exhibit 1**.)

As part of a 1983 year-end review, Connors had funded an in-house consulting group's comprehensive history of Federated's pricing and product policy in the capacitor market. Using this information, he set policy for the first six months of 1984. Now, in July 1984, industry capacity utilization was about 40%, and prices were at a new low. Connors hoped that in reviewing the report he might devise a plan for stopping industry price erosion and returning the Capacitor Division to a profitable status for the first time in several years. However, Connors could not dismiss the possibility that the best plan might be withdrawal from the market. In the short term, he faced an important decision on a bid for Southern Valley Authority, due August 6. Should Federated bid, and if so, what price?

When Connors took the manager's position, his boss, Joe Meehan, general manager of the Electrical Equipment Group, had clearly outlined his goals for the Capacitor Division:

1. Obtain more profitable price levels.
2. Restore Federated's share to its 1977 level of 50% versus the current 36%.
3. Stabilize prices.

Events of the last year hardly fit this description.

## Federated Industries Background

Federated's Electrical Equipment Group contained three product divisions. (See **Exhibit 2**.) The Transformer, Switchgear, and Capacitor divisions had 1983 sales of \$75.7 million, \$31.2 million, and \$8.4 million respectively. All products were sold by a common sales force of 50 people,

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*Professor Robert J. Dolan prepared this case as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation.*

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organized into 10 geographic districts. Customers for the group's products were the 3,500 electrical utilities in the United States.

Federated's products enabled utilities to distribute power more efficiently. Transformers were basically of two types. Step-up transformers took electricity from generators and raised it to higher voltages for transmission over long-distance lines. The transmission voltage, up to 500,000 volts, required reductions as low as 120 or 240 volts for home or factory use. Step-down transformers performed this function. Switch-gear protected electrical circuits by switching loads to alternative lines or breaking the circuits when necessary. Capacitors increased utilities' power factors by boosting the useful current in a line as a percentage of the total current.

Of the 3,500 U.S. utilities, only 1,000 both generated and distributed power. The other 2,500 bought electricity from a generating firm and sold it to users. For marketing purposes, utilities were categorized as follows:

1. Large Public—such as the federally run Tennessee Valley Authority, Bonneville Power Authority, and Southeast and Southwest Power Authority.
2. Small Public—such as municipalities and rural electrification authorities, serving sparsely populated areas.
3. Investor Owned—such as Consolidated Edison and Houston Power and Light.

The Investor Owned group, consisting of only 435 firms, accounted for 65% of demand for electrical equipment. Prices for this group were negotiated; the buyers were sophisticated and price-oriented. Some manufacturers maintained published prices that served as a starting point for negotiations. Large users expected negotiated discounts off list of "book" prices.

The Large Public utilities bought via sealed bid. Tight specifications made the products of qualifying suppliers essentially equivalent. The lowest bid won the order, and all bids were a matter of public record after the opening. These utilities accounted for 20% of demand.

Municipalities and rural electrification authorities were small operations and quite unsophisticated in their buying procedures. Typically, these buyers did not plan ahead, delivery was more important than price, and they usually stayed with the same supplier for long periods of time. This group accounted for the remaining 15% of total demand.

Of the three products sold by the Electrical Equipment Group sales force, capacitors were by far the simplest. Essentially a metal box filled with foil and paper insulation, a capacitor had no moving parts. Many buyers viewed the capacitors of various suppliers as equivalent. Despite their simplicity, capacitors were very valuable to the utilities. Without capacitors, the typical power loss at a primary feeder station (i.e., the difference between the kilowatt hours produced or purchased by a utility and the kilowatt hours sold to customers) was 8%. Capacitors could reduce this power loss to 2% to 3% by bringing the voltage and current into phase. In short, the increased efficiency in electrical power transmission was worth many times the cost of capacitors. The standard measure of capacitor size was kilovars (KVAR). A large public utility might order 10 or more banks of 20,000 KVAR capacitors that cost approximately \$40,000 each in 1983. About one-third of the utilities made a capacitor purchase in a given year.

## Capacitor Industry

### Suppliers

For more than 15 years, the capacitor industry had been dominated by three suppliers: Federated, Midland Electrical, and Brice. At various times, three or four other firms competed for business, but none of these fringe firms directed their primary attention to the capacitor market. Some offered capacitors merely to legitimize their full-line supplier claims. Others came into the market on a seasonal basis as demand for their other product lines slowed. Total capacity in the hands of this collection of marginal participants had never exceeded 30% of industry capacity. (**Exhibit 3** shows three-shift manufacturing capacity in KVARs by firm for 1971-1983 and industry shipments in units.)

Midland Electrical was a large, diversified manufacturer of consumer, defense, and industrial products, with 1983 sales of \$1.27 billion. Midland and Federated were the original market suppliers. Brice, considerably smaller than either Federated or Midland, with \$57 million in 1983 sales, specialized in electrical transmission and distribution equipment. In 1980, new management in Brice's capacitor division took an aggressive tack, significantly increasing capacity and introducing a lower-quality, lower-priced capacitor line. (See **Exhibit 4** for market and industry capacity shares of the three major competitors for 1977 to 1983.)

### Trends

As **Exhibit 3** shows, the industry historically suffered from overcapacity. Participants seemed too quick to respond to upswings in demand with capacity increases. For example, increased demand in 1975-1976 prompted capacity additions by each of the players in the market, only to see an easing of demand through 1979. Average price per kilovar dropped from \$6.52 in 1975 to \$3.90 in 1978. (See **Exhibit 5** for the history of (1) industry shipments in units, (2) industry revenues for capacitors, and (3) average price per kilovar for the period 1971-1983.)

## Federated Capacitor Experience

### History

Federated's Capacitor Division had operated at a loss since 1980. Universally regarded as the industry leader, Federated offered top-quality products and in 1977 had held a 48% share. Although its share dropped as low as 30% in 1981, Federated always maintained market leadership.

Federated's average sales price was usually 5%-10% above the industry average, but followed the industry trend shown in **Exhibit 5**. Naturally, the price erosion put pressure on the manufacturing group to reduce costs, which it accomplished as follows:

#### Capacitor Direct Manufacturing Cost Per Kilovar

1977:	\$2.70	1980:	\$2.18
1978:	2.02	1981:	2.00
1979:	1.98	1982:	1.94
		1983:	1.96

Connors commented on the situation in July 1984:

It's a little hard to understand how an industry gets itself in a position like this. Part of our problem has been that the capacitor market always seems to get tied up with what's going on in the big heavy-equipment market. Somebody starts cutting prices in transformers and next thing you know, it's dragged over into the capacitor market. But still, we're not making any money and I'm sure nobody else is, but how do we get the price level back up to a reasonable level? I've budgeted a loss of \$860,000 for capacitors this year [1984], but if this \$1.98 price level sticks, the loss will be a lot more than that.

### Recent Pricing in the Capacitor Market

The \$1.98 price level Connors referenced was a competitive bid made by Midland Electrical on May 11, 1984. Southern Valley Authority announced the award and price on May 21, 1984. Connors had bid \$2.08 on the approximately \$600,000 procurement to "be sure we'd get the business." Prompted by this and later events, Connors decided to restudy the market and consider the possibility of withdrawing.

### Consultant's Report, December 1983

In December 1983, Connors recognized the need for a comprehensive, systematic review of past pricing policies if he were to lead Federated and the industry out of its problems. Federated's internal consulting group had a good reputation for unbiased reports of this type, so Connors commissioned a study. Since the team would examine only internal Federated documents, the fee to the Capacitor Division was small and the job would be completed in one month.

Excerpts from the report follow:

We have examined price movements in the capacitor industry for the previous six years. During this time, the market price has fallen from over \$6.00 to below \$2.50. The following graph [see **Exhibit 6**] shows the trend of (1) Federated's Book Price, (2) Federated's Average Price Obtained, and (3) Federated's Direct Cost averaged over calendar years. Superimposed on the graph is the time line for the five pricing policies Federated has employed from January 1978 to December 1983:

1. Ad hoc Pricing, pre-January 1978–March 1980
2. Strict Book Pricing, March 1980–April 1982
3. Controlled Opportunistic Pricing, May 1982
4. Selective Pricing, June 1982–November 1983
5. No Book Price, December 1983.

We now review market performance under each of the five pricing policies:

*Policy 1: Ad hoc Pricing, pre-January 1978 to March 1980.* We use the term *ad hoc* to refer to this period, because although book prices<sup>1</sup> did exist, they became

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<sup>1</sup>Casewriter's note: Book prices were widely published and disseminated throughout the industry. Generally, they represented the price level that the industry leader judged fair given costs. Book price was an upper bound to market price, and buyers typically expected some percentage reduction off book price.

meaningless in early 1978 due to low industry capacity utilization and price cutting by small suppliers in particular. With no realistic book price to guide individual bids or negotiations, Federated policy was essentially ad hoc. In the second half of 1978, Federated's share dropped to 39% (from 45% a year previously). By the end of 1979, there was widespread recognition that Federated must formulate a policy. The Electrical Equipment Group's general manager, J. Meehan, directed D. Splaine, manager of the Capacitor Division, to slow down the price erosion, bring market stability, and eventually lead market prices to a level that would again permit operations at an acceptable profit level.

*Policy 2: Strict Book Pricing, March 1980 to April 1982.* D. Splaine announced the division's new Book Price Policy in a memorandum to the sales force [see **Exhibit 7**]. During the 26 months the Book Price Policy was in effect, Federated made 28 price changes—22 increases, 6 decreases. Average price declined from \$4.25 (March 1980) to \$3.50 by December 1981. Federated market share for 1981 reached an all-time low, 30%. A major cause of the share loss was Federated's loss of all large, public-bid business. Since competitors knew the Federated bid would be the published book price, they consistently undercut Federated by 1% to 2%.

*Policy 3: Controlled Opportunistic Pricing, May 1982.* In reaction to the problems with the Book Price Policy, Federated introduced Controlled Opportunistic Pricing. The major features of this policy were as follows: (1) the frequency of book price changes was restricted to once a month, and (2) price cuts of up to 6% off book would be permitted. According to Splaine's memorandum to the sales force, the objective of this policy was "to allow greater flexibility and selectivity in securing the most desirable jobs; to allow Federated to meet competitive prices, as long as they were within 6% of book prices." This policy was in place only one month and then was revised to become Selective Pricing Policy because of lack of ability to complete on large jobs.

*Policy 4: Selective Pricing, June 1982-November 1983.* This policy revised the Controlled Opportunistic Policy per D. Splaine's memorandum to the sales force [see **Exhibit 8**]. The main changes were that price cuts of more than 6% off book were permitted on sealed bids of over \$200,000 and, if competitive prices were known conclusively, Federated would match the price. Prices continued to decline throughout the remainder of 1982, after the institution of Selective Pricing in June. The policy was severely criticized in the December 1982 review meeting. However, Splaine retained the policy, increasing book price from \$3.80 to \$3.95, but this had no impact on the market price. In early 1983, the intensity of the price-cost squeeze induced both Midland and Brice to lower their product quality in an effort to lower their manufacturing cost. By Federated testing procedures, Midland and Brice capacitors would now cost the utilities significantly more in repair and maintenance cost over a 25-year period.

By June 1983, Federated's average received price was \$2.80, and book price was \$3.95. Consequently, the situation was much like that in 1978 when book price became meaningless. Tom Connors replaced Splaine as manager of the Capacitor Division.

*Policy 5: No Book Price, December 1983.* Connor's first action in July 1983 was to attack the quality of Midland and Brice capacitors in an intense personal selling effort. Customers were told that Federated would never lower its quality. Midland and Brice effectively countered Federated claims by extending the warranties on their products. Federated refused to offer extended warranties. In November 1983,

Federated attempted to reestablish a meaningful book price at \$3.12, approximately 10% above the average price being received at that time. Federated stated publicly that it would quote only book prices. This effectively was a return to Policy 2, Strict Book Pricing. However, when competitors continued to take business at the \$2.80–\$2.85 level, Federated responded by withdrawing book prices in a press release through J. Meehan's office [see **Exhibit 9**].

## Events Since December 1983

Connors related events since Federated's withdrawal of book prices in December 1983:

In November I tried to get market prices up by quoting a reasonable book price at \$3.12 and saying we'd stick to it, but those other guys just wouldn't come up. So, I thought maybe it would be better for everybody if somebody else took the lead for a while.

On January 3, Midland tried to take over the leader role, quoting the book price we had just abandoned, \$3.12. We found out about this in mid-February when one of our salespeople picked up a copy of the new Midland price list from a customer.

Encouraged by the Midland announcement, Federated reestablished book prices at \$2.80, lower than Midland's book of \$3.12, but above market. One day before, however, and unknown to Federated, one of the fringe firms announced a book price of \$2.68. Midland responded with a \$2.50 book price effective March 12. Federated then matched this \$2.50 book price, effective March 26. This set the stage for the SVA bids, which eventually resulted in the \$1.98 price level.

## SVA Bidding

Southern Valley Authority, a large public utility operating under a sealed bid procedure, divided its 1984 procurement into three stages as shown below.

SVA's 1984 Procurement

	Closing Date for Bid	Award Announced	Requirements (Number)–Type
Stage 1:	March 19, 1984	April 9, 1984	(2) – 12,000 KVAR Banks (10) – 100 KVAR Spares
Stage 2:	May 11, 1984	May 21, 1984	(24) – 12,000 KVAR Banks (100) – 100 KVAR Spares
Stage 3:	August 6, 1984	August 20, 1984	(16) – 12,000 KVAR Banks (64) – 100 KVAR Spares

Connors recalled the Stage 1 and Stage 2 bidding:

For Stage 1, SVA qualified only Midland and us on a prebid test. I was running at 27% share for the first quarter of 1984. I had budgeted 36%—so I needed the business. We had a lot of debate on Stage 1 pricing, which revolved mostly around how different things set you up for Stage 2 since there was 10 times as much business there.

At the time, we both [Federated and Midland] had \$2.50 book prices. I felt we had to quote book because if we got aggressive, we might push prices down to

\$2.10–\$2.20 for the rest of the year. So we went in at \$2.50 per kilovar, the book. So did Midland, but they knocked nickels and dimes off the accessories so they beat us out by \$200 on a \$60,000 order!

By April, when it was time to prepare our Stage 2 bid, pricing cutting was all over the place, down as low as \$2.10. The market was really unstable and some people here actually thought we should pass. SVA had added Brice and one of the small guys, Astor Electrical, to the qualified list for this round. But, here's \$600,000 worth of business and I've got a market share goal of 36% for 1984 which I can't make without this realistically. So, we decide: let's get the business—we go at \$2.08; it's low but we want to be sure to get it.

Well, you know the rest—Brice was out of it at \$2.56, which we expected, Astor at \$2.04 and Midland at \$1.98—the first time anybody booked anything below \$2.00.

### Aftermath of SVA Stage 2 Bidding

Many private utilities waited on the sidelines for the results of the SVA Stage 2 bidding. Connors reacted to Midland's \$1.98 bid by accepting business at \$1.98 per KVAR for any requirements on which customers would accept delivery by May 1985. Between May 21 and 24, Federated's 19 sales engineers were told to take this offer first to those customers who seemed likely to accept. The sales force was told to prevent leaks of these offers to the competition. On May 25, however, Midland telephoned major utilities stating that their capacitor prices had been withdrawn for review and urging them not to make long-term commitments.

By the end of June, 44 utilities had been approached with the \$1.98 offer by Federated, Midland, or Astor. The following is an estimate of total business placed:

	Number of Customers	KVAR Sold	Dollar Value
Federated	15	760,000	\$1,505,800
Midland	4	536,000	1,061,200
Astor	2	222,000	439,560

With these orders, capacitor orders booked for the first six months of 1984 totaled \$13.8 million.

### Connors' Decisions

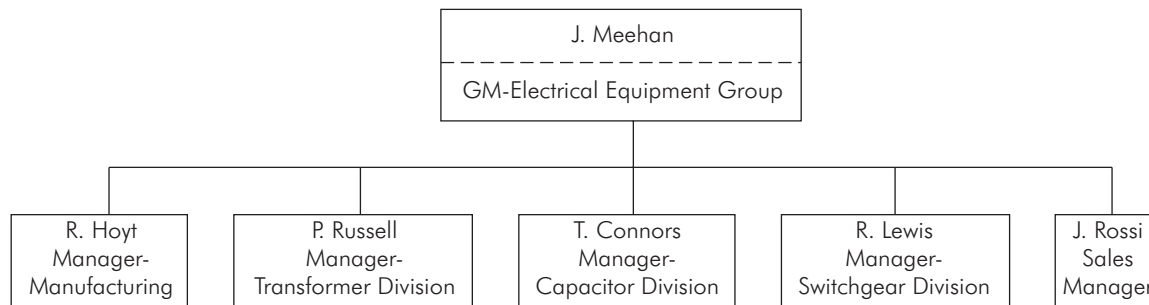
The May–June selling blitz put \$1.5 million worth of orders on Federated's books at \$1.98. Direct manufacturing cost for 1983 was \$1.96. While history suggested some manufacturing price reductions in 1984, this \$1.98 business seemed hardly in keeping with Meehan's first goal of "more profitable price levels." On the other hand, Connors thought, without the \$1.98 offer, there was no way Meehan's second goal of market share increase could be attained.

Connors studied the consultant's report, hoping to improve his understanding of how the market worked. Stage 3 SVA bids were due on August 6. SVA had qualified the same four suppliers as for Stage 2. Again, there was more than \$500,000 in business at stake. As he thought, a telephone call relayed the news that Midland had just cut its book price to \$2.30. Connors wondered, were Meehan's goals attainable, or should Federated get out of the capacitor market?

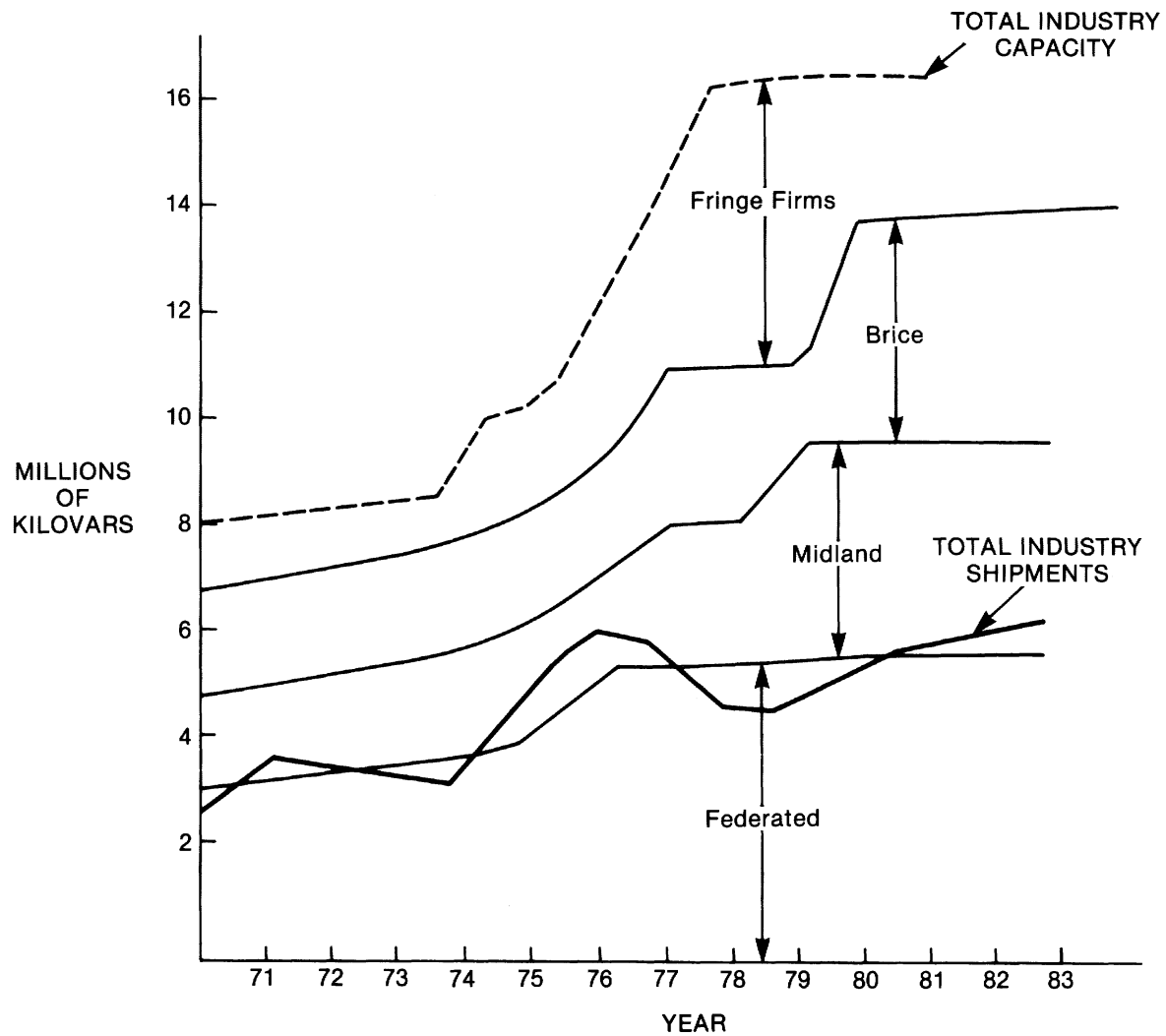
**Exhibit 1** 1983 Capacitor Division Income Statement (\$000)

	\$	%
<b>Sales</b>		
Capacitors	\$6,534	78%
Accessories	<u>1,866</u>	<u>22</u>
	\$8,400	100%
<b>Costs</b>		
<b>Direct</b>		
Materials	\$4,200	50%
Direct labor	420	5
Other variables	<u>1,008</u>	<u>12</u>
	\$5,628	67%
<b>Overhead<sup>a</sup></b>		
Manufacturing overhead	\$1,008	12%
Engineering	420	5
Marketing	1,260	15
General and administrative	<u>1,344</u>	<u>16</u>
	\$4,032	48%
<b>Profit</b>		
Profit before tax	(\$1,260)	(15%)

<sup>a</sup>Overhead was allocated among the three product divisions of the Electrical Equipment Group based on sales volume. Connors estimated that Federated's withdrawal from the capacitor market would actually reduce the group's overhead by about \$2 million per year.

**Exhibit 2** Electrical Equipment Group Organization Chart, May 1983



**Exhibit 3** Industry Shipments and Total Three-Shift Manufacturing Capacity, 1971–1983

**Exhibit 4** Market and Capacity Shares of the Three Major Competitors

<b>Market Shares, 1977-1983</b>				
	Federated	Midland	Brice	Fringe Firms
1977	48%	13%	25%	14%
1978	45	10	19	26
1979	39	18	16	27
1980	34	25	18	23
1981	30	27	18	25
1982	36	30	12	21
1983	36	28	16	20

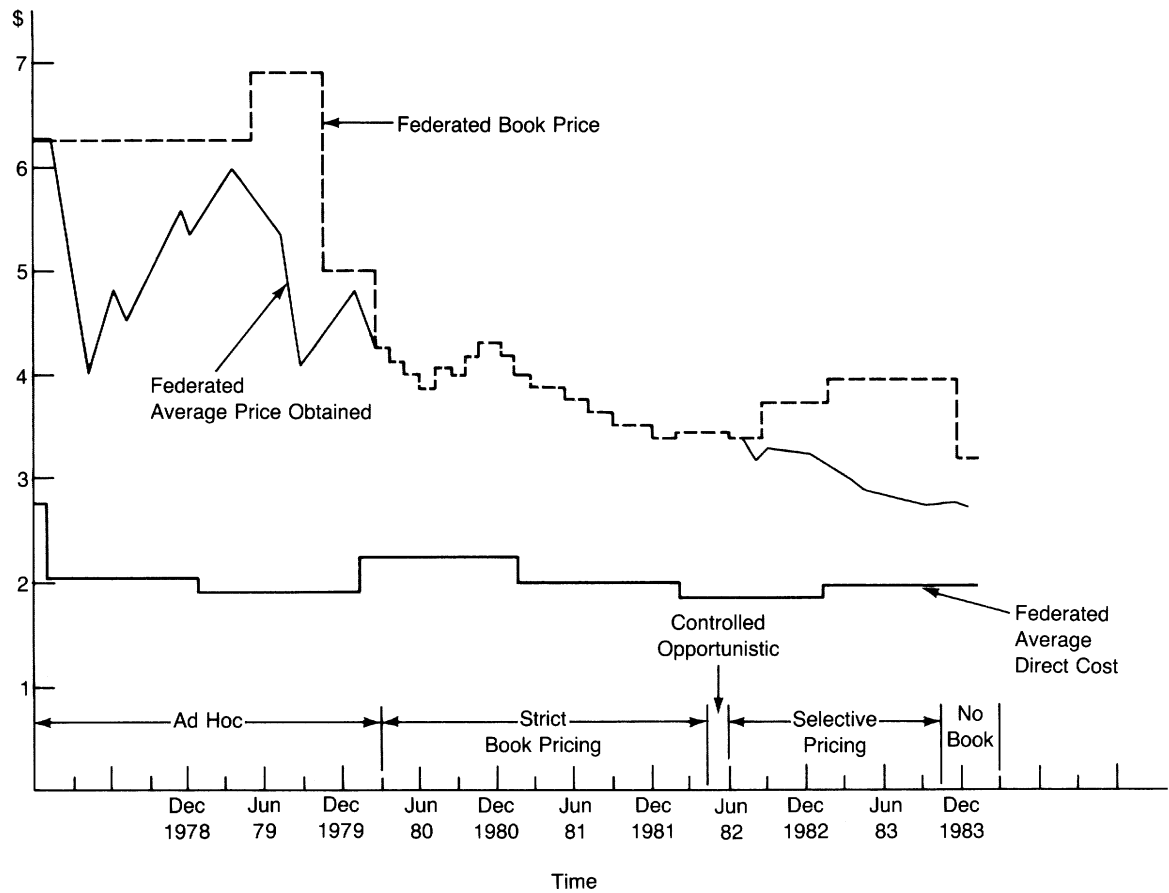
  

<b>Capacity Shares</b>				
	Federated	Midland	Brice	Fringe Firms
1977	37%	20%	19%	24%
1978	34	16	19	31
1979	33	20	18	27
1980	33	24	21	22
1981	33	24	21	22
1982	35	20	22	23
1983	35	20	22	23

**Exhibit 5** Industry Demand and Price History, 1971-83

	(1) Industry Shipments In KVAR (millions)	(2) Industry Revenues for Capacitors <sup>a</sup> (\$ millions)	(3) (2) ÷ (1) Average Price per KVAR (\$)
1971	3.1	\$23.25	\$7.50
1972	3.9	29.85	7.65
1973	3.8	28.20	7.42
1974	3.5	23.70	6.72
1975	4.9	31.95	6.52
1976	6.0	27.30	4.55
1977	5.8	23.85	4.11
1978	4.5	17.55	3.90
1979	4.5	19.35	4.30
1980	5.2	22.80	4.38
1981	5.7	21.60	3.78
1982	5.9	19.50	3.30
1983	6.2	18.15	2.92

<sup>a</sup>Omits sales of accessories such as racks and pole mounting devices. Typically, these would amount to 25% of capacitor sales.

**Exhibit 6** Federated Book Price, Average Price Received, Direct Cost (1978–1983)

Note: Under Strict Book Pricing (March 1980–April 1982), Federated Book Price and Federated Average Price Obtained were identical.

**Exhibit 7** Letter Announcing Book Pricing Policy

TO: Electrical Equipment Group Sales Representatives

FROM: D. Splaine, Manager, Capacitor Division

DATE: March 7, 1980

SUBJECT: Capacitor Pricing

Given developments in the electrical market, of which you are all well aware, the Capacitor Division has revised its pricing policy. Our new policy, "Book-Price Policy," is as follows:

1. We will publish a Book Price to be quoted to all electrical utilities. There are no exceptions.
2. The Capacitor Division will adjust Book Prices to keep them competitive with the market level.
3. If Book Prices are reduced, the price of unbilled previously booked business will be adjusted to the lower price.
4. All price changes will be announced to you and the press 48 hours before they take effect.

We believe this policy to be realistic and fair. All customers can have confidence that they will receive the same price from us and they will all receive the benefits in their billings of any reduction in price.

We want you to communicate all changes in capacitor market conditions to us promptly and accurately. Our ability to adjust our published prices to the market level quickly and to keep competitive depends on you.

Enclosed is a copy of the booklet "A Pricing Policy Which Offers You Fairness, Consistency, and Simplicity, in Addition to Better R&D and Better Products." Please use this booklet to communicate this program to our customers.

**Exhibit 8** Letter Announcing Selective Pricing Policy

TO: Electrical Equipment Group Sales Representatives

FROM: D. Splaine, Manager, Capacitor Division

DATE: May 29, 1982

SUBJECT: Capacitor Pricing

Our one month of experience with our Controlled Opportunistic Policy indicates desirable modifications to this policy. Our new Selective Pricing Policy effective immediately is as follows:

1. Sales reps are given authority to negotiate within the 6% range of published prices.
2. On sealed bids of \$200,000 or more, the 6% limit need not apply, but concurrence of the Capacitor Division must be obtained.
3. In the event that a conclusive reading is obtained on competitive price, the Capacitor Division will meet the competitive price.

This policy enables us to select those jobs offering attractive margins and having low engineering and drafting expense per unit, while we maintain our market position and meet our sales budgets.

**Exhibit 9** Trade Press Release, December 1983

FOR IMMEDIATE RELEASE:

December 4—Federated Industries Capacitor Division announced that effective immediately published prices on Federated's high-voltage capacitors are to be used for estimating purposes only. This, in effect, withdraws the price increase announcements of July 9 and Federated's prices which became effective on November 13, 1983.

The general manager of Federated's Electrical Equipment Group, Joseph Meehan, stated that it has become evident that competitive activity has caused Federated's price of July 9 (\$3.90 per kilovar) to become out of line with the market. Meehan stated that he believes the published prices adopted by Federated on November 13 (\$3.10 per kilovar) are realistic and fair for high-quality products. He hopes the market will strengthen within a reasonable period. In the meantime, Federated plans to remain fully competitive with other quality suppliers.