Australian Federation of Employers and Industries: answers to questions taken on notice at a public hearing in Melbourne on 27/10/2016. Received 02/11/2016

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Mr Brack: There is evidence, by the way, of companies that have purchased other companies and absorbed them into their businesses and sought to retain the pay structures that the new company previously had. When they have tried to meld the new organisation into their existing structure, they have had significant difficulties because of different views about 'why should they get that, and we do not get that'.Despite the objectivity of the analysis, people have not been prepared to accept that they get it because there was a good business reason for it. In some of those cases, they have had to unravel the purchase and take the new entity and relocate it to try and avoid the damaging dislocation that had been caused by the attempt to meld the two organisations. That is commonplace when there are acquisitions, where people try to incorporate a new organisation into an existing structure.
Senator MARSHALL: You will provide that evidence to the committee?
Mr Brack: We could do that.
Senator MARSHALL: That would be good.

Answer:

1. A link to a passage from Oliver E. Williamson, *The Economic Institutions of Capitalism*, Simon and Schuster, 1985, pp 158-159. Available at: https://books.google.com.au/books?id=MUPVLuiy9uQC&pg=PA158&lpg=PA158&dq=1980+acquisition+houston+oil+Tenneco&source=bl&ots=Q9aAay4E-y&sig=2sSw5-mY1faZTmTvQJU333QVYxo&hl=en&sa=X&ved=0ahUKEwjamo6v5ojQAhVCkZQKHQJ-CGoQ6AEIIzAB#v=onepage&q=1980%20acquisition%20houston%20oil%20Tenneco&f=false

2. A copy of Kole, S. and Lehn, K. (2000). 'Workforce integration and the dissipation of value in mergers: the case of USAir's acquisition of Piedmont Aviation'. In: S. Kaplan (ed), *Mergers and Productivity*, [online] Chicago: University of Chicago Press, pp.239-286. Available at: http://www.nber.org/chapters/c8652

3. A copy of Todd Zenger, 'The case against pay transparency', *Harvard Business Review*, 30 September 2016, https://hbr.org/2016/09/the-case-against-pay-transparency

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5

Workforce Integration and the Dissipation of Value in Mergers
The Case of USAir's Acquisition of Piedmont Aviation

Stacey R. Kole and Kenneth Lehn

Somewhere along the line a strong carrier, instead of becoming stronger by acquisition, is going to merge itself into weakness, and maybe this [USAir transaction] is going to be it.
—Edmund Greenslet, Merrill Lynch (19 February 1987)

5.1 Introduction

In November 1987, USAir Group acquired Piedmont Aviation for $1.6 billion in a cash tender offer. The acquisition, which remains the largest airline merger in history, transformed USAir from a regional airline into a major national airline. Comparably sized, USAir and Piedmont had the two highest profit rates in the industry and reputations as strong regional airlines that had thrived under deregulation. Following the integration of the two carriers, the new USAir incurred huge operating losses, became the least profitable major airline, sustained a large reduction in its stock price, eliminated its dividend, and came close to bankruptcy. We examine USAir's acquisition of Piedmont and its postmerger performance to address the following question: How can the combination of two highly profitable firms dissipate so much value?

Figure 5.1 shows USAir's stock price performance from 1978 through 1995. From 1979 to 1986, the first eight years of airline deregulation,

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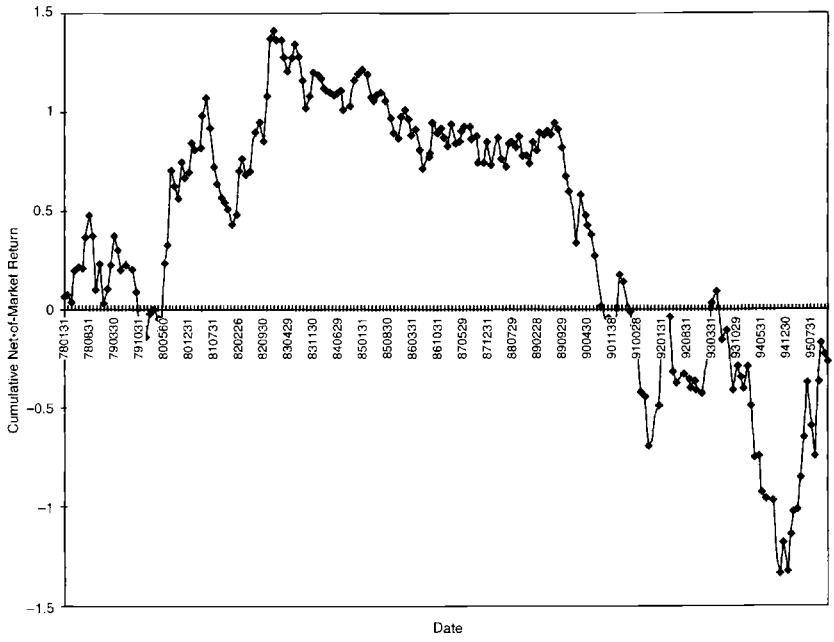

Fig. 5.1 USAir's cumulative monthly net-of-market returns, 1978–95

USAir experienced a cumulative net-of-market return of roughly 75 percent. In February 1987, USAir announced its bid for Piedmont. Although Piedmont was acquired in November 1987, integration was delayed for regulatory and labor-related reasons until August 1989. Almost immediately thereafter, USAir's costs rose, productivity and customer service deteriorated, and in the year following August 1989, USAir's stock price fell from $54 to $21.375. Within five years of the completion of the Piedmont merger, USAir had destroyed more than $2.5 billion of shareholder value.

We conclude that the major source of USAir's value destruction was the strategy it used to integrate the Piedmont and USAir workforces. This integration was further complicated by USAir's acquisition of PSA, a smaller California airline, for $400 million at roughly the same time. Before the acquisitions, the workforces at the three airlines had different pay scales, work rules, and cultures. After the acquisitions, USAir faced a choice: maintain these differences within the firm or standardize the labor contracts and cultures of the three organizations.

USAir opted for the latter. Attempting to buy labor peace, it brought the Piedmont and PSA employees under the more generous pay scales and work rules of USAir's collective bargaining agreements. This raised labor costs substantially and lowered the productivity of the newly acquired airlines. In addition to adopting uniform labor contracts for the three work-

forces, USAir used a "mirror image" strategy to homogenize the operations of the acquired airlines in order to expedite Federal Aviation Administration (FAA) certification of the acquired carriers. However, the policy extended beyond regulatory requirements and "turned out to be an irritant to everyone—PSA and Piedmont employees and their customers."[1]

The USAir case, and perhaps airline mergers more generally, provides evidence consistent with Williamson's (1985) conjecture that the boundaries of the firm are limited in part by considerations of "internal equity." Williamson raises the oft-asked question, "why can't a large firm do everything that a collection of small firms can do and more?" (131). He suggests that one large (merged) firm may be unable to sustain desirable differences in compensation plans across separate units because of the disharmony it creates among the firm's lower paid workers. Even though synergies may exist in the merger of two firms, these benefits can be more than offset by the costs of integrating disparate workforces. United Airlines' highly public analysis of a bid for USAir is a good example. Although United's management acknowledged substantial operating synergies between the two airlines, United cited the carrier's high labor costs and the expected difficulties combining the two workforces in its decision not to acquire USAir.

Our analysis of the USAir-Piedmont case reveals the thorny labor relations issues that exist in airline mergers more generally. While these issues exist in varying degrees in other industries as well, we conjecture that they are especially challenging in the airline industry for several reasons. First, labor costs account for a larger proportion of operating expenses for airlines (especially for carriers that predate deregulation) than they do in most industries. Second, labor unions, especially the pilots' and mechanics' unions, have considerable hold-up power in the airline industry since flight crews and mechanics develop skills that are specific to aircraft and costly to replace. Third, since the airline industry is a service industry, worker disharmony can substantially damage an airline's brand name. Finally, airlines face unique regulations, such as the Railway Labor Act, that affect the integration of workforces. Later, we present evidence showing that the long-run stock price performance of acquiring airlines is highly negative.

This paper is organized as follows. Section 5.2 provides background information on USAir and Piedmont, describes the rationale and structure of the merger, and discusses the regulatory and organizational issues that delayed the implementation of the Piedmont-USAir merger for almost two years. We also present premerger financial data for the airlines and document a substantial difference in the labor costs of Piedmont and

1. Seth Schofield, former chairman and chief executive officer at USAir, interview by authors, Pittsburgh, Pa., 7 October 1996.

USAir in section 5.2. Section 5.3 shows that the stock market did not view the Piedmont acquisition as unwise during 1987, when the acquisition was initially announced and approved. Section 5.4 describes the decline in USAir's performance after the integration of Piedmont and documents that the principal source of the decline is the increase in USAir's labor costs. In section 5.5, we discuss factors that contributed to USAir's poor performance after the merger, including the integration and organizational policies it adopted. Section 5.6 provides concluding comments.

5.2 USAir's Acquisition of Piedmont

Before examining the effect of the Piedmont acquisition on USAir's performance, it is useful to describe some background information on USAir and Piedmont, the strategy behind the acquisition, and the takeover process that led to the acquisition.

In retrospect, USAir's acquisition of Piedmont had several elements that might have predicted the postmerger problems that USAir experienced. First, before the merger, USAir was generating substantial cash flow but had low growth opportunities in its existing markets. Given that USAir management owned a small percentage of stock, it had the profile of a firm that suffered from the agency costs of free cash flow (Jensen 1986). Second, the acquisition came on the heels of a major consolidation of the airline industry—ten airline mergers had occurred in the two years prior to the Piedmont acquisition. USAir management felt that it had to acquire or be acquired, and hastily proceeded to acquire PSA and Piedmont. Third, and relatedly, USAir placed the survival of the organization ahead of the interests of shareholders. Fourth, USAir management had a track record for avoiding confrontation with employees, which might have suggested a substantial increase in its postmerger labor costs. Finally, as a regional airline, USAir did not have the infrastructure to seamlessly digest an acquisition as large as Piedmont.

Notwithstanding these considerations, as we show below, the market generally did not anticipate the postmerger problems that USAir would experience. Hence, while it is tempting to criticize the strategy behind the acquisition, there were few negative signals conveyed to USAir management at the time.

5.2.1 Background Information on USAir and Piedmont

USAir

USAir began in 1939 as All American Aviation providing mail service in isolated communities throughout Appalachia. It changed its name to Allegheny Airlines in 1953 upon offering passenger air travel on short-haul routes in the Northeast. Between 1939 and 1978, USAir's predecessor

company acquired two smaller regional airlines—Lake Central Airlines in 1968 and Mohawk Airlines in 1972. By the time price and entry regulations were lifted in 1978, Allegheny Airlines had a reputation as a marginally profitable regional airline.

In 1979, shortly after deregulation, Allegheny Airlines changed its name to USAir, Inc., to reflect its growing service network and to signal its intention to expand nationally. Like most major airlines, the company established a holding company structure after deregulation. In 1983, USAir Group was formed as the holding company for USAir, Inc., which became the wholly owned subsidiary through which USAir Group conducted its airline business. Shortly thereafter, USAir Group acquired two small commuter airlines—Pennsylvania Commuter Airlines in 1985 and Suburban Airlines in 1986. By the end of 1986, USAir Group owned four subsidiaries: USAir, Inc., the two commuter airlines, and U.S. Leasing and Services, a small aircraft leasing company. By the end of 1986, USAir offered service to more than one hundred cities and seventy-seven airports within the United States.

Piedmont

Piedmont Aviation was founded in 1940 as a small regional airline providing passenger air travel in the Southeast. Like Allegheny Airlines, its counterpart in the Northeast, Piedmont concentrated its operations on short-haul markets.

In early 1986, Piedmont Aviation acquired Greensboro High Point Air Services, a small commuter airline with operations in North Carolina and Virginia. After deregulation, Piedmont acquired two other small airlines—Henson Aviation, a regional airline with operations in the Southeast, and Empire Airlines, which operated in upstate New York. Piedmont also acquired Aviation Supply Corp. in 1983, which sold and distributed aircraft parts and equipment. By 1986, Piedmont Aviation consisted of Piedmont Airlines, its principal division, and two wholly owned subsidiaries engaged in aviation sales and services, though Piedmont, like USAir, earned 95 percent of its consolidated revenues from passenger sales. By the end of 1986, Piedmont provided service to one hundred U.S. cities and seventy-five airports.

USAir and Piedmont's Performance, 1979–86

During the early years of deregulation, the major trunk airlines withdrew from many of the short-haul markets served by USAir, Piedmont, and other regional airlines. Under regulation, trunk lines were encouraged to serve short-haul markets by a fare structure that provided cross-subsidies from travelers on long-haul routes to those on short-haul routes. With the elimination of cross-subsidization, the major airlines largely conceded the short-haul routes to regional airlines with fleets of smaller aircraft.

By 1986, USAir and Piedmont dominated the short-haul markets in the Northeast and Southeast, respectively. USAir developed a hub in Pittsburgh through which it provided frequent passenger service to smaller cities in the Northeast, such as Allentown, Bethlehem, Albany, Syracuse, and Rochester. Piedmont maintained its principal hub in Charlotte through which it provided frequent air service to smaller cities in the Southeast, such as Asheville, Fayetteville, and Columbia, South Carolina. Piedmont also operated smaller hubs in Dayton, Ohio, and at Baltimore/Washington International Airport. Both airlines maintained fleets of smaller planes (e.g., DC-9s and Boeing 727s and 737s) allowing them to achieve high load factors in the smaller markets that fed traffic into their hub operations. "Fortress" hubs and route structures provided USAir and Piedmont with a major strategic advantage in the deregulated environment—both were considered to be less vulnerable to the intense fare competition that prevailed on other routes in the early 1980s.[2] It was perceived that the traffic on the USAir and Piedmont routes was sufficiently light to deter substantial entry by other airlines (Rotbart 1984; Stevens 1984).

Both USAir and Piedmont enjoyed unusually high profit rates during the early years of deregulation. Figure 5.2 shows the annual ratio of operating income to operating revenue for both airlines and an industry portfolio from 1978 to 1986.[3] The figure shows that throughout the period, USAir and Piedmont consistently outperformed the industry with operating margins of 8.6 percent and 8.0 percent for USAir and Piedmont, respectively, versus an operating margin of 1.6 percent for the industry portfolio. In fact, USAir and Piedmont typically ranked among the most profitable airlines. The revenues of both airlines also grew rapidly during this period. From 1978 to 1986, the operating revenues of USAir and Piedmont grew by 224 percent and 812 percent, respectively, compared with 67 percent for the industry portfolio. By the end of 1986, the two former regional carriers were among the ten largest airlines in the country.

The stock prices of both companies increased substantially during the years 1979 to 1986. Figure 5.1 shows that USAir's cumulative net-of-market stock return for the period was 75 percent; figure 5.3 shows a corresponding return of 130 percent for Piedmont. Whereas Piedmont's cumulative returns had been highly negative during the first few years of deregulation, they increased sharply in 1981. In contrast, USAir's returns had generally been positive from the outset of deregulation. A *Wall Street Journal* article (Byrne 1983) discussing the winners and losers of deregula-

2. Rotbart (1984) quotes an official of a mutual fund that specializes in airline stocks as saying that "Piedmont and USAir get competition occasionally on point-to-point routes, but you can't compete with their hub and spoke systems."

3. The industry portfolio consists of nineteen airlines that were publicly traded in 1978. It includes Alaska, Aloha, American, Braniff, Continental, Delta, Eastern, Frontier, Hawaiian, Northwest, Ozark, Pan Am, PSA, Republic, Southwest, Texas, TWA, United, and Western.

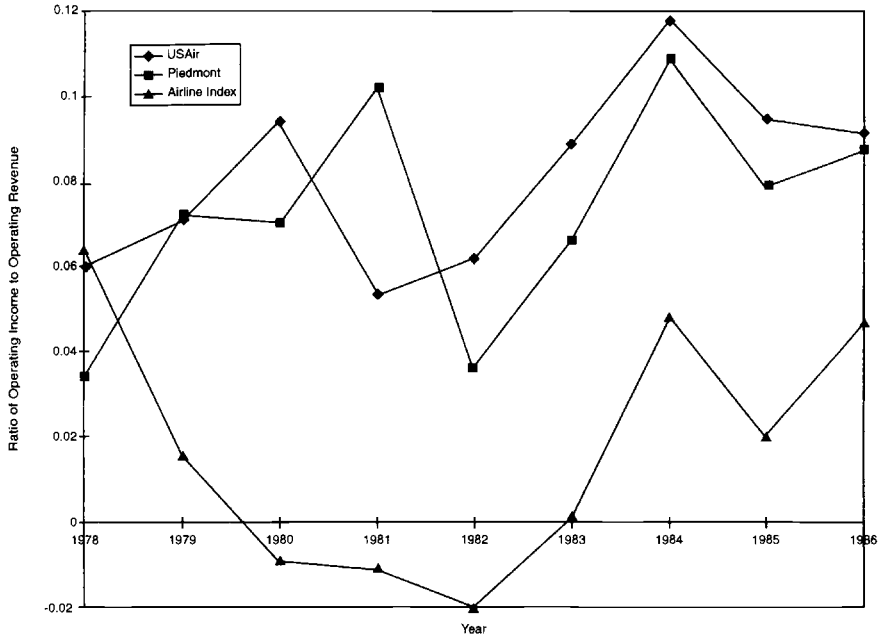

Fig. 5.2 Ratio of operating income to operating revenue for USAir, Piedmont, and an airline index, 1978–86

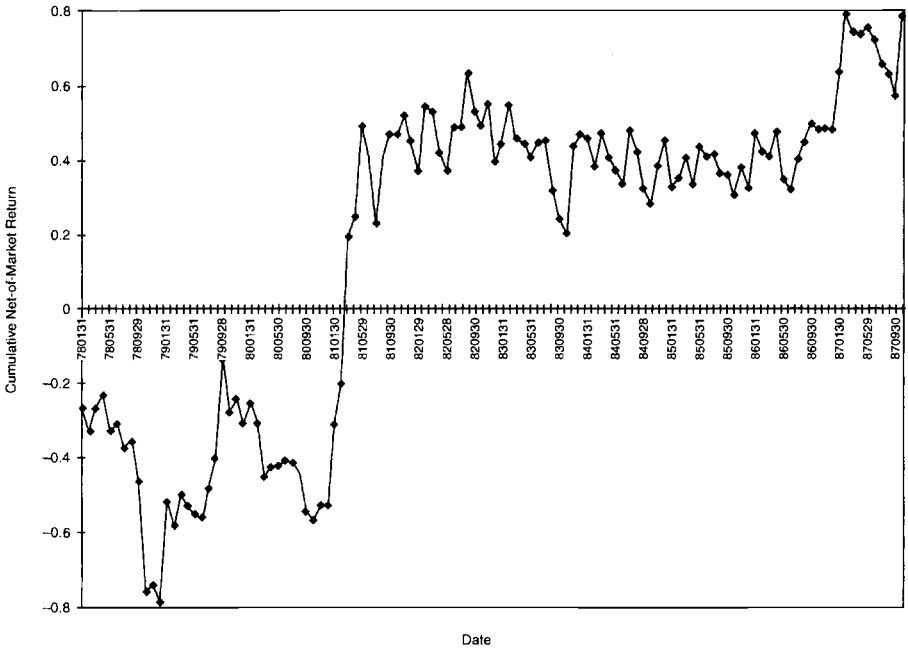

Fig. 5.3 Piedmont's cumulative monthly net-of-market return, 1978–87

tion referred to USAir and Piedmont as two of three "notable successes" in the industry, with Southwest being the third.

Notwithstanding the similarities in their strategy, size, and performance, USAir and Piedmont differed greatly in their cost structures. Bailey, Graham, and Kaplan (1985) document that USAir had the highest cost per available seat mile (ASM) in the industry in 1982, even controlling for its relatively short flight length.[4] The major source of USAir's higher costs was its high labor costs, and while other airlines began reducing their labor costs around deregulation, USAir did not.

5.2.2 Rationale behind USAir's Acquisitions

In the mid-1980s the airline industry experienced a rapid consolidation of assets through merger and acquisition activity. Figure 5.4 shows little activity among NYSE and AMEX traded airlines during the first few years of deregulation, followed by a large spike in mergers from 1985 to 1987.[5] Former USAir chairman Edwin Colodny attributes this pattern to the fact that airlines grew simply by flying where they wanted during the early years of deregulation.[6] By the mid-1980s, he argues, the cumulative growth of established airlines and the entry of new airlines led to excess capacity that was rationalized through a flurry of mergers. From March 1985 through November 1986, the airline industry experienced ten mergers involving seventeen airlines, including the major trunk airlines and regional carriers such as TWA, Ozark, Northwest, and Republic.

In a May 1986 speech to the American Institute of Aeronautics and Astronautics, USAir chairman Colodny expressed skepticism about "merger mania" in the airline industry, stating that the "consolidation trend is thought by many to be the logical follow-on phase of deregulation, with the larger carriers gobbling up the small, weak, and vulnerable. . . . The assumption that bigger is better should not be blindly accepted." Colodny went on to discuss the implications of the merger trend for USAir: "[M]any financial commentators and others keep talking about the need for 'critical mass,' suggesting that a carrier must be some preordained size in order to survive. When I hear critical mass, I recall what it really means. Critical mass is 'the amount of a given radioactive material necessary to sustain a chain reaction at a constant rate.' Does this mean an airline could reach critical mass and explode? *If so, perhaps USAir should continue as a profitable, northeast niche carrier*" (italics added).

Colodny's skepticism about airline mergers was based on both his own experience and the problems that other airlines were experiencing with

4. Bailey et al. (1985, 92) report USAir's cost per ASM (10.5 cents) exceeds Piedmont's (8.6 cents) by more than 20 percent.

5. We refer the reader to Comment and Schwert (1995) for a discussion of the data.

6. Edwin Colodny, former chairman and chief executive officer of USAir, interview by authors, Washington, D.C., 9 October 1996.

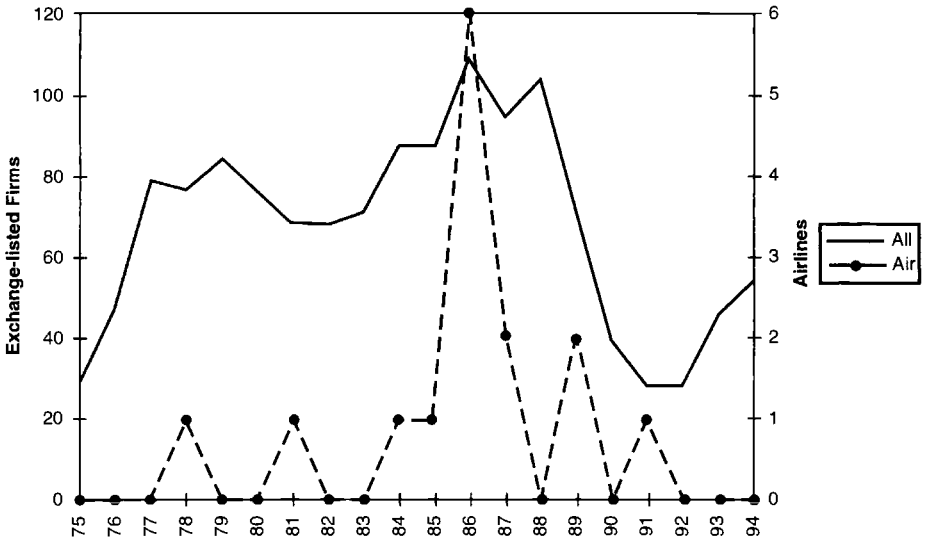

Fig. 5.4 Merger and tender offer activity, 1975–94

deregulation-era mergers. Colodny was executive vice president for legal affairs at Allegheny Airlines when USAir's predecessor company acquired Lake Central and Mohawk before deregulation. Although he acknowledges that both acquisitions contributed to the development of the Pittsburgh hub, there were the difficulties of integrating the acquired companies' labor agreements with Allegheny's.[7] A critical issue was the integration of pilot seniority lists. For example, is a Mohawk captain with twenty years of experience on Mohawk's small aircraft senior to an Allegheny captain with ten years of experience on Allegheny's more sophisticated fleet? These difficulties led to a codification of regulations referred to as the "Allegheny-Mohawk" labor protective provisions (LPPs) which protect the interests of airline employees in a merger. These provisions, in combination with the Railway Labor Act, became the industry standard for integrating labor agreements in airline mergers.

Colodny also observed the problems that other airlines experienced after mergers. For example, in 1979, almost immediately after deregulation, Pan Am acquired National in an attempt to build a domestic airline to complement its international routes. Rather than operate National as an independent subsidiary with its own labor agreements, Pan Am merged National into Pan Am. Martin Shugrue, a former senior executive at Pan Am, believes that decision "cost Pan Am its future" (Peterson and Glab 1994, 90). By merging National's labor contracts into Pan Am's more gen-

7. Ibid.

erous labor agreements, Pan Am's costs increased dramatically.[8] In addition to increasing the compensation levels of the former National employees, Pan Am extended its restrictive union work rules to National, further increasing its costs and lowering the productivity of the new employees. Since deregulation, other acquiring airlines including Republic, Texas, and Northwest have experienced problems associated with the integration of an acquired airline's workforce.

Despite his reservations about acquisitions, Colodny ultimately came to the view that USAir had to "acquire or be acquired" (Payne 1989). With its strong franchise in the Northeast and as one of the few remaining independent regional airlines, USAir was an attractive target. Carl Icahn, then chairman of TWA, had acquired a 4.9 percent stake in USAir early 1986 and, in Colodny's words, was "making noise about an acquisition of USAir."[9] Furthermore, the Department of Transportation (DOT) approved every merger proposed postderegulation, making it unlikely that DOT would oppose another airline's acquisition of USAir. In 1986, USAir added a poison pill to antitakeover amendments it had adopted, revealing that it viewed itself as a viable takeover target.

In 1986, Colodny initiated preliminary discussions with several airlines about a possible combination. He had been interested in expanding USAir's operations in California for some time based on the size of the California market.[10] USAir had direct flights from Pittsburgh to San Francisco, Los Angeles, and San Diego, but it had few routes serving other cities on the West Coast. USAir saw expansion into California as an opportunity to enhance the productivity of its resources.[11] Since planes could not fly back from California to Pittsburgh after 10 P.M., USAir's planes and crew often lay idle in California. If USAir had additional routes on the West Coast, it could make more efficient use of these resources by flying up and down the coast.

In 1985, United acquired Pan Am's Pacific routes, which immediately gave it a large presence in California. Speculation grew that other airlines would follow suit by acquiring one of the three major regional airlines serving California—AirCal, Western, and PSA (Harris 1986). USAir approached AirCal, arguably the most compatible of the three because of its small fleet of Boeing 737s. However, USAir and AirCal could not agree on an acquisition price, and shortly thereafter AirCal was acquired by American for $225 million. Delta acquired Western in September 1986,

8. Peterson and Glab (1994) quote another former executive at Pan Am as stating "basically what happened is that Pan Am ended up capitulating and paying all the National people at the higher Pan Am rates—which was suicide. That ensured they could never, ever run a successful domestic system" (90).

9. Interview with Colodny, see note 6.

10. Ibid.

11. Randall Malin, former senior vice president of marketing at USAir, interview by authors, 25 September 1996.

leaving PSA as the only remaining independent regional airline with substantial operations in California.

Colodny turned his attention to PSA. As an intrastate airline not subject to regulation by the Civil Aeronautics Board (CAB), PSA offered air service within California at fares below those of interstate airlines. It was known as a "fun" airline that adorned its planes with a smile, served granola cookies, and clad flight attendants in hot pants during the 1970s. Once a highly successful carrier, PSA experienced financial difficulties after deregulation as low-cost entrants and its established competitors began to compete on price. Colodny "quickly reached an agreement" with Paul Barkley, the chairman of PSA and PS Group (the holding company for PSA), whereby USAir would acquire PSA for $17 per share, or about $400 million. The two airlines announced the agreement on 8 December 1986, subject to the provision that USAir could agree with PSA's unions over the terms of their employment at USAir.

At the same time that Colodny pursued PSA, he was holding talks with William Howard, the chairman of Piedmont Aviation, about a possible merger of USAir and Piedmont. Colodny and Howard had talked about a merger in early 1986, but could not agree on a management structure for the new company. Colodny's interest in a combination with Piedmont was renewed after a September meeting with Carl Icahn in which Icahn expressed interest in acquiring USAir. Attracted by USAir's high labor costs, Icahn intended to reduce USAir's labor expenses by imposing TWA's lower pay scales and more demanding work rules on USAir employees in a merger of the two companies.[12] Colodny resolved to maintain USAir's independence, in part because of his concern about the implications of a TWA takeover for USAir employees and the communities USAir served.

Piedmont was always the most desirable merger partner for USAir, according to Seth Schofield, who was executive vice president of operations in 1987 and later became Colodny's successor as chairman and CEO of USAir.[13] Piedmont had "tremendous consumer loyalty in the Southeast and was just a terrific airline," according to Schofield.[14] Its routes were contiguous to USAir's with little overlap. A combination of USAir and Piedmont would blanket the entire eastern part of the United States and provide USAir with strong routes in Florida, where it had been expanding. The two airlines also had the same unions and similar aircraft fleets, which, it was thought at the time, would facilitate integration of the two airlines.[15]

By the end of 1986, USAir management concluded that to survive as

12. Interview with Colodny, see note 6.
13. Interview with Schofield, see note 1.
14. Ibid.
15. Interview with Malin, see note 11.

an independent company it would have to make a large acquisition. This assessment was based on the increasing importance of frequent flier programs and the perceived need to offer an expanded route structure to retain the loyalty of USAir customers. Intent on being a survivor, Colodny viewed Piedmont as its most attractive target. The timing was tricky, since USAir was focusing on the integration of PSA. Nonetheless, USAir management felt an urgency to proceed—they were convinced that if USAir and Piedmont did not combine, both would become targets.[16]

5.2.3 Structure of the Piedmont Merger

A decision to make a bid for Piedmont was prompted in January 1987 when Norfolk Southern, which owned almost 20 percent of the equity in Piedmont, disclosed in a 13-D filing that it would explore a possible acquisition of Piedmont. Colodny contacted the chairmen of both Piedmont and Norfolk Southern to indicate USAir's interest in acquiring Piedmont. On 13 February, USAir made an unsolicited bid for Piedmont. It submitted two alternative proposals to the Piedmont board: either a pure stock swap consisting of $71 in USAir stock (consisting of no less than 1.55 and no more than 1.9 USAir shares) for each Piedmont share, or a mixed cash/stock offer consisting of $34 in cash and $34 in USAir stock (consisting of no less than 0.74 and no more than 0.91 USAir shares) for each Piedmont share. On 17 February 1987, a special committee of the Piedmont board recommended that the full board accept a $65 per share cash offer from Norfolk Southern and reject the proposals submitted by USAir. USAir sweetened the bid on the next day, to $71 per share in cash for the first 50.1 percent of the Piedmont shares and $73 per share in stock (consisting of no less than 1.55 and no more than 1.9 USAir shares) for each remaining Piedmont share. The following day, 19 February, the special committee of Piedmont's board withdrew its support for Norfolk Southern's offer and stated that it would invite other bids for the company.

USAir's bid for Piedmont was complicated on 21 February, when Carl Icahn contacted Colodny to indicate his interest in a TWA-USAir combination. Colodny rebuffed Icahn and continued to discuss a merger with Piedmont. On 3 March, Colodny and Howard reached tentative agreement on a merger agreement, which they presented to their respective boards the next day. On the day of the two board meetings, TWA disclosed that it had a 9.9 percent stake in USAir and was proposing to acquire USAir for $52 per share. In a letter to USAir, TWA chairman Icahn stated that "we believe that your other shareholders would prefer our cash merger proposal for USAir over USAir's proposed acquisition of Piedmont" (Agins and Cohen 1987). Icahn also raised the possibility of a

16. Dwain Andrews, vice president of labor relations at USAir, interview by authors, Washington, D.C., 9 October 1996.

merger of all three airlines—USAir, Piedmont, and TWA. He indicated that if USAir rejected his proposal, he might make a tender offer directly to the USAir shareholders. On 4 March, USAir's board rejected TWA's offer, stating that it is "grossly inadequate and not in the best interests of USAir Group or its shareholders, employees or passengers."[17] Colodny stated that TWA's offer was "nothing more than an attempt by Carl Icahn to disrupt at the 11th hour" USAir's acquisition of Piedmont.[18]

Two days later, on 6 March 1987, the Piedmont and USAir boards unanimously approved a restructured merger agreement in which Piedmont would be acquired by USAir for $69 per share in a cash offer valued at $1.59 billion on a fully diluted basis. USAir restructured its offer from a mixed cash/stock offer to a pure cash offer in order to expedite the acquisition of Piedmont—a cash offer avoids the delays associated with SEC registration requirements and shareholder votes in stock deals. Restructuring the offer as a pure cash deal required USAir to arrange a credit facility to provide the cash for the offer. Within three weeks, USAir reached agreement with a syndicate of commercial banks, led by Manufacturers Hanover, for a $2 billion credit facility. Meanwhile, a federal court temporarily blocked TWA from buying more USAir shares. Shortly thereafter, TWA dropped its bid for USAir. Subject to regulatory approval, USAir's bid for Piedmont was successful.

5.2.4 Regulatory Approval

Under section 408 of the Federal Aviation Act of 1958, acquisitions of federally certificated airlines must be approved by the DOT.[19] The DOT is required to use the "public interest" criteria, which is defined in section 102 of the Act to include the effect of an acquisition on competition and the quality of services in the airline industry. In addition, section 102 defines the public interest to include the "need to encourage fair wages and equitable working conditions for air carriers." Parties wishing to acquire an airline must file an application with the DOT, which then conducts an investigation of whether the proposed acquisition is in the public interest. Concurrently, the DOT invites the public to comment on the proposed transaction. As an artifact of airline deregulation, an administrative law judge (ALJ) within DOT makes a recommendation to the assistant secretary for policy and international affairs, who has final authority for approving the acquisition.[20]

17. USAir rejects TWA's takeover proposal of $52 a share, or more than $1.6 billion, *Wall Street Journal,* 6 March 1987, p. 4.

18. Ibid.

19. This authority originally resided with the CAB. It was transferred to the DOT when the CAB was abolished in 1984.

20. Prior to deregulation, an ALJ at the CAB would make a recommendation to the board, which had final authority for approving the acquisition.

On 22 March 1987, the DOT restricted USAir from acquiring more than 51 percent of Piedmont's common stock, pending its approval of the acquisition. USAir proceeded with its cash tender offer of $69 per share for 50.1 percent of Piedmont's shares, which would be held in a voting trust until the DOT approved the deal. On 6 April, USAir announced that 92 percent of the Piedmont shares had been tendered and that the offer would be prorationed, as required by the Williams Act of 1968. Pending DOT approval, USAir would acquire the remaining 49.9 percent of Piedmont's shares at the same $69 price plus interest.

In an order relating to USAir's application, the DOT indicated that USAir would provide standard labor protective provisions to USAir and Piedmont employees. In late April, USAir confirmed formally that generous labor protective provisions, which had been standard in airline mergers during the period of CAB regulation, would be offered to the two sets of employees. At that point, all affected labor parties, except the International Association of Machinists and Aerospace Workers (IAM), waived further participation in the regulatory proceeding. This effectively rendered labor issues moot in the regulatory process.

The DOT's investigation of USAir's proposal centered on the competitive effects of a USAir-Piedmont merger. America West Airlines had filed an objection to the merger on grounds that it would provide USAir with market power in the East and allow it to preclude entry, especially at LaGuardia and Washington National Airports. The states of Massachusetts, New York, and West Virginia initially opposed the transaction, but withdrew their objections after receiving assurances about the levels of fares and services from USAir. After investigating the effects of a USAir-Piedmont combination on competition, the Department of Justice and the DOT's public counsel independently chose not to oppose the merger.

On 21 September 1987, administrative law judge Ronnie Yoder recommended that the DOT reject the merger on grounds that it "would substantially reduce competition" in some short-haul markets in the east. Colodny described the decision as "incomprehensible" and stated that the merger had been "carefully planned to avoid the consumer and labor problems" that had been experienced in other airline mergers (McGinley and Valente 1987). On 30 October, assistant secretary Matthew Scocozza rejected the ALJ's recommendation and approved the USAir-Piedmont merger without condition, paving the way for the integration of Piedmont into USAir.

5.2.5 Integration of Piedmont into USAir

At the time of its initial bid for Piedmont, USAir indicated that it planned to operate Piedmont as a wholly owned subsidiary for at least nine months after DOT approval of the acquisition. During the nine months, it would develop a strategy for merging Piedmont's personnel,

assets, and operations into its own and "seek to identify . . . operating efficiencies" between the two airlines, such as rationalizing schedules and redeploying aircraft.[21] After the transition period, Piedmont would be merged into USAir and the Piedmont name would cease to exist.

After receiving DOT approval, Colodny reiterated USAir's plan to operate Piedmont as an independent subsidiary for at least nine months. He indicated that this was intended to avoid the labor and service problems that other airlines had experienced after hastily integrating the workforces and operations of acquired airlines. In a 1988 speech at a Salomon Brothers conference, Colodny stated that "we do not rush headlong into combining companies . . . you have all seen what happens when airlines do not take enough time."[22] Colodny's strategy was endorsed by many, including the *Wall Street Journal,* which stated in an editorial that "part of the public's dissatisfaction with air travel stems from the highly publicized service problems that resulted from some recent mergers. Efforts to integrate work forces were poorly handled, and the proposed USAir-Piedmont merger would benefit from those mistakes. . . . *integration problems would be minimized by an agreement that the merger would not take place for at least nine months after the approval by DOT*" (italics added).[23]

Perhaps the most challenging task during the transition period was the integration of the Piedmont and USAir workforces, which included the integration of seniority lists, pay scales, and work rules. As required by collective bargaining agreement, the integration of pilot seniority lists was left to the USAir and Piedmont Master Executive Councils of the Air Line Pilots Association. This process alone took roughly five months and ultimately involved the use of arbitration.[24] In addition, USAir had to reach transition agreements with each group of employees to reconcile the Piedmont collective bargaining and employment agreements with those of USAir.

To facilitate FAA approval of the integration, USAir adopted a "mirror image" strategy developed for the PSA acquisition. Prior to the merger, USAir and Piedmont had been regulated by the eastern and southern districts of the FAA, respectively. Colodny recalled that the two districts had different regulations, which in part accounted for the different operating procedures at the two airlines.[25] Since USAir was the acquiring airline, the merged entity would be regulated by the FAA's eastern district. Hence, USAir could either extend its procedures to Piedmont's operations or it

21. Piedmont Aviation Schedule 14d-1, Securities and Exchange Commission, 9 March 1987, p. 20.

22. Remarks by Edwin I. Colodny, chairman & president, USAir Group, Inc., Salomon Brothers Transportation Conference, New York, 10 November 1988.

23. Merger myopia. *Wall Street Journal,* 19 October 1987, p. 30.

24. Interview with Malin, see note 11.

25. Interview with Colodny, see note 6.

could seek FAA approval to use a mix of Piedmont and USAir procedures. Since Colodny perceived that the latter might jeopardize FAA approval, USAir chose to blanket the newly acquired airline with USAir's operating procedures, which were already approved by the FAA's eastern district.

In a 1989 interview, Schofield stated that the mirror image strategy was devised to "make the two operations look alike in every aspect so that the competency was then transferable from one operating certificate to another" (Ott-Washington 1989). This required extensive retraining of Piedmont employees, including pilots, flight attendants, and mechanics. By the summer of 1989, an estimated eight hundred thousand hours of such training had occurred (Ott-Washington 1989).

Twenty-two months after receiving DOT approval, the integration of Piedmont into USAir was complete. The Piedmont planes were painted with the USAir logo, and on 5 August 1989, the Piedmont name ceased to exist.

5.2.6 Comparative Premerger Data on USAir, Piedmont, and PSA

Table 5.1 presents premerger data that highlight the similarities and differences between Piedmont, PSA, and USAir before the two acquisitions.[26] The size data in table 5.1 show the USAir-Piedmont union to be a merger of equals and that both of these airlines were substantially larger than PSA. USAir and Piedmont had comparable profit rates that were higher than PSA and the two airlines had similar investment rates, capital structures, load factors, and revenue yields. In contrast with USAir and Piedmont, PSA had a lower investment rate, load factor, and revenue yield, and a higher ratio of debt to value.

The data also reveal some significant premerger differences between USAir and Piedmont. As mentioned in subsection 5.2.1, the cost structures of the two airlines differed. Labor costs represented a larger percentage of USAir's higher operating expenses while nonlabor components of costs—fuel, rentals and landing fees, travel agency commissions, and maintenance—accounted for similar percentages of operating expenses at USAir and Piedmont. Except for rentals and landing fees, which are substantially higher at PSA, these costs accounted for comparable percentages of operating expenses at PSA.

Another notable difference between USAir and Piedmont shown in table 5.1 is their premerger stock price performance—USAir's was substantially worse than Piedmont's. From January 1984 through October 1986 (i.e., two months before the first announcement of USAir's bid for PSA), USAir's cumulative net-of-market return was −29.8 percent versus 1.1 percent for Piedmont and 6.7 percent for PSA. Figure 5.5 plots stock

26. Unless otherwise noted, we list the mean value of each variable from 1984 to 1986, the last three years that Piedmont and PSA were independent entities.

Table 5.1 **Summary Financial and Firm Characteristics Data for Piedmont, PSA, and USAir, 1984–86**

	Piedmont	PSA	USAir
Size			
Operating revenues ($millions)	1,559	647	1,743
Book value of assets ($millions)	813	514	1,347
Market value of assets ($millions)	924	550	1,319
Number of employees	16,448	4,597	13,763
Cost structure			
Operating expenses ($millions)	1,417	617	1,567
Percentage of operating expenses accounted for by:			
Personnel costs	32	32	41
Fuel costs	18	17	19
Travel agency commissions	7	6	7
Rentals and landing fees	5	10	5
Maintenance costs	5	6	4
Performance			
Operating income as a percentage of operating revenue	9.1	4.7	10.1
Net income as a percentage of market value of common	11.0	−1.8	12.7
Cumulative net of market stock returns (%), January 1984–October 1986	1.1	6.7	−29.8
Investment policy			
Operating working capital as a percentage of revenue	4.3	5.2	7.4
Net investment as a percentage of revenue	10.4	1.3	11.6
Liquidity			
Current ratio	1.119	1.056	1.541
Quick ratio	0.666	0.531	1.292
Cash ratio	0.236	0.152	0.952
Rates of networking capital to total assets	0.025	0.014	0.095
Growth opportunities			
Annual revenue growth rate, 1984–86 (%)	26	18	9
Value Line's projected long-run revenue growth (%)	8	6	7
Market to book ratio	1.13	1.05	0.98
Market to gross equipment ratio	1.11	1.02	1.01
Capital structure			
Percentage of market value accounted for by:			
Long-term debt	32	57	33
Preferred stock	5	11	0
Common stock	63	33	67
Operating statistics			
Revenue passenger miles (millions)	8,392	3,692	9,692
Available seat miles (millions)	15,020	6,614	16,262
Passenger load factor (%)	55.5	55.7	59.5
Break even load factor (%)	51.8	57.1	54.1
Revenue yield (%)	16.6	15.3	16.7
Cost per available seat mile (cents)	8.7	8.6	9.4

Note: All variables are computed as average values over the period 1984–86, except as otherwise noted.

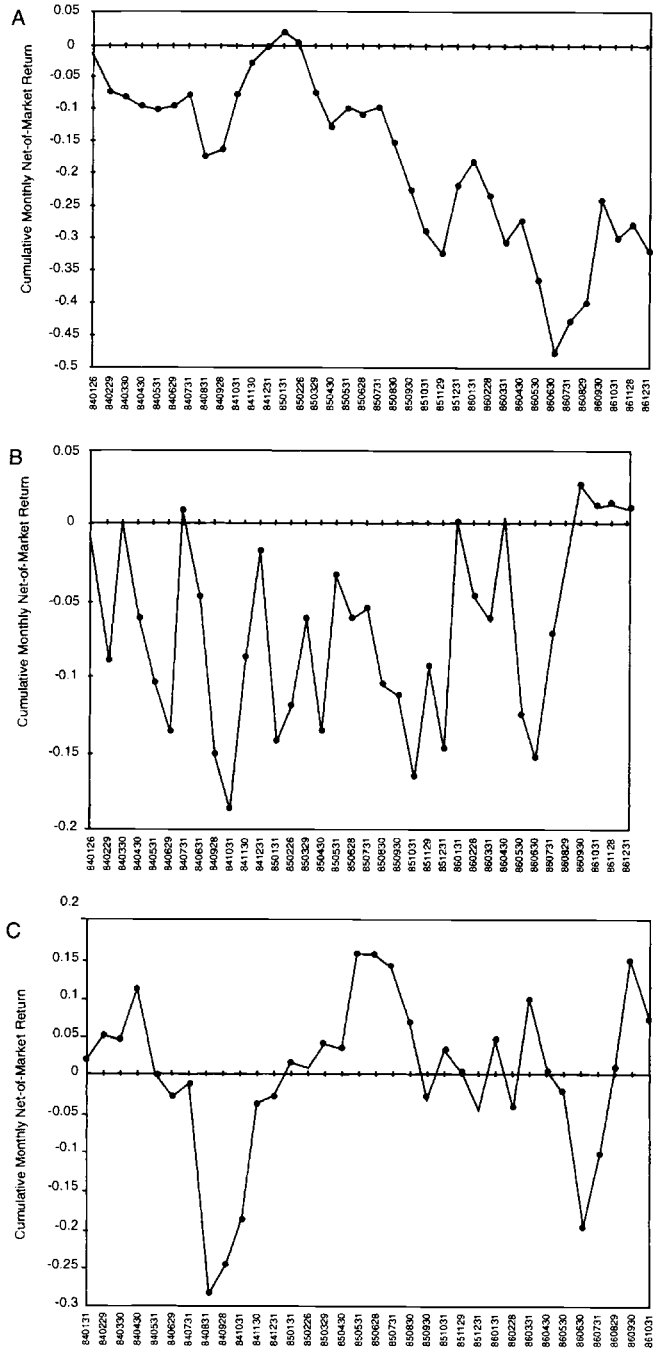

Fig. 5.5 Cumulative net-of-market monthly returns, 1984–86: *A*, USAir; *B*, Piedmont; *C*, PSA

returns during this period for the three airlines, revealing two sharp declines in USAir's stock price—a decline of more than 20 percent during August–November 1985 and one of almost 30 percent during February–July 1986.

The first decline is difficult to explain with USAir-specific news announcements; the only announcements in the *Wall Street Journal* report increases in passenger traffic, an agreement to buy Fokker jet airliners, and an earnings announcement in October. The second decline has more obvious explanations. In early March 1986, USAir had announced selective fare cuts in response to cuts by People Express and Eastern, signaling that USAir increasingly would be involved in fare wars. Later in March, Texas Air announced a proposed acquisition of Eastern, with the intention of lowering Eastern's labor costs. USAir's stock price fell by 3 percent on the announcement of the bid,[27] suggesting that the market viewed the Texas-Eastern combination as a viable threat to USAir's market dominance in northeastern markets. During the month of March, USAir's return was −7 percent. Its market-adjusted stock price fell another 20 percent in May–June, a period in which it had a near collision and announced a decline in May's passenger traffic. The substantial decline in USAir's stock price during mid-1985 through 1986 reveals growing pessimism about USAir's fortunes immediately prior to its acquisitions of PSA and Piedmont.

Data on the liquidity and growth opportunities for the three airlines indicate that USAir had the most cash and the lowest growth opportunities. Combined with its high profitability, these data suggest that USAir had the profile of a firm with substantial free cash flow. USAir's cash ratio was more than four times higher than Piedmont's. At the end of 1986, USAir had $336 million (15 percent of total assets) in cash versus $65 million (4 percent of total assets) for Piedmont. Similar, albeit less dramatic, patterns exist for the other liquidity measures listed in table 5.1. PSA was substantially less liquid than USAir and Piedmont.

Using several proxies for growth options, we find that Piedmont had more growth potential than USAir at the time of the merger. During the years 1984 to 1986, its operating revenue grew at almost three times USAir's annual rate (i.e., 26 percent versus 9 percent). Value Line's five-year projection of annual revenue growth was higher for Piedmont, as were its market-to-book and market value to gross equipment ratios. These data suggest that USAir was more likely than Piedmont to suffer from the agency costs of free cash flow, given its lower growth opportunities, higher liquidity, and high profit rates.

27. USAir's net-of-market return over the three days surrounding the first announcement of Texas Air's bid for Eastern was −3.1 percent. The NYSE Composite was used as the market index for this exercise.

5.3 Market Assessment of USAir's Acquisitions

During most of the period spanning USAir's agreement to acquire PSA and final DOT approval of the Piedmont acquisition, USAir's stock price performed well. Figure 5.6 shows USAir's cumulative daily abnormal returns from November 1986 through December 1987, a period that includes the October stock market crash. Careful inspection of USAir's stock price reaction around key events during this period suggests that the market was skeptical of the PSA acquisition, but not the Piedmont merger. Table 5.2 lists key announcement dates during the period and the corresponding abnormal returns on those dates.

On 8 December 1986, the date that USAir announced the agreement to acquire PSA, USAir experienced a statistically significant abnormal return of −4.6 percent; the cumulative abnormal return (CAR) over the three days surrounding the announcement was −9.4 percent, representing a loss of roughly $100 million in shareholder value. Consistent with the view that the market was skeptical of a USAir-PSA combination, USAir sustained negative abnormal returns on the days that the shareholders of PSA and PS Group (PSA's parent company) approved the transaction (−3

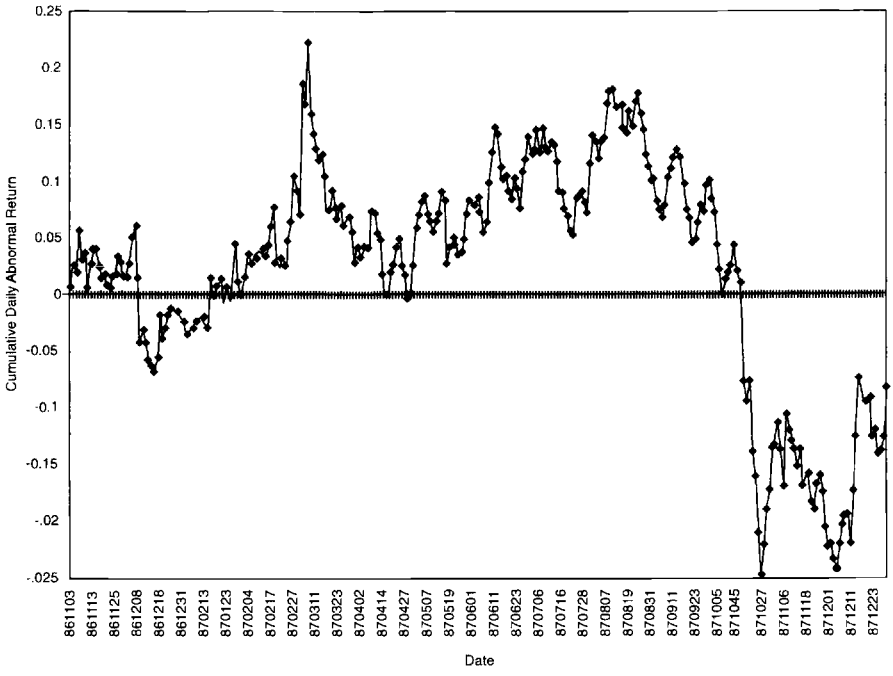

Fig. 5.6 USAir's cumulative daily abnormal returns, 1 November 1986 through 31 December 1987 (the period spanning its PSA and Piedmont acquisitions)

Table 5.2 **Chronology of Events Concerning USAir's Acquisitions of PSA and Piedmont and the Corresponding Abnormal Daily Stock Return for USAir on These Event Dates**

Date	Event	USAir's Abnormal Stock Return (%)
12-8-86	USAir agrees to acquire PSA for $400 million	−4.6***
1-28-87	DOT approves USAir's acquisition of PSA	4.7***
2-13-87	USAir proposes merger with Piedmont	1.0
2-17-87	Special committee of Piedmont's board recommends that Piedmont accept Norfolk Southern's bid and reject USAir's bid	1.7
2-18-87	USAir sweetens its bid for Piedmont	1.7
2-19-87	Piedmont's board rejects both Norfolk Southern's and USAir's bids and invites other bids for the company	−4.9***
2-21-87	TWA contacts USAir about a possible TWA-USAir combination	0.5
3-3-87	Chairmen of USAir and Piedmont reach tentative agreement on merger of the two companies	−2.2
3-4-87	TWA discloses a 9.9% stake in USAir and announces a proposal to acquire USAir for $52 per share	11.5***
3-6-87	Piedmont and USAir announce that they have reached agreement for USAir to acquire Piedmont for $69 per share	5.4***
3-9-87	Federal judge issues temporary restraining order prohibiting TWA from buying more shares in USAir, pending further ruling	−6.2***
3-10-87	TWA announces that it is "reassessing" its bid for USAir	−1.8
3-16-87	TWA calls off its bid for USAir	−1.8
3-17-87	Shareholders of PSA and PSGroup approve USAir's acquisition of PSA for $400 million	−3.0
3-23-87	DOT announces it will restrict USAir from acquiring Piedmont, pending its approval; TWA says it will not interfere with USAir's acquisition of Piedmont	−1.0
3-25-87	TWA sells its stake in Piedmont	−1.8
3-31-87	USAir reaches agreement with banks for $2 billion credit line to finance acquisitions of PSA and Piedmont	−2.7
4-6-87	USAir says its offer for Piedmont is oversubscribed	0.3
4-15-87	DOT denies USAir's request for expedited approval of its Piedmont acquisition	−1.9
4-16-87	USAir's acquisition of PSA is jeopardized by Teamsters union local	0.0
5-18-87	USAir reaches agreement with Teamsters, clearing way for PSA acquisitions; USAir also announces $400 million offering of common stock	−5.7***
9-18-87	USAir's acquisition of Piedmont is running into opposition at DOT	−2.4
9-21-87	Administrative law judge recommends that DOT reject USAir's acquisition of Piedmont	−0.7
9-22-87	USAir may have to modify its acquisition of Piedmont to gain DOT approval	−2.2
10-5-87	USAir takes hard line and states it won't restructure the Piedmont deal	−2.9
10-19-87	Stock market crash	−5.8***
10-29-87	DOT expected to approve USAir's acquisition of Piedmont with modification	3.1*
10-30-87	DOT approves USAir's acquisition of Piedmont without modifications	1.7

***Significant at the 1 percent level.

*Significant at the 10 percent level.

percent on 17 March 1987) and the Teamsters union local approved some changes in its collective bargaining agreement to clear the way for the acquisition (−5.7 percent on 18 May 1987). The inference to be drawn from the abnormal return on the latter date is complicated by the fact that USAir announced a $400 million equity offering on the same day, an event normally associated with significant stock price declines. Further clouding the issue, USAir enjoyed a 4.7 percent abnormal return on 28 January 1987, the day that the DOT approved the PSA acquisition. Taken together, the abnormal returns on the four announcements suggest at least some market skepticism about the PSA acquisition.

The evidence on the Piedmont acquisition is much clearer—there were no signals that the market thought this was a foolhardy acquisition. Perhaps most convincingly, USAir's market-adjusted stock price fell by more than 6 percent during 17–22 September, a period spanning initial reports that the Piedmont acquisition was running into trouble at DOT. Similarly, USAir's stock had a large positive CAR of 11 percent from 28 October through 2 November, when contrary to expectations the DOT approved the Piedmont acquisition without condition.

In fact, it is hard to read any skepticism about the Piedmont deal from USAir's stock returns during its initial bidding for Piedmont. From 12 February through 18 February, USAir's stock had a CAR of 4.5 percent. During this period, USAir submitted its initial merger proposal to Piedmont, had it rejected, and then sweetened the bid. On 19 February, the day that Piedmont's board rejected USAir's bid and announced it would invite additional bids, USAir's abnormal return was −4.9 percent (significant at the 1 percent confidence level). On 6 March, the day that Piedmont and USAir announced that they had reached agreement on a restructured deal, USAir's abnormal return was a significant 5.4 percent. These data, combined with the evidence on the reaction of USAir's stock price to the DOT decisions, suggest that the market looked favorably on a USAir-Piedmont combination.

The steep increase and subsequent decline in USAir's stock price in March reflects the effect of TWA's merger proposal and the ultimate withdrawal of its proposal. On 4 March, the day TWA announced both its stake in USAir and the merger proposal, USAir's abnormal return was 11.5 percent. On 9 March, the day a federal judge issued a temporary restraining order against further stock purchases by TWA, USAir sustained a −6.2 percent abnormal return. These data indicate that the market believed at the time that USAir's shareholders would be better served by a TWA acquisition of USAir than by a USAir acquisition of Piedmont. Based on the evidence above, however, it favored a Piedmont acquisition over doing nothing.

The stock price evidence generally conforms with comments in the press

and analysts' reports about the benefits of a USAir-Piedmont combination. Analysts praised USAir's move: "the USAir-Piedmont combination will form one of the most powerful and profitable competitors in the industry" (Ross and McGinley 1987); "you now have a presence that can compete effectively east of the Mississippi and build competition in the transcontinental markets to cities on the West Coast" (Ross and McGinley 1987); "USAir will cover the eastern U.S. like Sherwin-Williams paint, and they will have enormous marketing clout" (Agins and Morris 1987). Edmund Greenslet of Merrill Lynch, whose opinion of the acquisition is quoted on the first page of this paper, was a lone dissenting voice.

5.4 USAir's Postmerger Performance

USAir's performance began to deteriorate immediately after the integration of Piedmont in August 1989. In the subsections that follow, we document the decline in USAir's profitability and the component cost and revenue trends.

5.4.1 Profitability

Table 5.3 lists performance data for a simulated USAir-Piedmont-PSA combination during 1984–86, hereafter referred to as USAir*, and the actual combination during the years 1989 to 1995. Data for USAir* during 1984–86 are computed simply by adding the relevant data for the three companies. Ratios are computed on a value-weighted basis. We exclude the intervening years of 1987 and 1988 when PSA (1987) and Piedmont (1988) were neither independent nor fully integrated into the USAir system.

As seen in panel A of the table, the ratio of operating income to revenue for USAir* ranges from 8 percent to 11 percent during the years 1984 to 1986. This ratio falls to 0.3 for the newly merged company in 1989 and is followed by five years of operating losses. A similar pattern emerges with data on the ratio of operating income to book asset value.

The deterioration in net income, shown in panel B, is considerably worse. From 1984 to 1986, USAir* had aggregate net income of $522 million, ranging between $166 and $184 million. From 1989 to 1994, USAir accrued over $3 billion in losses. Net income expressed as a percentage of the book value of common stock was −4 percent in 1989, −3 percent in 1990, and −28 percent in 1991. Thereafter, the book value of common stock becomes negative, rendering this percentage meaningless. Net income expressed as a percentage of the market value of common stock varies from −266 percent to −4 percent during 1989–94. The extraordinary value of net income in 1992 includes a charge of $982 million related to grounded aircraft and USAir's accounting for postretirement benefits under the Financial Accounting Standards Board's FAS 106.

Table 5.3 **Profitability Measures for Simulated Merged Company Consisting of USAir, Piedmont, and PSA (USAir*), 1984–86, and USAir, 1989–95**

A. Operating Income ($millions)

Year	Operating Income	Operating Income as a Percentage of:	
		Operating Revenue	Book Value of Assets
1984	362	10.5	15.6
1985	322	8.2	11.2
1986	360	8.0	12.7
1989	21	0.3	0.6
1990	−501	−7.6	−12.5
1991	−168	−2.6	−4.4
1992	−331	−4.9	−12.4
1993	−75	−1.1	−2.5
1994	−491	−7.0	−17.8
1995	322	4.3	12.2

B. Net Income ($millions)

Year	Net Income	Net Income as a Percentage of:	
		Book Value of Common Stock	Market Value of Common Stock
1984	175	14.2	13.9
1985	184	11.4	11.3
1986	166	9.0	7.9
1989	−63	−4.1	−4.1
1990	−454	−3.3	−63.9
1991	−305	−27.6	−54.5
1992	−1,229	n.m.f.	−204.5
1993	−393	n.m.f.	−51.6
1994	−685	n.m.f.	−266.1
1995	119	n.m.f.	14.4

C. Economic Value Added

Year	Return on Invested Capital (%)	Cost of Capital (%)	Economic Value Added ($millions)
1984	17.1	13.6	35
1985	16.2	12.6	40
1986	12.6	10.4	31
1989	2.2	10.8	−491
1990	−5.3	12.0	−1,085
1991	−2.2	12.4	−1,012
1992	−2.9	10.1	−955
1993	0.4	9.1	−622
1994	−2.9	9.4	−926

Note: n.m.f. = not a meaningful figure.

Table 5.4 **Operating Profit as a Percentage of Operating Revenue**

Year	USAir	Industry
1989	0.3	4.4
1990	−7.6	1.1
1991	−2.6	−2.6
1992	−4.9	−3.4
1993	−1.1	−1.3
1994	−7.0	0.1
1995	4.3	2.5
1989–95	−2.6	0.0

Panel C of table 5.3 presents measures of USAir's economic profits, including Stern Stewart's estimates of USAir's return on invested capital, cost of capital, and "economic value added" (EVA).[28] It shows that USAir (i.e., not USAir* since the database did not include data for Piedmont and PSA) generated returns in excess of its cost of capital in each year from 1984 to 1986. However, during the years 1989 to 1994, USAir's annual economic returns range from −5.3 percent to 2.2 percent, and in each year USAir fell short of earning its cost of capital.

By every measure, USAir's performance plummeted after the merger. Part of this decline is related to generally poor industry conditions in 1990–92. Iraq's invasion of Kuwait in August 1989 and the subsequent war in the Persian Gulf increased oil prices, and concurrently, fears of terrorism dampened passenger demand. In addition, a recession (1991–92) and a new wave of low-cost entrants eroded the profitability of airlines generally during this period. To adjust for this, we compute operating profits as a percentage of revenues for a portfolio of established airlines that survived as public companies during the entire period from 1989 to 1995.[29] This value-weighted profit measure for the industry versus USAir is shown in table 5.4. In contrast to the premerger period, when Piedmont and USAir had profit rates that were 6–7 percentage points higher than the industry average, USAir's profit rate was 2.6 percentage points less than the industry average over the postmerger period.

5.4.2 Cost Changes

A principal reason for USAir's sharp decline in performance after the merger is a large increase in its costs. Table 5.5 shows that from 1984 to 1986 USAir*'s cost per ASM ranged from 8.8 to 9.1 cents then jumped to 10.5 cents following implementation of the merger and increased

28. *The Stern Stewart Performance 1000,* Stern Stewart Management Services, New York, 1995. EVA is a registered trademark of Stern Stewart.

29. The portfolio includes Alaska, American, Delta, Southwest, and United.

Table 5.5 **Cost Data for Simulated Merged Company Consisting of USAir, Piedmont, and PSA (USAir*), 1984–86, and USAir, 1989–95**

Year	Cost per ASM (in cents)	Operating Expenses (in $billions)	Costs Expressed as a Percentage of Operating Revenues				
			Personnel	Fuel	Travel Agency	Rentals and Landing Fees	Maintenance
1984	9.1	3.1	33	19	6	4	4
1985	9.0	3.6	32	18	7	5	4
1986	8.8	4.1	33	13	7	7	5
1989	10.5	6.2	36	12	7	10	6
1990	10.8	7.1	40	15	8	10	6
1991	10.8	6.7	39	12	8	11	6
1992	10.8	7.0	39	11	9	14	6
1993	11.0	7.2	40	10	8	13	5
1994	11.0	7.5	41	10	8	14	6
1995	11.4	7.2	39	8	8	11	5

Table 5.6 **Personnel Cost Data for Simulated Merged Company Consisting of USAir, Piedmont, and PSA (USAir*), and USAir, 1989–95**

Year	Actual Personnel Costs (in $billions)	Simulated Personnel Costs (in $billions)	Difference (in $millions)	Present Value of Difference (in $millions)
1989	2.277	2.045	232	192
1990	2.617	2.145	472	354
1991	2.521	2.130	390	267
1992	2.624	2.187	437	271
1993	2.841	2.317	524	296
1994	2.890	2.289	601	309
1995	2.887	2.445	442	206

monotonically thereafter.[30] Among the components of costs, labor costs increased substantially after the merger. In addition to mandating some more labor-intensive procedures companywide, usually high turnover among employees added to USAir's large training expenses and further reduced labor productivity (Payne 1989). Table 5.5 shows that the ratio of personnel costs to operating revenues increased from 0.33 in 1984–86 for USAir* to 0.39 in 1989–95 for USAir.

The increase in personnel costs has a large effect on the value of USAir. To estimate this effect, we first compute the difference between USAir's actual personnel costs and what personnel costs would have been if USAir had maintained its premerger ratio of personnel costs to revenues (equal to 0.327). This difference is listed in table 5.6 on an annual basis, along with present value calculations as of 1987 that assume a discount rate of 10 percent (i.e., Stern Stewart estimates USAir's 1986 cost of capital is 10.4 percent). The sum of the present value of the difference in personnel costs over the period 1989–95 is $1.9 billion, representing more than two-thirds of the shareholder value lost after the acquisition.

Table 5.5 reveals that nonlabor costs changed as well after the merger. Fuel costs declined dramatically, reflecting generally lower energy prices during the postmerger period. Maintenance costs increased during the first few years after the merger but thereafter declined to premerger levels. Rentals and landing fees increased substantially from the premerger to postmerger period, presumably reflecting a substitution of aircraft leasing for aircraft ownership. Travel agency commissions increased slightly over the period.

30. Although not a perfect substitute for controls that account for inflation and industry trends, there is other evidence that shows USAir continues to have the highest cost per ASM in the industry. A 1996 Goldman Sachs airline report finds that in 1995 USAir's cost per ASM was 11.48 cents versus an industry average of 9.02 cents. In early 1996, USAir's cost per ASM increased to 13.23 cents versus an industry average of 9.34 cents.

Table 5.7 **Revenue and Revenue Growth Data for Simulated Merged Company Consisting of USAir, Piedmont, and PSA (USAir*), 1984–86, and USAir, 1989–95**

Year	Operating Revenue (in $millions)	Annual Revenue Growth Rate (%)	Value Line Long-run Projected Annual Revenue Growth Rate (%)
1984	3.5	—	10
1985	3.9	14	7
1986	4.5	14	5
1989	6.3	—	13
1990	6.6	5	7
1991	6.5	−1	1
1992	6.7	3	1
1993	7.1	6	3
1994	7.0	−1	−2
1995	7.5	7	−10

5.4.3 Revenue Growth

In addition to incurring substantially higher costs after the merger, USAir revenue growth slowed. As table 5.7 shows, USAir* enjoyed an annual revenue growth rate of about 14 percent in 1984–86, while USAir's revenue growth rate in the postmerger period ranged from only −1 percent to 7 percent. Analysis of the 1989–95 period suggests reversion to the mean: revenue growth for the seven-year period is 19 percent for USAir and 20 percent for the industry as a whole.

In addition to showing USAir's actual revenue growth rate, table 5.7 lists Value Line's projected revenue growth for USAir* in the premerger period and USAir in the postmerger period. It shows a substantial decline in USAir's projected revenue growth, from 13 percent in 1989 to as low as −10 percent by 1995, which is the lowest projected growth rate of any U.S. airline covered by Value Line. As discussed later, possible reasons for the decline in revenue growth are service problems experienced immediately after the merger and some high profile crashes of USAir planes.

5.5 Discussion

5.5.1 Transition from a Regional to a National Airline

USAir's name change from Allegheny in 1979 was intended to signal the transformation of a regional airline into a national carrier with an extensive network of routes across the United States. In the early years of deregulation, USAir fortified its Pittsburgh hub, acquiring commuter airlines in Pennsylvania and expanding cautiously into new markets including Florida and Arizona, though with limited service. A map of

USAir's route structure in its 1985 annual report reveals a mass of short-haul routes in the Northeast and scattered spokes reaching west and south.

A reasonable question to ask is whether the USAir organization was prepared in 1986 to step into the shoes of a national airline. Examination of the successful players in the national market at that time—American, United, Delta—reveals a set of management teams with increasingly large marketing and pricing groups, significant investments in information technology, and deep benches of individuals ready to assume management responsibility.

At USAir, the organizational infrastructure appeared somewhat frail. Closely managed by a small team of individuals with little experience at major airlines, middle and upper-level managers had limited decisionmaking rights. The hierarchical organization that thrived in the early years of deregulation had failed to produce a large pool of management talent. This limited USAir's ability to manage the near tripling of size generated by the PSA and Piedmont acquisitions.

When USAir extended itself to the west with the PSA acquisition and to the south with Piedmont, its information systems were outmoded. On more than one occasion post-1989, the firm's payroll process broke down and secretaries at USAir headquarters were assigned to manually type paychecks.[31] As an indication of how far behind USAir was in the area of information technology, an estimated five hundred man-years of resources were devoted to information technology coordination between 1989 and 1991.[32]

USAir also was late in offering its customers a frequent flier program. At a time when other airlines were exploring alliances with other carriers and travel-related businesses to enrich the attractiveness of their programs, USAir was just introducing a program. Edwin Colodny strongly opposed the development of a frequent flier program, believing that there were better ways of building brand loyalty. "I thought they were one of the worst developments in the industry," Colodny stated, adding that he was "hoping that they would go away."[33] This may help explain USAir's failure to recognize the cost of discarding the valuable Piedmont and PSA brand names.

At the time of the PSA and Piedmont acquisitions, USAir did not have access to a major computer reservations system. USAir's participation in the purchase of the Apollo reservation system gave the airline an 11.3 percent stake in that system but did not alter the fact that USAir's sched-

31. Interview with Schofield, see note 1.

32. John Harper, chief financial officer at US Airways, interview by authors, Washington, D.C., 1 April 1996.

33. Edwin Colodny, former chairman and chief executive officer of USAir, telephone conversation with author (Lehn), 17 March 1997.

ules and ticket pricing were presented to travel agents via a shared system. Consequently, USAir relied more heavily on financial incentives for travel agents to generate business than did other airlines.

Finally, the procedures relating to labor management that were ultimately extended to the more than fifty thousand employees of USAir postmerger were designed for a small airline. One example that illustrates the mismatch between the firm's size and its procedures pertains to the replacement requirement. At most airlines, if a flight crew wants to drop a flight from its schedule, the crew (or crew member) must find a substitute. At USAir, management is obligated to locate the replacement. What this means is that scheduling for six thousand pilots on any given day is not finalized until 4:00 P.M. on the day prior to the travel date. While the management at USAir would like to rewrite outgrown policies, such as the replacement requirement, they can only alter such practices with the agreement of labor.

From the history of the Piedmont merger presented in subsection 5.2.3, it is clear that this defensive acquisition was hastily arranged. If, as was stated in 1979, USAir intended to expand into a nationwide carrier, they neglected to develop the firm's organizational infrastructure to support such growth.

5.5.2 USAir's Postmerger Labor Policy

Prior to industry deregulation, labor protective provisions or LLPs (financial accommodations extended to the employees of an acquired carrier) were invoked in all airline mergers. For example, employees who remain employed but are "placed in a worse position with respect to compensation" were entitled to monthly differential payments for four years. Acquiring airlines were required to pay dismissed workers an allowance equal to 60 percent of average monthly compensation in the employee's last year of employment for between six and sixty months depending on the employee's tenure. Provisions also required generous relocation packages for transplanted workers. To satisfy the requirement of "fair and equitable" integrating of seniority lists, management typically turned this process over to representatives of the Air Line Pilots Association (ALPA), the International Association of Machinists and Aerospace Workers, and the Association of Flight Attendants (Green 1986).

Although the requirement that airlines offer financial protection to workers in a merger was relaxed with deregulation, these costly provisions did not disappear. The DOT's stated position was that such issues were best left to the collective bargaining process.[34] However, DOT's "concern

34. In a 1987 internal memorandum to the Department of Transportation's secretary and deputy secretary entitled "Recent Airline Acquisitions: A Preliminary Analysis," Michael V. Scocozza, assistant secretary for policy and international affairs, cited the NWA-Republic acquisition case (Order 86–7-81) stating the agency would impose LPPs only if "necessary

that a merger or acquisition not lead to unnecessary service problems" left open the possibility that the DOT would oppose a combination "if the merging parties did not reach some accommodation with organized labor."[35] At the same time, support for LPPs was growing on Capitol Hill: a measure requiring their imposition was approved by the House of Representatives in the fall of 1986, only to lose by a one-vote margin in the Senate. In practice, some acquiring airlines voluntarily offered LPPs (e.g., Pan Am's acquisition of National, Delta's merger with Western) and many others negotiated LPPs in their union contracts (e.g., United's acquisition of Pan Am's Pacific Division).

The costs of these protections are large. In addition to direct outlays for "displacement" allowances and pay differentials, the process of integrating seniority lists could impose substantial time costs on airlines. Seniority lists are an essential input in assigning crews to aircraft via bidding for work schedules. In the case of USAir, the five-month delay of the integration process forced the acquiring carrier to maintain separate work crews and priority systems for matching aircraft with crews and forestalled the efficient utilization of an expanded route structure and fleet.

Throughout its history, USAir maintained labor peace. Recognizing the hold-up potential of each union, management actively sought to avoid strikes. Cost minimization was not a priority during regulation and USAir's dominance in northeastern short-haul markets during the early years of deregulation perpetuated management's conciliatory stance at the bargaining table. Management believed that despite its high cost, a cooperative labor-management relationship was a key rather than an impediment to profitability.

Talks with PSA's unions began prior to the merger agreement. USAir came to the bargaining table in a position of strength. In 1985, PSA employees agreed to accept some compensation in the form of equity rather than cash and USAir's offer to reinstate certain wages dominated the existing pay scheme. In uncharacteristic fashion, USAir sought and obtained an agreement to gradually raise the wages of PSA workers to USAir's more generous levels.

The Piedmont acquisition unfolded much more rapidly than did the purchase of PSA, leaving little time for preliminary discussions with labor. In fact, it is unclear what estimates of labor expense USAir used in its valuation of Piedmont.[36] Once the deal was struck, the unions balked at

to prevent labor strife that would disrupt the national air transportation system or unless special circumstances of an acquisition show that LPPs are necessary to encourage fair wages and equitable working conditions."

35. Larry Phillips, economist at the DOT, email correspondence with author (Kole), 20 March 1997.

36. Regrettably, we have been unable to obtain the analysis of the merger conducted by Lehman Brothers for USAir.

USAir's plan to run Piedmont as a subsidiary with separate labor contracts. This arrangement would have allowed USAir to preserve Piedmont (and PSA's) lower labor cost as well as provide a valuable option to leverage the separate unions off one another (e.g., Piedmont's ALPA and USAir's ALPA). While such an arrangement would have been unpopular with labor, and probably would have ended up in litigation, the potential cost savings of the separate subsidiary plan was large.

In the end, USAir agreed to an immediate step-up in wage and work rules to bring Piedmont workers into the organization as equals with USAir employees. Demanding equal treatment, USAir surrendered the phase-in arrangement struck with former PSA employees. Given the existence of multiyear union contracts, the decision to standardize pay and the concurrent decision to homogenize operating procedures institutionalized higher costs at the acquired units.[37] Whereas USAir may have intended to identify and implement the most efficient methods of production from among PSA, Piedmont, and USAir practices after satisfying FAA competency requirements, the codification of higher pay and more generous work rules in collective bargaining agreements created entitlements that still plague USAir's cost structure. We conclude that the cost of preserving internal equity at USAir was huge.

5.5.3 Was the Increase in Labor Costs a Surprise?

The stock price evidence discussed in section 5.3 suggests that at the time of the merger the market did not anticipate the USAir's labor costs would increase by as much as they did. The data suggest that the market's approval of the merger was predicated on maintaining Piedmont's labor costs at roughly their premerger level. To examine this, we contrast USAir's actual postmerger financial data with projections made by Goldman Sachs in July 1988, more than one year before the integration of Piedmont into USAir. The actual and predicted data for 1989 are shown in table 5.8.

The data show that USAir's operating income in 1989 fell short of Goldman Sachs' estimate by $448 million. The reason for the difference is that USAir's actual operating expenses exceeded Goldman Sachs' expectations by $590 million. Goldman had projected labor costs of $2.07 billion in 1989, representing 32 percent of projected revenues. This estimate is almost identical to the simulated personnel costs discussed in section 5.4, which assumed that the relation between Piedmont's (and PSA's) revenues

37. The standardization of departure procedures, as an example, led to the hiring of an estimated one thousand additional mechanics (at $18 per hour plus benefits) to "push back" aircraft on the tarmac at Piedmont gates, a job that had been performed by part-time gate crews (college kids earning $6.75 an hour without benefits). In-flight staffing also increased at Piedmont as a result of mirroring USAir's teams of four flight attendants; for comparable aircraft, Piedmont flight attendants had worked in teams of three.

Table 5.8 Comparison of USAir's Actual and Projected Results for 1989

	Actual 1989 Results	Projected 1989 Results[a]
Revenue ($millions)	6,252	6,110
Operating expense ($millions)	6,230	5,640
Operating income ($millions)	22	470
Interest expense ($millions)	104	145
Net income ($millions)	−63	206
Available seat miles	55,609	54,000
RPM	33,697	31,525
Load factor (%)	60.5	58.4
Cost per seat mile (cents)	10.47	9.95
Break even load factor (%)	60.4	53.6
Labor expense ($millions)	2,277	2,070
Compensation per employee ($)	n.a.	46,206
Fuel expense ($millions)	776	685
Rentals and landing fees ($millions)	605	550
Agents' commissions ($)	434	410

Note: n.a. = not available.

[a]Goldman Sachs projection, 28 July 1988.

and labor costs would be maintained under USAir ownership. In reality, USAir's actual labor expense turned out to be $2.3 billion or 36 percent of operating revenue in 1989, and it increased to 40 percent of revenue thereafter. If the Goldman Sachs estimate is representative of market sentiment at the time, the data suggest that the labor policies adopted by USAir in 1988–89 were largely unanticipated by the market. The Goldman Sachs estimates also reveal that USAir's cost per ASM and its nonlabor costs exceeded expectations. USAir's revenue and load factor actually exceeded Goldman's projections, further suggesting that the major source of USAir's postmerger problems were related to unexpectedly high costs.

5.5.4 Corporate Culture and the Mirror Image Strategy

Although economists typically sidestep the issue of corporate culture (a notable exception is Kreps 1990), in every interview, whether with union leaders or management, we were implored to take this notion seriously. The "stuff you can't see on paper, the attitudes that are hard to measure," Colodny told us, "can have an amazing impact."[38]

The acquisition and integration of PSA's workforce challenged USAir's more conservative management. Known for its playful manner, even customer safety briefings were tongue-in-cheek at PSA: "For those of you who have not been in an automobile since 1962, this is a seat belt. . . ." To a carrier noted for its smiling nose cones and in-cabin games, assimilation into USAir's stricter procedures and rules meant the loss of a style of

38. Interview with Colodny, see note 6.

customer service that PSA viewed as a strength. However, for the struggling carrier whose employees held a 15 percent equity stake, USAir's acquisition was a windfall and an opportunity to earn increased wages. This undoubtedly lessened the sting of losing PSA's identity.

In the case of the Piedmont acquisition, both Piedmont and USAir successfully survived the early years of deregulation. However, Piedmont's rate of postderegulation expansion in number of employees, operating revenue, and ASMs during this period far outpaced USAir's growth. In 1985, Piedmont was honored as the Airline of the Year by Air Transport World magazine, an award usually bestowed upon larger airlines. Piedmont was touted as having the most sophisticated pricing staff among the regionals, a flexible workforce loyal to Piedmont's founder and still active board member, Thomas Davis, and a valuable brand name in the South that was synonymous with quality service. Positioned for continued expansion, the USAir acquisition was resented by many Piedmont employees who viewed theirs as the superior airline.

USAir's "mirror image" whitewash of PSA and Piedmont practices required the employees of the acquired units to relearn their jobs the USAir way. While this certainly imposed personal costs on workers, it is difficult to assess how great these costs were and how they were manifested. Customer satisfaction provides some clue to the extent of the problem. If a culture clash did exist, one likely manifestation is lower quality of operations: increased absenteeism would create scheduling problems, more lost baggage, and less satisfied customers.

USAir had "one of the worst records in the industry (for on-time performance and baggage service) most of 1989 and part of 1990" (Nomani and Valente 1990). Data on consumer complaints filed with the CAB and its predecessor agency echo these problems. Complaints rose from 1.4 complaints per 100,000 travelers in 1986 to 3.6 in 1987 and remained above premerger levels until 1990.[39]

Another, extremely crude, measure of quality of operations in the airline industry is the frequency of accidents. Postmerger, USAir experienced a number of incidences, the most serious of which involved flight 5050 which crashed into Flushing Bay soon after taking off from New York's LaGuardia Airport on 20 September 1989, killing two passengers. A lengthy FAA investigation pointed to a minimally trained crew and raised concerns about crew pairings and the preparation of pilots following the Piedmont merger.

Rather than list the numerous testimonials rich in Civil War analogies and regional stereotypes, we have attempted to demonstrate the impact of

39. In and of itself, this consumer complaint data is not strong evidence of a culture clash at USAir. Customer satisfaction deteriorates industrywide at this time suggesting either the existence of merger-related problems throughout the industry following a wave of mergers or a crankier traveling public.

a clash of cultures at the integrated USAir. While not definitive, they are suggestive of real integration problems that adversely effected USAir's performance postmerger.

5.5.5 Reversability of Mergers

USAir's acquisition of Piedmont raises an issue that, to our knowledge, is largely unexplored in the economics and finance literature: What determines the ease with which acquirers can reverse "bad" acquisitions? Research has found that the probability of divesting acquired firms or assets is inversely related to the effect of the acquisition on the acquiring firm's stock price (Kaplan and Weisbach 1992; Mitchell and Lehn 1990). Notwithstanding the central tendency, however, some value-reducing acquisitions, such as USAir's acquisition of Piedmont, do not result in subsequent divestitures. This raises a natural question: Why not?

Despite a general recognition that USAir's acquisition of Piedmont has had a large negative effect on USAir's value, to our knowledge investors have not placed pressure on USAir management to reverse the acquisition through a divestiture of the Piedmont assets. We asked analysts and USAir officials about the feasibility of a divestiture; the uniform response was that it was infeasible, since the Piedmont and USAir assets are now so integrated that it would be impractical to undo the merger. Michael Armellino, managing director and former airline analyst at Goldman Sachs, states that you can't "unscramble this egg."[40] This suggests an inverse relation between the probability that a bidder divests itself of an unsuccessful acquisition and the degree to which it has integrated the acquired firm into its own operations.[41]

5.5.6 Generalization to Other Airline Mergers

The evidence presented in this paper shows that USAir dissipated huge amounts of value after its acquisitions of Piedmont and PSA, largely because it was unable to maintain labor costs at their premerger levels. While the problems encountered by USAir are more dramatic than most, industry experts have commented on the general difficulty of integrating workforces in airline mergers. For reasons discussed above, we conjecture that the integration of labor is more problematic in airline mergers than it is in less heavily unionized, less regulated mergers. This leads us to the following question: Is postmerger performance different for acquiring airlines than it is for acquiring firms in other industries?

Anecdotally, much has been written about problems encountered by large acquirers in the airline industry, including Pan Am, TWA, and Texas,

40. Michael Armellino, managing partner and former director of research, Goldman Sachs, interview by authors, New York, N.Y., 16 July 1996.

41. This discussion also suggests that the option to reverse an acquisition should be considered in the valuation of takeover targets.

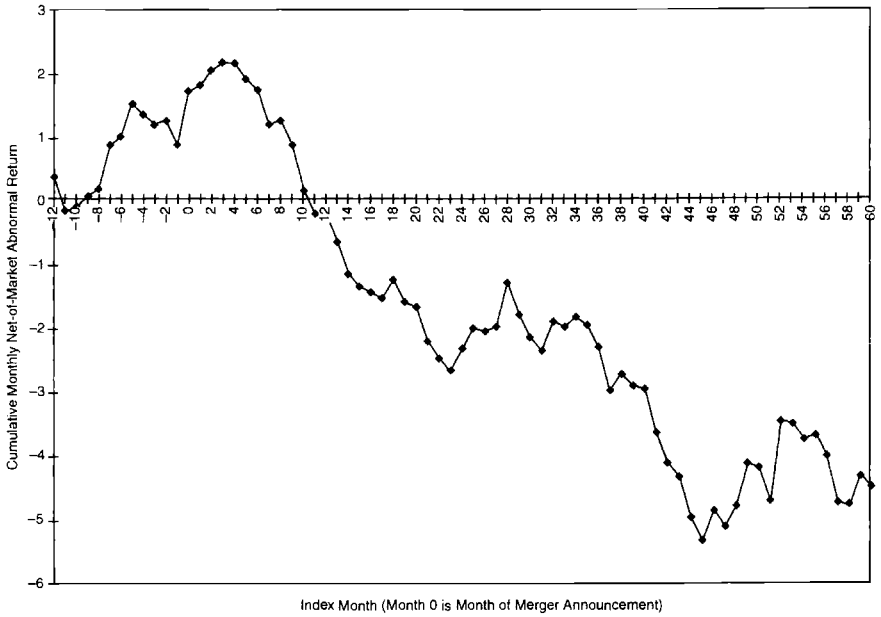

Fig. 5.7 Cumulative monthly net-of-market returns for acquirers in eighteen airline mergers, 1979–91, from twelve months before the acquisition announcement

each of which filed for bankruptcy. It is worth noting that there has been little merger activity in the airline industry since the mid-1980s. To our knowledge, the only merger involving an established airline during this decade is United's acquisition of West Air Holdings' Air Wisconsin in 1991. The paucity of recent merger activity is consistent with learning—after the acquisitions of the mid-1980s, managers of airlines are opting to buy routes, gates, and slots rather than suffer the integration of two workforces.[42]

Much of the existing work on airline mergers focuses on the impact of mergers on airfares (Borenstein 1990; Slovin, Suskha, and Hudson 1991; Kim and Singal 1993; Singal 1996). We are unaware of any systematic evidence on the relation between mergers and long-run performance in the airline industry. Preliminary results on long-term stock returns for acquiring airlines appear in figure 5.7.[43] The figure plots cumulative monthly net-of-market returns for a portfolio of eighteen acquirers of airlines during 1978–91 from twelve months prior to the acquisition announcements

42. The decline in merger activity in the airline industry also is consistent with the argument that antitrust policy became more stringent during the Bush and Clinton administrations than it was during the Reagan years. We thank Severin Borenstein for pointing this out.

43. Two recent papers discuss estimation problems associated with the measurement of long-run stock returns. See Kothari and Warner (1997) and Barber and Lyon (1997).

through sixty months after the announcements.[44] It shows highly negative returns several years beyond the acquisition. Cumulative returns are negative three years after the acquisition for eleven of the fifteen surviving acquirers (three did not survive three years postmerger) and twelve of fourteen acquirers had negative cumulative returns five years after the acquisition (four acquirers failed within five years of the acquisition).

To control for size and industry effects, we estimate the long-run abnormal return for each acquiring airline in the following way. For each acquiring airline, we identify the airline that had the closest market value of equity at the end of the calendar year immediately preceding the year of the acquisition. We then check to make sure that the matched airline did not make an acquisition itself during the five years before through five years after the acquiring airline's acquisition announcement; if it did, we exclude it, and go to the next airline that is closest in size to the acquiring airline. We continue this process until we identify a size-matched airline for each acquiring airline. We then compute the abnormal return for each acquiring airline as the difference between its buy-and-hold return and the corresponding return for the matched airline.

Table 5.9 lists the results on long-run buy-and-hold abnormal returns for acquiring airlines over periods of one, two, three, four, and five years after the acquisition announcements. Panel A, which reports the results for the entire sample, shows an average buy-and-hold abnormal return of −14.76 percent during the first year following the acquisition announcement and −47.16 percent during the first five years after the announcement. The average returns for two, three, and four years after the announcement lie somewhere between the two numbers. The only return that differs significantly from zero is the five-year return.

Panel B replicates panel A for the twelve acquiring airlines that were not themselves acquired after they made their acquisitions. The inclusion of the six acquirers who subsequently became targets themselves is likely to bias against finding negative long-run returns, since acquisitions are associated with significant positive returns for target firms. The results in panel B demonstrate the effect of the bias—the buy-and-hold abnormal returns become substantially more negative and significant. The average return is −23.25 percent, −30.26 percent, −49.7 percent, −44.13 percent, and −40.32 percent, during the one, two, three, four, and five years, respectively, after the acquisition announcement. With the exception of the

44. The eighteen mergers include the following (the acquiring airline is listed first): North Central–Southern (1979), Pan Am–National (1979), Republic-Hughes (1980), Texas-Continental (1981), Southwest-Muse (1985), People Express–Frontier (1985), Piedmont-Empire (1985), Texas–People Express (1986), Texas-Eastern (1986), Northwest-Republic (1986), TWA-Ozark (1986), Alaska–Jet America (1986), Delta-Western (1986), American-AirCal (1986), Alaska-Horizon (1986), USAir-PSA (1986), USAir-Piedmont (1987), and United–Air Wisconsin (1991).

Table 5.9 **Buy-and-Hold Stock Returns for Eighteen Acquiring Airlines versus a Control Sample of Other Airlines with Equity Values Closest to the Acquiring Airline at the End of the Calendar Year Immediately Preceding the Acquisition**

Number of Months after Acquisition	Average Buy-and-Hold Return (%) (*t*-statistic)	Number of Observations (number negative)
	A. Buy-and-Hold Returns for All Eighteen Airlines	
12	−14.76	18
	(−0.77)	(10)
24	−12.40	17
	(−0.74)	(8)
36	−27.70	16
	(−1.14)	(9)
48	−30.47	15
	(−1.29)	(10)
60	−47.16	14
	(−2.21)	(9)
	B. Buy-and-Hold Returns for Twelve Airlines That Are Not Themselves Subsequently Acquired	
12	−23.25	12
	(−1.04)	(9)
24	−30.26	12
	(−1.62)	(7)
36	−49.70	12
	(−1.82)	(8)
48	−44.13	12
	(−2.53)	(9)
60	−40.32	12
	(−2.01)	(8)

one-year return, all are significant at the 10 percent level. In addition, at least eight of the twelve airlines experienced negative returns in four of the five post-announcement intervals.

The evidence on long-run returns is consistent with the argument that airline mergers are especially hard to manage relative to other mergers. Agrawal, Jaffe, and Mandelker (1992) document long-run returns of about −10 percent for a large sample of acquiring firms over a five-year post-merger period, which is substantially less negative than the returns we find for acquiring airlines. We conjecture that the postmerger problems experienced by acquiring airlines may account for the large reduction in airline merger activity since the mid-1980s. An alternative explanation for the reduction in airline activity is that antitrust policy has become more binding, given changes in antitrust policy. Also, because of the existence of estimation errors associated with measurement of long-run stock returns, additional analysis comparing postmerger accounting profits, economic profits, and labor costs for acquiring and nonacquiring airlines would be informative.

One other piece of evidence consistent with the conjecture that the integration of workforces discourages airline mergers can be seen in data on the frequency of asset sales in the airline industry over time. Asset sales usually involve the sale of routes or planes, with no accompanying employees. If the integration of workforces is an impediment to mergers, one might expect to find a substitution of asset sales for mergers over time.

To examine this, we collected data on asset sales in the airline industry for each year during 1980–94 from Securities Data Company's Financial Database System. The data indicate that asset sales were infrequent during the period of high merger activity in the airline industry. During the eight-year period from 1980 to 1987, thirteen asset sales occurred, or roughly 1.5 per year. Since 1987, there has been little airline merger activity but a large increase in asset sales. During the seven-year period from 1988 to 1994, forty-three asset sales (twenty-eight of the asset sales occurred in 1990 and 1991) occurred, or roughly six per year. While there may be other explanations for the increase in asset sales, the evidence is consistent with the argument that it is easier for airlines to integrate routes and aircraft than it is to integrate workforces.

5.6 Conclusion

In 1987, USAir's acquisition of Piedmont Aviation was praised as a perfect match. The combination of two strong airlines with contiguous route structures would improve the utilization of aircraft, maintenance facilities, and crews. The more extensive route structure would appeal to Piedmont and USAir frequent travelers. Indeed, USAir's rationale for the merger—that the sum is more valuable than the parts—rang true at the

time. However, as General Robert Oaks, executive vice president of operations at USAir, aptly states, "[I]t's easier to get accountants to integrate balance sheets than it is to combine people who must work together."[45] USAir stumbled in the implementation process and its present cost structure bears the legacy of those missteps.

References

Agins, Teri, and Laurie Cohen. 1987. TWA proposes to buy USAir for $51 a share. *Wall Street Journal,* 2 March, p. 57.

Agins, Teri, and Betsey Morris. 1987. USAir intensifies war for Piedmont by its raising bid. *Wall Street Journal,* 19 February.

Agrawal, Anup, Jeffrey F. Jaffe, and Gershon N. Mandelker. 1992. The post-merger performance of acquiring firms: A re-examination of an anomaly. *Journal of Finance* 47:1605–21.

Bailey, Elizabeth E., David R. Graham, and Daniel P. Kaplan. 1985. *Deregulating the airlines.* Cambridge, Mass.: MIT Press.

Barber, Brad M., and John D. Lyon. 1997. Detecting long-run abnormal stock returns: The empirical power and specification of test-statistics. *Journal of Financial Economics* 43, no. 3 (March): 341–72.

Borenstein, Severin. 1990. Airline mergers, airport dominance, and market power. *American Economic Review* 80:400–404.

Byrne, Harlan S. 1983. Airline industry faces another bid loss but some carriers weather the storm. *Wall Street Journal,* 25 January, p. 56.

Comment, Robert, and G. William Schwert. 1995. Poison or placebo? Evidence on the deterrence and wealth effects of modern antitakeover measures. *Journal of Financial Economics* 39:3–43.

Green, Gary. 1986. Labor protective provisions in the airline industry 1950–1985. Unpublished manuscript provided by D. Andrews, USAir.

Harris, Roy J., Jr. 1986. Western takeover rumors may portend move of carrier consolidation toward Pacific. *Wall Street Journal,* 10 March.

Jensen, Michael C. 1986. Agency costs of free cash flow, corporate finance and takeovers. *American Economic Review* 76:323–29.

Kaplan, Steven N., and Michael S. Weisbach. 1992. The success of acquisitions: Evidence from divestitures. *Journal of Finance* 47:107–38.

Kim, E. Han, and Vijay Singal. 1993. Mergers and market power: Evidence from the airline industry. *American Economic Review* 83:549–69.

Kothari, S. P., and Jerold B. Warner. 1997. Measuring long-horizon security price performance. *Journal of Financial Economics* 43, no. 3 (March): 301–39.

Kreps, David. 1990. Corporate culture and economic theory. In *Perspectives in positive political economy,* ed. James E. Alt and Kenneth A. Shepsle, 90–143. Cambridge: Cambridge University Press.

McGinley, Laurie, and Judith Valente. 1987. USAir, Piedmont shouldn't merge, agency judge says. *Wall Street Journal,* 22 September.

45. Robert Oaks, executive vice president of operations, USAir, interview by authors, Washington, D.C., 7 October 1997.

Mitchell, Mark, and Kenneth Lehn. 1990. Do bad bidders become good targets? *Journal of Political Economy* 98:372–98.
Nomani, Asra Q., and Judith Valente. 1990. Delayed takeoff: Strong as a loner, USAir loses its magic after two acquisitions. *Wall Street Journal,* 28 August, p. 1.
Ott-Washington, James. 1989. USAir prepares to complete acquisition of Piedmont. *Aviation Week & Space Technology,* 17 July, p. 94.
Payne, Seth. 1989. A promising plan—if no raiders show. *Business Week,* 14 August.
Peterson, Barbara Sturken, and James Glab. 1994. *Rapid descent.* New York: Simon and Schuster.
Ross, Robert, and Laurie McGinley. 1987. USAir merger with Piedmont cleared by U.S. *Wall Street Journal,* 2 November.
Rotbart, Dean. 1984. Regional airlines are suggested as alternatives when big boys get into fare wars downdraft. *Wall Street Journal,* 21 August, p. 53.
Singal, Vijay. 1996. Airline mergers and competition: An integration of stock and product price effects. *Journal of Business* 69:233–68.
Slovin, Myron, Marie Suskha, and Carl Hudson. 1991. Deregulation, contestability, and airline acquisitions. *Journal of Financial Economics* 30:231–51.
Stevens, Charles W. 1984. USAir shaking from its "agony air" past, profits from routes others avoid. *Wall Street Journal,* 28 February.
Williamson, Oliver E. 1985. *The economic institutions of capitalism.* New York: Free Press.

Comment

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Kole and Lehn have done an excellent job describing the challenges that an airline faces in integrating workforces as part of a merger. These problems, of course, exist in any merger, but as the authors point out, there are good reasons to think that difficulties are particularly acute in the airline industry. The great hold-up power of pilots' and mechanics' unions along with the service orientation of this industry—in which worker attitude can have a tremendous effect on customer satisfaction—make it likely that workforce integration will be a central challenge of any airline merger.

While the evidence that Kole and Lehn present makes it clear that these labor issues were critical in the disappointing outcome of the USAir–Piedmont–PSA merger, I think that the proportion of the value loss that labor costs explain might be overstated. The authors have attempted to separate the impact of the merger from the many other events that occurred in the industry around that time, which is an extremely difficult task. Three factors in particular make it difficult to parse the causes: (1) a

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crash in the price of oil in early 1986 changed substantially the relative costs of inputs around the time of the merger; (2) with the exception of United, every major airline was involved in a merger between 1985 and 1988, thus making interfirm comparisons difficult to interpret; (3) the recession and Persian Gulf conflict in the early 1990s harmed the entire industry, but each firm in the market was affected differently.

Furthermore, the cost and inefficiencies of integration that the authors document in this case probably overstate the degree of the problem in a typical airline merger. Notwithstanding its profitability in the early 1980s, USAir was not viewed by most in the industry as a well-managed airline, and certainly not as one that was able to control worker compensation. Edwin Colodny, the CEO of USAir, was thought by workers to be one of the nicest and most generous executives in the industry, a reputation dating from before airline deregulation. It is telling that the quotes from analysts in support of the merger (at the end of section 5.3) refer to the merged carrier's power, presence, and marketing clout, not to production synergies, streamlining, or cost efficiency. Thus, the costs that USAir faced in integrating the Piedmont and PSA workforces were probably greater than other management teams are likely to encounter.

The primary approach that Kole and Lehn use to estimate the effect of labor force costs on USAir's postmerger performance is to extrapolate the share of revenue that was attributed to labor costs. They take the deviation from the earlier share after the merger as indicative of the costs due to workforce integration. Yet it is unclear why one would expect this ratio to stay constant, particularly through big swings in demand—the 1990–92 recession—and the costs of other inputs—the oil price crash in 1986 and the upward shock following the August 1990 invasion of Kuwait by Iraq. To illustrate this, one can recalculate the percentages in table 5.5 under the assumption that real fuel prices remained constant at their 1984 level for the following decade and that this change was fully reflected in revenues. The resulting increase in the personnel costs as a share of total revenue would have been substantially smaller than Kole and Lehn find and would explain about 45 percent of the value change following the merger. This is still a substantial share, but it points out that the authors' estimates come with significant margins of error. The decline in the real cost of fuel—which averaged about 20 percent lower during 1989–95 than during 1984–86—also partly explains why all other categories increased as a share of revenues.

A similar argument could be made regarding the 1990–92 recession. As demand slackens, fixed expenses will naturally rise as a share of total revenues. Because of union strength in this industry generally, for all the reasons the authors point out, labor costs are relatively fixed, particularly compared to fuel, airport fees, travel agent commissions, and a number of other expenses that exhibit virtually no stickiness. That, of course, does

not explain why the percentage later stayed so high when the economy rebounded, demand increased, and the shadow value of capacity grew once again. Overall, while this approach to measuring the integration costs is sensible, it would be more useful if it could in some way account for the industrywide shocks that occurred during this time. It would be interesting, for instance, to see how the rise in labor cost share of revenue compares to the rest of the industry over the same time.

In general, it would be valuable to compare many of the premerger and postmerger changes with similar measures for other carriers or for the industry as a whole. Even these results, however, would have to be interpreted with caution. Most important is the fact that nearly every major airline experienced a merger between 1985 and 1987.[1]

The scarcity of nonmerging airlines also makes it difficult to compare the performance of merging and nonmerging carriers. In figure 5.7, Kole and Lehn demonstrate that mergers tend to be followed by negative abnormal returns. While provocative, the result may also be attributed to the fact that airline mergers seem to be leading indicators of recessions.[2] Nearly all mergers in the sample occur just prior to the 1981–82 recession or a few years prior to the 1990–92 recession. Recognizing this, the authors attempt to do a matched-pair analysis, but given the (reasonable) criteria they use for choosing matches, the only available airlines for comparing the 1985–87 mergers are United, and possibly Midway and Pan Am. Thus, the results of this comparison could be quite idiosyncratic.

Nonetheless, while Kole and Lehn's analysis of the adverse effects of airline mergers probably should not be taken as precise estimates, they convincingly show that the USAir–Piedmont–PSA merger was not a success, that labor costs were a significant part of the reason, and that the stock market was surprised by this failure. This latter insight is particularly surprising given USAir's reputation for poor management. Furthermore, while one can quibble with the analysis of overall returns to mergers in this industry, it is fairly clear that mergers have not had the beneficial impact that was suggested by managers and analysts at the time.

The authors' treatment of conflicts of corporate culture is also a refreshing addition to the economic study of mergers. They do not quantify these effects—it is not clear how one could—but they do recognize that such conflicts play a serious role. In light of the fact that every merger faces these issues, and that corporations spend significant sums studying how to overcome them, integrating issues of culture conflict into the analysis of mergers may very well yield new insights.

1. See authors' note 44. Only United resisted the urge to merge, but only so far as other airlines were concerned. It was during this period that United diversified into a number of other travel-related industries, including hotels.

2. Put differently, airline mergers appear to take place when firms possess substantial free cash flow, not when the airlines are weathering macroeconomic downturn.

My own discussions with former Piedmont and USAir employees reinforce Kole and Lehn's conclusions. The manager of pricing and yield management at Piedmont left the company shortly after the merger and before the workforce integration to work for America West. She reported that many others also chose to leave the company rather than work for USAir, which had the reputation of being stodgy and rule-bound and of failing to reward initiative.[3] During the 1987 DOT hearing on the USAir–Piedmont merger, testimony from USAir managers revealed that the carrier's pricing and seat management system lacked many of the capabilities of those used by American, United, and even Piedmont. The fact, that, immediately after it acquired PSA, USAir painted over the famous PSA smiles on their aircraft is consistent with this view of USAir management. It is worth noting that despite the high wages USAir paid and its reputation for very friendly relations with labor, most workers at Piedmont did not support the merger, and cheers were heard among Piedmont workers on 21 September 1987 when Judge Yoder recommended that DOT reject the merger.

The virtual absence of mergers in the 1990s may very well be a result of airlines' coming to recognize the realities that Kole and Lehn present, though antitrust policy probably plays a role as well. Many nonmerger cooperative arrangements between airlines have developed or spread in the decade since the airline merger wave. Though code-sharing existed in the 1980s as a way that jet carriers could exchange passengers with commuter airlines while maintaining a single brand, code-sharing is now also used between jet carriers.[4] Likewise, airlines are collaborating in their loyalty programs. Reno Air, for instance, took over many of American's West Coast routes out of San Jose in 1993. Even before it was purchased by American in November 1998, Reno distributed points on American's frequent flier program and shared codes with American, and the two carriers coordinated the timing of their flights.

It seems quite likely that these are attempts to gain the advantages of coordination and reduction of horizontal rivalry without bearing the costs of workforce integration.[5] With growing evidence of the pitfalls that mergers present, including the studies in this volume, further experimentation with forms of nonmerger coordination seems assured. Studying these mechanisms for nonmerger coordination, and contrasting them with mergers, will be a fruitful area for further research.

3. Personal communication with Marilyn Hoppe, July 1988.

4. Many of these arrangements are between U.S. and foreign airlines that cannot merge because of legal restrictions, but they also now occur between U.S. jet carriers such as Continental and America West.

5. The difficulty of workforce integration was highlighted again in February 1999, when American's pilots staged a sickout to protest the pay (too low) and seniority (too high) that was to be given to Reno's pilots as part of the American purchase of Reno Air.

Comment

Marc Knez

The literature on mergers and acquisitions suffers from an almost complete absence of careful empirical examinations of the organizational factors that influence successful or unsuccessful merger implementation. This paper, along with the other papers in this volume, represents the first significant step in filling this void.

As I see it, there are three principal points of interest in this paper. First, the authors provide powerful evidence that the postmerger losses incurred by USAir were driven in large part by their decision to raise Piedmont wages to the level of USAir's. Second, they provide powerful evidence that the market all but completely ignored this possibility. Finally, the description of the events leading up to USAir's decision to purchase Piedmont suggests that the management of USAir were less concerned about the potential for value creation through the merger than they were about their own survival in a consolidating industry. Each of these points (and others) is of significant interest to those of us attempting to develop a broader understanding of the factors facilitating and inhibiting the success of mergers.

One difficulty is the reconciliation of the first two points taken together. Is it the case that USAir made an "obvious" mistake when it raised Piedmont wages to USAir's levels and the market did not believe they would make such an obvious mistake? Or instead, is it the case that USAir had to raise Piedmont wages and the market simply missed this point? In other words, is this a case about mistakes that get made during merger implementation, or a case about the market's ignorance about merger implementation? Answering this question requires knowing whether USAir had to raise Piedmont wages. The authors provide a rather mixed view on this difficult question. In subsection 5.2.4, which describes the regulatory approval process, we are left with the impression that federal approval of the merger (nearly) required raising Piedmont wages. On the other hand, they conclude that the "decision" to raise wages was a mistake, and that USAir "stumbled" in the implementation process. To reconcile this issue we would need to evaluate the set of alternative actions that USAir could have taken. For example, what were the implications of not raising Piedmont wages; would it have significantly jeopardized regulatory approval? If not, would it have led to a strike? How costly would a strike have been?

If, for the moment, we accept the conclusion that the management of USAir stumbled, there is still the question of why they made such an "obvious" mistake. The scant literature on merger implementation suggests that CEOs tend to be overconfident about their ability to create value in

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a merger (see, e.g., Haspeslagh and Jemison 1991; Hayward and Hambrick 1997). In this case, USAir management may have been overconfident about the value created through increased market power emanating from the combined route structure, as well as about their ability to reduce costs despite the increase in Piedmont wages.

Beyond the wage issue, the authors also suggest that USAir's "mirror image" strategy of homogenizing operations of the two airlines was a mistake. This is clearly a decision over which they had discretion. They could have kept many of the operational differences in place (at least for an extended period of time). But, again, the authors do not provide any insight on the organizational feasibility or costs of such a decision. To the extent that there are real operating synergies that have the potential for value creation, we can assume that significant coordination across the operations of these formally separate airlines would be necessary. If this is the case, then the cost of inconsistent operating procedures could conceivably be significant. Put differently, it is hard to imagine that it could be efficient for an organization in a single line of business to have disparate operating procedures in different parts of the organization that are engaged in practically identical activities. This is particularly true in an industry where standard operating procedures are so important.

The authors quote a former CEO of USAir who states that the mirror image strategy "turned out to be an irritant to everyone—PSA and Piedmont employees and their customers." Significant organizational change is always a source of irritation for participants, but this does not make it suboptimal, only inevitable. One way to reconcile this issue is to see if there are any other airlines that possess heterogeneous operating procedures to the degree that the authors believe USAir should have implemented.

The two issues I have raised point to the difficulty of this type of research. If the goal is to judge the quality of decisions made during the implementation process, we must judge these decision against alternative choices that could have been made. While it is clearly not possible to turn back the clock, it is important to recognize the trade-offs, and in some cases insights may be gained from the experiences of other firms that have taken an alternative approach. That said, I am sympathetic to the difficulty of capturing all these trade-offs, especially since the authors have already provided a fairly in-depth description of this particular merger.

Finally, the authors state that the USAir case provides support for Williamson's (1985) conjecture that internal equity issues can limit the boundaries of the firm. The idea is that maintaining differences in compensation across separate units will lead to dysfunctional behavior in the lower-paid unit. Hence, whatever benefits arise from the merger of two firms may be offset by such dysfunctional behavior. Given that Williamson's discussion on this issue is a bit imprecise, it may be the case that the USAir case

applies. However, I do not believe it should if the Williamson conjecture has any bite.

Researchers and practitioners in human resource management have long recognized that pay equity is a critical element of any compensation system. Workers judge whether they are being paid fairly by comparing their pay to the pay of other workers engaged in a similar or related task, weighted by their level of contribution relative to this same other worker. There are two main sources of distortion here. First, workers may overestimate their level of contribution relative to others. Second, their basis of comparison will not just be similarity of task, but also, simply working for the same organization. The second distortion is most relevant for Williamson's conjecture. It is the mere fact that two workers are in the same organization that leads to comparison where it would not otherwise occur. In other words, there is a psychological difference between the internal and external labor markets. A current notable example of this problem has arisen as commercial banks have entered investment banking. Suddenly, commercial bankers feel compelled to compare their compensation to their "colleagues" in the investment banking unit who receive significantly higher compensation. Hence, to Williamson's point, related diversification leads to internal equity issues that would not otherwise arise.

In the USAir case, workers at Piedmont are going to compare themselves with workers at USAir that are doing nearly identical tasks. What rationale is there for USAir to pay them differently? Moreover, had the merger not occurred, it would have made complete sense for the Piedmont employees to point to USAir's higher wages in future collective bargaining sessions, especially since both airlines had the same unions. To be sure, the disgruntlement created by two workers doing the same tasks but being paid differently influenced USAir's decision to raise Piedmont wages. But this simply reflects disparities in wages between two airlines created in past negotiations with the same union. Now we have a single airline anticipating negotiations with the same union.

References

Haspeslagh, Philipe C., and David B. Jemison. 1991. *Managing acquisitions: Creating value through corporate renewal.* New York: Free Press.

Hayward, Mathew L., and Donald C. Hambrick. 1997. Explaining premiums paid for large acquisitions: Evidence of CEO hubris. *Administrative Science Quarterly* 42:103–27.

Williamson, Oliver E. 1985. *The economic institutions of capitalism.* New York: Free Press.

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The Case Against Pay Transparency

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Calls for pay transparency as a cure for pay discrimination are abundant. As the argument goes, if everyone knows everyone else's pay level, patterns of discrimination will be broadcast, so pressure to remedy them will mount. But the claims of pay transparency's beneficial powers go far beyond remedying pay discrimination, extending to boosting an organization's overall morale and performance.

Far from a panacea, pay transparency is a double-edged sword, capable of doing as much — or more — damage as good. Broadcasting pay is as likely to demoralize as it is to motivate. While pay transparency may accelerate attention being paid to remedying pay discrimination, managers should consider moves toward transparency with their eyes wide open.

Pay transparency does provide more information with which to assess the fairness of pay allocation. But herein lies the challenge. In most work settings individual performance is not easily observed, in part because our performance is a joint product that reflects both our own effort and that of many others. This seems to give us wide latitude to exaggerate our performance and our contributions to the organization — and to do it a lot. Some years ago I asked a group of 700 engineers from two large Silicon Valley companies to assess their performance relative to their peers. The results were startling. Nearly 40% felt they were in the top 5%. About 92% felt they were in the top quarter. Only one lone individual felt his or her performance was below average. This inflated sense of self-worth makes the organization's task of linking performance to pay tremendously difficult.

Widely publicizing pay simply reminds the vast majority of employees, nearly all of whom possess exaggerated self-perceptions of their performance, that their current pay is well below where *they* think it should be. Transparency creates an expanded playground for our comparisons, potentially heightening our attention and obsession with it and elevating the negative emotions and behaviors that result. Admittedly, there is much that remains to be explored about the effects of pay transparency, but the evidence points to transparency elevating three costly responses:

- **Employees who suddenly discover they are "underpaid" become more dissatisfied with their employer and more likely to depart.** Shortly after the University of California began making its employee salaries public, a team of scholars conducted a fascinating experiment. They sent letters to a random set of faculty in the UC system, informing them of a newspaper website they could use to find out the salaries of their peers. A few days later the researchers surveyed all campus employees, asking about their use of the website, their job satisfaction, and their job search intentions. The researchers then compared the responses of those who were informed about the website and those who were not. Most who were informed about it accessed the site and examined the pay of colleagues in their department. The result was that those who were invited to visit the website *and* discovered they were paid

below the median were much less satisfied with their jobs and more likely to express an intent to depart than those who were paid below the median but didn't receive the prompt to compare their pay. Transparency encouraged dissatisfaction and turnover.

- **Employees reduce their productivity when consistently reminded of what they perceive as unfair rewards.** My colleague Tomasz Obloj, of HEC Paris, and I recently examined the effects of an awards program implemented at a European bank selling small consumer loans. The awards program invited each of the bank's 164 outlets to compete for an all-expenses-paid, weeklong vacation to an exotic resort. However, the 164 outlets were divided into four tournament groups, and each tournament group competed for a different number of prizes. Those assigned to tournament groups competing for fewer awards felt predictably slighted; the awards program was significantly less effective for these groups. The more interesting finding was that outlets geographically surrounded by or socially connected to other outlets in "better" tournament groups actually decreased their performance — and the magnitude of the reduction corresponded with how physically or socially close these advantaged outlets were. What might this say about pay transparency? The more "in your face" those receiving preferred rewards are, the greater the negative emotions that dampen productivity. It is hard to imagine a policy change that does more to place pay comparison in everyone's face than pay transparency.
- **Employees suddenly made aware of their peers' high pay take up politicking for change.** For many years, Harvard managed the bulk of its endowment portfolio with internal Harvard employees but paid them much like fund managers employed by external investment management firms. The performance of these Harvard employees was quite remarkable during the early 2000s. As a result, some of these Harvard employees earned in excess of $30 million in yearly pay, due to performance that was truly exceptional against industry benchmarks. Their superior performance earned billions for Harvard, and all was fine until these pay outcomes became transparent to the Harvard community. This transparency set off a wave of opposition from students, faculty, and alumni alike. All efforts to justify these rewards, based on claims that payments to outside fund managers for such exceptional results would have been greater, fell on deaf ears. Harvard's president at the time, Larry Summers, relented and flattened pay, pushing several fund managers to leave. Harvard also moved the management of a much larger share of the endowment to external fund managers, including many who had just departed Harvard. Transparency prompted lobbying for change.

Of course, these responses to transparency — departures, boycotts (reduced effort), and active politicking — may be precisely what the advocates of transparency expect and want. The behaviors prompt change, including change that corrects gender-based inequities. However, pay transparency unveils more than real gender-based inequities; it also fuels perceived inequities prompted by inflated self-perceptions. To avoid the departures, reduced effort, and costly politicking that these perceived inequities provoke, organizations must respond to those perceptions. Unfortunately, the managerial remedies are often as harmful as the diseases they attempt to cure:

- **Organizations can flatten pay.** Companies may respond by weakening incentives, essentially dropping any pretense of a link between performance and pay. They may instead reward something like seniority or position, as these are easily observed and verified. Pay transparency thrives in organizations that abandon pay for performance; it struggles in environments where rewards are linked to subjective metrics. Abandoning the link between pay and performance, though, has predictable outcomes: Motivation declines, and the best, brightest, and most capable depart for firms that reward performance and recognize ability.
- **Organizations can physically and socially separate those with distinct patterns or levels of pay.** Organizations can, in essence, isolate the people likely to provoke others to envy (or isolate those with a basis to envy). An executive of a very large industrial manufacturer shared a fascinating illustration with me. The firm housed two distinct employee groups with very different reward structures at a common physical location. One group was a well-paid,

well-educated group of client-facing engineers. The other group consisted of production employees operating in a factory setting. Efforts to retain the first group with higher pay were plagued by unrelenting complaints and discontent from those less highly paid. In response, management took a succession of steps targeted at reducing transparency or eliminating the opportunity for comparison. They first attempted to isolate the higher paid group at the same site — constructing a brick wall down the middle of the building, creating separate entrances, and dividing the parking lot — thus limiting transparency. When all of that proved insufficient to quell the negative behavioral responses, they physically moved the high-paid group to a new location, several miles away. Of course, actions taken to separate employees may contradict what is necessary for effective work flow and communication.

- **Organizations can outsource those activities where competitive rewards demand pay that diverges dramatically from the rest of the organization.** For years, large pharmaceutical firms purchased small biotech firms with promises to keep their "entrepreneurial rewards" intact. But the large firms quickly discovered that social comparison processes made this highly problematic. Attempts to maintain these incentives wreaked havoc on the sense of fairness and equity in the remainder of the firm. Yet abandoning these incentives caused key talent — the talent that prompted the big company's acquisition in the first place — to exit. Big Pharma quickly moved to a model of contracting out research to smaller firms, and then paying to license any discoveries. Of course, the story with Harvard and the management of its endowment echoes this same pattern. Pay transparency pushed Harvard to outsource.

Composing effective reward systems is no simple task. While gender pay inequities merit swift remedy, pay transparency is no panacea. Unless performance is highly transparent, imposing transparency will elevate feelings of inequity that will inevitably push employees to depart, reduce effort, and lobby for change. Remedying gender inequities will certainly be one of those changes, but it's unlikely to be the only one. Unless you have a clean, clear, and broadly accepted measure of individual performance, transparency will likely push you to flatten pay — linking rewards to factors you can precisely measure, such as seniority or hierarchical position. Of course, rewarding these factors will demotivate and drive away the talent you would like to keep.

What do effective organizations do? They link individual performance to rewards but recognize that they must be vigilant in efforts both to measure performance and to convince employees that their necessarily imperfect measures are acceptably fair. The real problem with pay transparency is that it focuses individuals on comparing pay rather than on elevating performance.