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UNIONS AND WAGES IN THE US AIRLINE INDUSTRY

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Labor unions play a critical role in the US airline industry. About half of all workers in the air transportation industry are unionized, 49.3% of workers being union members and 51.6% being covered by collective bargaining agreements in 2006. Apart from Delta, all major US carriers are highly unionized, while national and regional carriers include a mix of union and nonunion workplaces. In contrast, only 7.4% of US private sector workers were union members in 2006, compared to 21.7% in 1977. In manufacturing, a traditional union stronghold, union density fell from 35.5% in 1977 to 11.7% in 2006.

Wage Premiums, Wage Cycles, and Collective Bargaining

Labor costs are important in airlines, traditionally being the largest cost. Labor's share of total expenses reached a modern-day high of 37% in 2002, but had fallen to under 25% in 2006 (based on three quarters) owing to wage concessions and sharply rising fuel costs. Labor's share of costs is high in many industries. What is unique about the airline industry is the importance of unions in determining labor costs. Apart from several public or quasi-public industries, no other large US industry has union density approaching that of airlines. In much of the US private sector, wages and salaries are determined in relatively competitive labor markets. Workers are able to move across firms, large numbers of employers compete for able workers, and companies cannot remain profitable paying workers well above market rates unless high compensation is offset by high productivity.

Although hardly immune from market forces, airline labor markets differ from the US norm. What has emerged in airlines is a wage (and benefits) premium for their largely union workforce, in particular pilots. Wages are well above "opportunity costs" – the amount it would take to attract a sufficient number of qualified, trainable workers into the airline industry from what would otherwise be their alternative career paths. The size of the airline pay premium is far from fixed. Rather, there exists a union wage or "tax" cycle. Following relatively profitable periods, such as the late 1990s, unions "tax" corporate earnings and wage premiums rise. Following losses, as seen in the mid-1990s and again in recent years, unions provide contract concessions, sometimes under the threat of or following bankruptcy.

Union bargaining power in the airline industry is substantial because of the strike threat. A strike by a carrier's pilots, flight attendants, mechanics, or possibly other worker groups, can shut down all flight operations. Unlike consumer durable goods, transport services cannot be stored or shifted in time. Many customers can switch to non-struck carriers. Because shut downs are so costly, strikes are rare, but the threat of a strike gives unions the ability to capture wage gains for their members. Union density in the industry remains high following deregulation because this strong bargaining power makes organizing attractive to workers. A profitable nonunion carrier paying well below unionized carriers would likely be organized. What limits the size of wage settlements is employers' ability to pay, which is largely a product of the industry and carrier-specific product market environment.

Of course, worker pay does not move precisely in tandem with a company's ability to pay. Wages and benefits are determined through collective bargaining and long-term contracts, based not only on current economic conditions, but on expectations about the future. Contracts are not typically renegotiated when economic conditions diverge from expectations. But if financial conditions deteriorate substantially, a carrier may ask its unions for concessions. There is no guarantee that a company's union workers will accede to concessions, particularly if there is a history of distrust among the parties. In the "perfect storm" that hit the US airline industry in the early 2000s, this sluggish adjustment process was not fast enough. Adverse conditions faced by airlines included high contract wages taking force just as a recession hit in 2001, the September 11, 2001 attacks and an accompanying 20 percent reduction in flights, Internet pricing lowering carrier margins, increasing market shares of low-cost carriers, a stock market downturn destroying pension wealth, and, later, increasing fuel prices. US Airways and United entered bankruptcy protection in 2002 (and US Airways again in 2004); Delta and Northwest entered bankruptcy in 2005. American Airlines just avoided bankruptcy in late 2003 after receiving concessions from its unions. Since airline deregulation in 1978, American is the only major carrier from that era that has not entered bankruptcy, been acquired, or disappeared.

Wage Premiums in the U.S. Air Transportation Industry

Do airline workers receive wages above their long-run opportunity costs? If so, how large are these premiums, how do they vary by union status, and how do they differ across airline occupations? Below, I summarize a recent study of mine (Hirsch, 2007) that addresses these questions. It builds on earlier work by Hirsch and Macpherson (2000). One cannot provide precise or unambiguous answers to such questions. To do so, one must first agree on an appropriate methodology, in particular the choice of the comparison group with whom airline wages are compared. Second, there must be appropriate data to carry out the analysis.

My focus is a comparison of wages among airline workers with wages among "comparable" workers outside the airline industry. (I later discuss wage comparisons within the industry.) The critical question is how one effects a comparison between airline and non-airline workers. My work does this in two complementary ways. First, for each airline worker group (pilots, etc.), I select a group of non-airline workers who are roughly similar based on education and broad occupational category. Second, I use multivariate analysis, which statistically controls for detailed worker, job, and location attributes, plus an occupation skill index. The analysis allows one to compare the wage of each airline worker to wages for statistically similar workers in similar jobs. Stated alternatively, I create counterfactuals that measure opportunity costs – what airline workers might have earned had they pursued alternative careers. Method and data are described briefly in an Appendix and in full detail in Hirsch (2007).

The table below presents estimates of the percentage wage premium for each airline group, averaged over 1995-2006. The wage analysis shows that airline workers generally, and union workers in particular, realize substantial wage premiums. Across all union and nonunion airline groups the estimated wage premium is 15% – 25% among union workers and a modest 4% among nonunion workers. Focusing on the nonunion segments of the air transport industry, workers receive pay not far above opportunity cost wages, at least on average.

Percentage Wage Premium by Airline Worker Group and Union Status, 1995-2006

Group	Sample Sizes	All	Union	Nonunion
All Groups	4,192	15.4	24.9	3.7
Pilots	879	24.5	36.5	1.3
Flight Attendants	893	18.2	22.4	7.0
Mechanics	924	11.5	22.3	0.5
Fleet Service	293	11.2	21.9	0.6
Agents and Stores	1,203	10.7	17.1	5.8

Source: Hirsch (2007, Tables 1, 2). CPS comparison group sample sizes are as follows: pilots, 76,702; FAs, 278,593; mechanics, 36,419; fleet service,16,050; and agents, 14,682.

Union workers receive sizable premiums. Pilots receive an estimated 36% earnings premium. Consistent with a large wage premium is the presence of a large queue of able individuals, either already trained or willing to train and become pilots. Also supporting a pilot premium are extremely low quit rates, although the inability to transfer union seniority across carriers sharply lessens mobility. Absent seniority provisions, pilot skills would be readily transferable across employers. Union wage premiums are roughly 20% among the other airline occupations – an estimated 22% for flight attendants, mechanics, and fleet service workers, and 17% for agents and stores employees. The magnitude of these premiums is similar to economy-wide union wage premiums seen in the US private sector (Hirsch and Macpherson, 2007, Table 2a). Whereas the unionized private sector has steadily dwindled in size since the early 1980s, the same is not true in the airline industry.

The above comparison of airline workers to "statistically comparable" workers outside the industry is arguably the preferred approach to measuring airline wage premiums – the difference between wages and long-run opportunity costs. Wage comparisons within the airline industry are also informative. This can be done by comparing pay scales (nonunion as well as union) at similar levels of seniority across major, national, and regional carriers. Within-industry comparisons have the advantage of comparing workers with similar preferences performing similar tasks, but the disadvantage that all wages within the industry are affected by the broad presence of unions and the "threat" of organizing, Delta's nonunion wage scales providing the obvious example.

Pay reductions among major carriers stemming from actual and near bankruptcies have sharply reduced what once were large differences in pay between major and national carriers. However, a substantial difference remains between pay scales (measured at fixed seniority levels) at regional carriers versus pay at major and national carriers (Hirsch, 2007). Even were wages competitively determined throughout the industry, pay scales would be moderately higher at the majors than at regional carriers owing to somewhat different skill sets, for example, pilots flying larger planes and mechanics working on different types of equipment. But these differences in pay would be far smaller than at present. Rather than being heavily influenced by union bargaining power, pay difference would be determined by labor demand and supply. Wages for pilots and mechanics would be based on what it would take to attract and retain a sufficient number of qualified workers to fly and maintain aircraft of different sizes. For flight attendants and some other airline work groups, it's not at all obvious that higher pay would be required to attract and retain workers at major carriers than at regional airlines. Yes, some flight attendants would prefer working solo on small planes flying mainly short routes. But others would prefer working in teams on larger planes flying fewer routes. In short, current wage levels seen at regional carriers are generally sufficient to attract able workers and may be close to opportunity costs for the larger industry. The substantial wage differences between major and regional carriers that exist today would not survive in a more competitive labor market, one with a smaller union presence and substantial worker mobility across carriers, the latter an option that has value to employees as well as employers.

An Uncertain Future for the Airline Labor Market

Airline compensation and the concomitant financial health of carriers have an uncertain future. With the exception of Southwest and, more recently, Continental, labor relations in much of the US airline industry has been highly contentious. Nowhere is this truer than among the four legacy carriers whose wages and benefits have been ratcheted down via the bankruptcy process. The labor cost structure seen today in the industry is arguably one that permits most airlines to regain and sustain financial heath, particularly if fuel prices ease. Contractual wage scales that took effect in 2002-2003 were not sustainable then, and will not be sustainable in the foreseeable future.

What then does the future hold? Imagine two alternative scenarios. In scenario one, rank-and-file workers must adjust downward their expectations for future pay. Management, union leaders, and employees work hard to produce a functional labor relations environment and positive worker attitudes, at the same time maintaining the current pay structure. Even in scenario one, for reasons unrelated to labor costs, some airlines will grow while others will perform poorly. In scenario two, a hostile labor relations environment is present and airline unions pursue a 2002-2003 type wage and benefits structure, with a willingness to strike absent substantial gains. Carriers must accede to some of these demands, resulting in shrinking profits or resumption of losses, and little cushion to accommodate negative shocks. The most seriously affected carriers whither.

Based on past history, scenario one will not occur, even though it could produce a sustainable, relatively stable, long-run employment. Scenario two could well occur, but it is not sustainable given reasonably high levels of price competition in the product market. What we are likely to see is something in between these extremes, coupled with numerous product market shocks and innovations we cannot anticipate. How these future employee-employer interactions play out will be a critical determinant not only of how individual carriers fare, but also of the overall health of the US airline industry.

References:

This article describes research appearing in Hirsch (2007). The larger economics literature on airline labor markets is referenced here and in Hirsch and Macpherson (2000). All figures in the text on union membership are provided at the *Union Membership and Coverage Database*, http://www.unionstats.com, described in Hirsch and Macpherson (2003) and updated annually. US union wage premium estimates for the years 1973-2006 are presented in Hirsch and Macpherson (2007, Table 2).

Hirsch, BT (2007) "Wage Determination in the U.S. Airline Industry: Union Power under Product Market Constraints," in D Lee (Ed), *Advances in Airline Economics, Volume 2: The Economics of Airline Institutions, Operations and Marketing*. Elsevier, pp. 27-59. [Working paper available at: http://ssrn.com/abstract=941127.]

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Appendix - Airline Wage Premiums: Data and Methodology

I use data from the Current Population Survey (CPS), large monthly household surveys that are a joint project of the Bureau of Census and Bureau of Labor Statistics (BLS). The CPS provides information on workers' earnings, union status, occupation, and industry, inter alia. Wage premiums are estimated from the CPS for the years 1995-2006 in order to have a sufficiently large sample of air transport workers (n=4,192). Year-to-year changes in premiums cannot be estimated reliably. This period includes years where real (inflation-adjusted) airline compensation was relatively flat, followed by sharp increases, followed by concessions. Estimated wage premiums represent averages over this wage cycle. These results are effectively a weighted average across major, national, and regional carriers, plus air transport employees outside the airline industry.

Using CPS occupation and industry codes, I identify five air transport groups of full-time employees: pilots, flight attendants, mechanics, fleet service workers (baggage handlers and cleaners), and agents (gate and reservation agents and stores workers). The non-airline comparison groups begin with all non-student, full-time, wage and salary workers, ages 18 and over with at least a high school degree but no more than a master's degree (statistical analysis controls further for specific schooling, age, and other characteristics). The pilot comparison group restricts the above group to include only those employed in the Census occupational categories "professional and specialty" and "technologists and technicians" (excluding health). The flight attendant comparison group includes workers in the broad categories of sales, service, and administrative support occupations. The aircraft mechanic comparison group includes workers in all mechanic occupations, but employed outside the air transportation industry. Fleet service workers are compared to non-airline workers in the following categories: non-construction laborers; freight, stock, and material handlers; garage workers; washer-cleaners; and packers. The agents and stores comparison group includes non-airline workers in the following occupations: reservation and transportation ticket agents; shipping, receiving, traffic clerks; stock clerks and order filler; customer service representatives; other information and record clerks; and order clerks.

For each of the five airline and comparison groups, multivariate wage regressions are estimated, with the dependent variable the natural logarithm of average hourly earnings (including overtime). For pilots and flight attendants, average hourly earnings are calculated by diving usual weekly earnings by 40 and 36 hours, respectively, regardless of reported hours worked (see Hirsch, 2007, for discussion). The regression analysis includes control variables measuring education; potential experience (age minus years schooling minus 6), gender, race and ethnicity, foreign born, region, metropolitan area size, and year. An additional non-CPS control variable is an occupational skill index compiled by BLS, whose inclusion lowers wage premium estimates. For each airline group we obtain a log wage differential, which is an approximate percentage differential comparing airline wages to averaged airline and non-airline wages. Presented in the paper's table are wage premiums for each airline occupation group, shown jointly and separately by union status. The "All Groups" premiums are weighted averages of the craft-specific differentials.