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FORUM

BATTLE 2000: THE NEW JET ENTRANTS VERSUS THE REGIONAL PARTNERS?

Alan R. Bender

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An airline economics war that will determine the future pattern of air service in many U.S. short- and intermediate-haul markets is under way. The megacarriers are eliminating mainline jet service on these routes due to their high costs, inappropriate operational patterns, and restrictive labor agreements. To the dismay of many passengers, regional partner carriers are filling the voids by raising fares and replacing jets with "undesirable" turboprop aircraft. This paper investigates the problem's underlying causes and describes the looming battle between new entrant jet carriers and regional partner airlines for dominance in these important medium-size markets.

BACKGROUND

Deregulation's promise of efficient, low-fare commercial airline service has been, to date, only partially fulfilled, especially in U.S. second-tier markets. The proliferation of new entrant jet airlines in the early 1980s was followed by nearly as many bankruptcies. In addition, the well-known trunk, local service, and intrastate jet airlines that had survived the early deregulation years were themselves the aggressors, or victims, in a massive consolidation of carriers that erased the names of some of the most well-known jet airlines in North America (Western, Republic, Ozark, PSA, and Air Cal, among others).

By 1990, only a small number of deregulation-spawned jet carriers had survived (Jordan, 1995). More importantly, most U.S. cities were left without any unrestricted low-fare jet service, save the score or so cities in the southwestern United States served by Southwest Airlines. In fact, the situation in 1990 was so dire that the California State Senate seriously debated whether to sponsor a state-owned jet airline to return California intrastate ticket prices to reasonable levels ("California Senate Unit," 1990). This predicament was particularly ironic because successful and time-tested low-fare California intrastate jet service was a crucial

argument in the mid-1970s deregulation debate and the inspiration for the founding of Texas-based low-cost leader Southwest Airlines.

Although the California crisis was primarily precipitated by the acquisition of historically low-cost PSA by high-cost USAir, the problem was mitigated in a relatively short time by the major deployment of Southwest Airlines' equipment and other resources into the California intrastate market.

However, most other U.S. states and regions have not, until quite recently, been so fortunate; their low-fare services have waxed and waned along with the fortunes and, more typically, misfortunes of the new entrant jet operators. The abundant though now defunct startup carriers of the 1980s have been supplanted in the 1990s by a new generation of low-cost, low-fare airlines (Jordan, 1995). Many cities that lost unrestricted low-fare jet service in the late 1980s are again receiving flights from low-cost airlines. In fact, the competition in many markets has become fierce. In late 1994 American Airlines reported that it was competing with low-fare jet carriers in 40% of its domestic markets, up from 25% in early 1994 and only 8% in early 1993 (O'Brien, 1994). According to a 1994 study by the aviation consulting firm

Simat, Helliesen, & Eichner Inc. (SH&E), low-fare airlines were generating about 24% of the 200-400 mile market available seat-miles (ASMs) in 1994, approximately double their 1992 share (Moorman, 1994). For the nine-year period between 1985 and 1994, low-cost carriers increased their share of total (all markets) U.S. domestic traffic from 3% to 13.5% (Banks, 1994). The overall trend is unmistakable, portending, perhaps, a watershed in the deregulated air transportation industry.

Others have studied the counter-cyclical nature of startup airline activity (Harrat & Vasigh, 1994). This theory states that when economic conditions are poor, the public may be unwilling or unable to purchase full-fare airline transportation. The theory also claims that jet transport aircraft are easily obtained and relatively cheap to purchase or lease during economic downturns. Finally, the theory purports that since many commercial pilots are out of work during recessions, they may be willing to work for relatively low wages at unproven companies during such times. Conversely, the theory states that when economic conditions improve, the public will be more likely to purchase full-fare airline transportation; in addition, during such growth periods the supply of aircraft and pilots dries up. The result is the gradual demise of startup airlines during economic growth periods.

Although this hypothesis adequately explains the surfeit of planes, pilots, and startup jet airlines during both the early 1980s and the early 1990s (plus, the dramatic contraction in new entrant services in the late 1980s), it cannot account for the pro-cyclical pattern of the mid-1990s. Between 1993 and 1995 significant economic expansion was accompanied by tremendous growth in low-cost service by new entrant jet airlines (Jordan, 1995). Although only anecdotal evidence exists to explain this trend, there is a virtual mountain of non-scientific literature, virtually all pointing toward a secular change in air transportation's basic demand characteristics (Aviation Systems Research Corp. [ASRC], 1993; Banks, 1994; Bender, 1993; Phillips, 1994). The upshot is clear: In the budget conscious 1990s, neither leisure nor business passengers may be willing to pay any more than what they consider a very fair price

for an airline ticket, any airline ticket. With respect to travel for company business, the literature is replete with case studies of the thousands of U.S. companies that have cut middle management positions, begun close monitoring of company travel, entered into negotiations with airlines for the lowest possible fares, and purchased videoconferencing systems, all of which can severely cut air carrier revenues (Apogee Research Inc., 1994; Bryant, 1994; Raphael & Starry, 1995). It is worth noting that business travelers have traditionally accounted for 34% of the people flying on U.S.-registered airlines but an estimated 70% of passenger revenues (Stephenson & Fox, 1992). In the 1990s these percentages have apparently changed, and every major U.S. airline has gotten the message: reduce operating costs and therefore average fares or cease to exist.

It is interesting to note that few if any "experts" predicted the current situation as recently as five or six years ago. Warren Buffett's monumental 1989 investment in USAir is evidence of the prevailing and absolutely inaccurate wisdom at that time. One can only conjecture that had U.S. corporations not been forced to dramatically trim their expenses and operate their companies much more efficiently from approximately 1990 forward, then American, Delta, United, and others might have irrefutably won the deregulation battle with their well-documented late 1980s practices: mega-mergers, hub airport creation and monopolization, corporate ubiquity (servicing all 50 states), code-sharing, frequent-flier bonuses, commission overrides, and sophisticated computer reservations and yield management software. However, in the mid-1990s environment some of these practices have apparently been neutralized or otherwise successfully challenged by new competition, particularly in short-haul markets.

THE STATUS OF THE SOUTHWEST CHALLENGE
The outstanding financial performance of low-cost, low-fare leader Southwest Airlines during the recent economic downturn, when the U.S. airline industry as a whole lost nearly \$13 billion, is convincing evidence that a major jet airline can attract new passengers and operate profitably even in a shrinking economy. Equally noteworthy is that Southwest has been financially successful while paying its employees salaries competitive

with those of its larger brethren while also operating one of the newest fleets of jet airplanes in the airline business.

As has been reported in nearly every business publication in the United States, Southwest Airlines has consistently maintained peerless management-labor and company-customer relations. The Southwest model or variations of it are being cloned by new airline companies from coast to coast: from Shuttle by United and Western Pacific in the far West; to Vanguard in the Midwest; to Air South and Valujet in the Southeast; to Eastwind in the Northeast. In fact, these few names represent only a fraction of the Southwest-inspired carriers currently operating or in the Department of Transportation (DOT) application process. Clearly, the stimulus for this 1990s genesis of low-cost, low-fare air carriers is Southwest Airlines' outstanding performance against a backdrop of failed or precariously viable megacarriers.

Comparisons of operating costs among U.S. large jet airlines demonstrate that not only is Southwest the nation's lowest-cost major carrier (1994: 7 cents/ASM), but on short hauls (which comprise more than 90% of Southwest's routes), its competitors' operating costs (1994: about 10 cents/ASM) are more than 40% higher than its own ("Trends," 1995). Since the megacARRIER competition operates identical or near-identical equipment and, as it is generally acknowledged that short (under two-hour) jet flights are perceived by many passengers as commodity services, Southwest Airlines is selling soybeans at the same price as everyone else (Southwest's 1994 revenue per ASM was only 9% lower than the industry average) while paying approximately 40% less to grow them.

In the 1970s and 1980s this disparity was not identified as catastrophic for the "grandfather" airlines, perhaps because business people often acquiesced to paying whatever it cost to fly on a major airline from point A to point B and, in any case, Southwest Airlines was a limited niche player at the time. Overambitious expansion and/or shoddy service killed most of the other low-cost, low-fare, early deregulation-era carriers, including sizable People Express. Still, the 1990s business and leisure travel climate is apparently so different from that of the 1980s that the megacARRIER airlines need to

significantly lower their costs for short-haul operations irrespective of direct competition from Southwest Airlines or any other low-cost, low-fare jet carrier (Phillips, 1995). There is strong evidence today that for shorter trips many business people drive or do whatever else is necessary, including eliminating specific trips altogether, if they perceive air fares to be unjustifiably high (Rothman & Baker, 1993). Only in the 1990s have companies begun to seriously scrutinize business travel costs, which are typically a company's third-largest controllable expense after salaries and data processing (Bryant, 1994).

Although airline transportation is often characterized as a long-haul business (the average passenger trip length was 983 miles, each way, in 1994), a significant and recently growing proportion of airline travel is short-haul: In 1993, 14 of the 23 busiest origin and destination (O&D) markets in the contiguous 48 states were less than 500 miles each way (U.S. Department of Transportation [DOT]/Air Transport Association [ATA], as cited in Aviation Week Group, 1995). More recent figures (12-month period ending June 30, 1995) indicate that fully 48% of U.S. domestic O&D travel occurred in markets of 750 miles or less, each way (DOT/ATA, 1995). This is clearly due to Southwest's growth and the recent flurry of startup activity. The numbers portend further bad news for the high-cost majors.

By their own admission, the megacarriers are economically uncompetitive with startups in the provision of short-haul services. Yet their continued domination of medium- and long-haul traffic cannot be assumed either, even though high megacARRIER operating costs are considerably mitigated by long-haul flying. Southwest Airlines' Chairman and CEO Herb Kelleher recently estimated his company's ASM costs on routes of 900 miles at 4.6 cents, and 4.0 cents for 1,400-mile trips such as Phoenix-Nashville (Velocci, 1995). If accurate, these numbers spell additional headaches for the megacARRIER competition because their long-term cost goals (approximately 7 cents per ASM for flights in the 900-mile category) pale in comparison with Southwest's current (and very recently dropping) operating costs.

Nonetheless, it is debatable whether Southwest Airlines would be wise to introduce a significant medium-

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or long-haul schedule. That is because many airline passengers find real value in extras such as assigned seating, increased legroom, onboard meals, and first- or business-class options when the greater part of a day must be spent on an airplane. Currently, Southwest Airlines does not offer any of these extras. (On its short, one-hour flights these frills are rarely missed, even by business travelers.) In addition, Southwest's policy of offering the most daily flights of any airline in nearly every city-pair market it serves might be impossible to maintain in long-haul markets. For example, while a fleet of only two jets can provide continuous turnaround service (every 90 minutes) between two cities located one hour's flying time apart, it would take four jets to provide the same 90-minute headways between two cities located three hours distant.

According to Kelleher, Southwest has little intention of becoming a serious medium- or long-haul player (Velocci, 1995). Anyway, doing so would be a violation of yet another of Southwest's basic principles: to compete with the personal automobile, not other airlines. As there are relatively few people in the 1990s driving great distances for pleasure or especially business, there are few potential auto passengers to attract to a long-haul Southwest Airlines. Therefore, Southwest would have to steal traffic from other airlines or expand the market through low fares. Although Southwest could probably be successful at both, the fact that it would have very few auto passengers to capture would hurt its overall traffic potential in those markets as compared with its traffic potential in its traditional short-haul markets. In any case, Kelleher seems content to cherry-pick specific medium-haul routes that appear underserved by the other major airlines, such as Phoenix-Little Rock and Las Vegas-San Antonio. However, the very threat of a much longer-haul Southwest cannot be dismissed entirely, if only because of the Dallas-based carrier's phenomenally low costs and its reputation for near flawless reliability. No other major carrier can make those claims. Therefore, the megacARRIER airlines apparently have few sacred routes, at least on the domestic front.

PRELUDE TO BATTLE 2000

Given the current airline economic environment and the megacarriers' natural will to survive and prosper, the

stage is conceivably set for an unraveling of some or even much of the U.S. airline network. For the near term, the principal battleground probably will not be in long-haul markets since, as demonstrated above, low-cost airlines would have considerable difficulty amassing the planes, perquisites, and passengers necessary for competitive success against the big carriers. On shorter routes, however, even a small jet airline with just a few planes can represent real competition for a major airline in terms of both pricing and flight frequency. Typically, thousands of prospective passengers await the opportunity to be extricated from their automobiles and seated on airplanes if the price is right and the city-pair is of sufficient geographical separation and population size. Southwest Airlines' traditional market decisions and those of literally every one of its successful clones fit this model to a considerable degree.

How can the megacARRIER airlines with their much higher short-haul unit costs successfully compete? Here, too, the literature of the 1980s and early 1990s is replete with discussions of the strategic advantages high-cost large airlines have over low-cost small airlines, such as fortress hubs, generous frequent-flier bonuses, massive computer reservations systems, sophisticated yield management software, and travel agent kickbacks (Borenstein, 1992; Levine, 1987; Sorenson, 1991). Because both new entrant and megacARRIER short-haul flights must begin or end at or near a medium- or large-hub city for obvious economic reasons, the megacARRIER can cross-subsidize whatever losses it incurs in the local O&D fight with the startup through its beyond traffic, that is, passengers connecting at the hub to the megacARRIER's national and international networks. However, the effectiveness of these strategies appears to be of diminishing value in the austere 1990s due to significant cutbacks in corporate travel spending plus an explosion of low-cost new entrants and unprecedented growth at Southwest Airlines. So trapped, the megacarriers have no choice but to take drastic new measures, to be examined shortly.

THE ASCENDANCE OF THE REGIONALS

Thus far, there has been little discussion of the regional (formerly commuter) airline industry in the United States. This rapidly growing component of the national

transportation system has been expanding at well over twice the rate of the U.S. airline industry as a whole over the last decade, and today accounts for almost 12% of domestic enplanements (ATA, 1995; Regional Airline Association [RAA], 1995). It is not difficult to see why. Since 1988, the major airlines have transferred more than 65% of their routes under 500 miles to the regionals (Schmit & Ritter, 1995). Operating, for the most part, 19-, 30-, and 50-passenger turboprop aircraft, these low-wage, high-fare carriers are able to feed passengers to big airlines at mega-hub airports for a far lower cost per plane-mile than the majors can themselves. (More than 90% of regional carrier passengers connect to a major airline for some part of their journey [RAA, 1995].) Through the use of airline code-sharing agreements with major carriers, the regionals appear to offer seamless connections between small-town America and metropolitan America. Code-sharing agreements and their impact have been thoroughly examined in the literature (Oster & Pickrell, 1988).

Of course, the total cost of operating a 30-passenger turboprop aircraft between two cities, say, 250 miles apart, is about 50% less than operating a 120-passenger jet between those two places. (This illustration assumes typical 1995 operating costs: 18 cents/ASM for a 30-passenger turboprop operated by a regional airline; 10 cents/ASM for a 120-passenger jet operated by a very efficient megacARRIER airline.) Although the per seat cost for the turboprop is more than twice that of the jet, the fact that there are so few seats on the turboprop as compared to the jet means that relatively little discounting of the turboprop seats is necessary. Furthermore, when a turboprop aircraft is used to substitute for a jet, its much smaller capacity and higher per seat costs also mean that many local O&D passengers need to be shut out from the short-haul flight by high local fares (or little local seat availability) so that connecting long-haul passengers paying much higher total fares can be accommodated.

It is not unusual to find city-pairs where, over the last few years, five round-trip megacARRIER jet flights have been replaced by seven or eight round-trip regional carrier turboprop flights (or some combination thereof, such as five jets replaced by three jets and five

turboprops). American Airlines has instituted this type of operation in some medium-size markets in the Texas area (*Official Airline Guide*, 1989, 1992, 1995). Where this happens, flight frequency is often doubled while total capacity is typically halved. The greater flight frequency is potentially attractive to business people, for whom departure time convenience is important. Such is not the case for leisure and other discretionary travelers, however, because they cannot normally afford the high prices that must be charged for most turboprop seats. This shutting out of local and discretionary travel is an economically justified practice because of the high per seat operating cost of turboprop aircraft, but one has to wonder about its efficacy. Indeed, as Southwest Airlines is able to continue providing very profitable, low-priced jet service in the relatively large Texas markets (Lubbock-Dallas and Midland/Odessa-Dallas, for example) from which American Airlines pulled its jets, it is logical to infer that something is curiously wrong in the airline transportation business, something beyond the realm of straight economics.

Two points require clarification, however, before the looming conflict can be fully explored. First, the overwhelming majority of regional carrier routes are not suited to jets: neither 1990s-era 50-passenger regional jets nor 1970s-era 120-passenger Boeing-type jets. These regional markets, as noted earlier, are predominantly short-haul routes connecting small-town America with large hub airports/cities. The automobile represents extremely intense competition in these markets because the distances involved are so short and/or the spoke cities so small that only a high frequency schedule of flights has any chance of pulling potential regional airline passengers from their cars. Note, too, that the equipment must be relatively small not only because the spoke cities are second- and third-tier places, but also because a massive schedule of departures is necessary in order to be competitive with the automobile. (One can easily drive most regional-type routes in three or four hours; in comparison, the airplane option involves about 55 minutes of flying time, plus driving time to the airport, for a total journey time of approximately two hours.)

Using large airplanes for such high-frequency service would generate far more seats than the market could

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absorb. The cost per seat for this very frequent, small aircraft service is, again, very high, around 18 cents per mile; average fares are, of course, even higher, approximately 40-45 cents per mile (Brooks, 1992). Clearly, anyone in such a hurry to travel a very short distance to save so little time is someone for whom time is quite valuable, typically a business person. Fortunately, since more than 90% of U.S. regional carrier passengers connect at hub cities to major carrier jet flights, the high prices of their regional airline legs are prorated over the total cost of their tickets; this mitigates somewhat the pain of the short but expensive regional flights. Still, for most of the deregulated era the majority of passengers using the regionals have been business people, whereas the majority of passengers flying the majors have been traveling for leisure or discretionary purposes.

The potential conflict arises because regional airlines' average trip length has increased significantly over the last 10 years: from 160 miles in 1984 to 210 miles in 1994 (RAA, 1995). This means, logically, that one-half of all regional flights are longer than 210 miles. In comparison, Southwest Airlines' average segment was about 375 miles in 1994 (Velocci, 1995). This means that half of Southwest's flights are less than 375 miles each way. The potential conflict is manifest not simply because the regionals are now flying some Boeing-type distances, but, more importantly, because they are flying these longer routes between their hub airports and more and more medium-size (not small) cities (Fresno-Los Angeles, Des Moines-Chicago, Portland (ME)-New York City, Syracuse-Cleveland, Wichita-Dallas, and so on). The major-to-regional hand-me-down route practices of the last 10 years may be reaching an untenable state of affairs.

The second and related point: Much has been written recently on why the megacARRIER airlines are so inefficient in providing short-haul jet service while Southwest Airlines and its clones are able to do the job cheaply and efficiently (Kling, 1993; Kling & Smith, 1994). Indeed, the major airlines have been termed dinosaurs and dysfunctionals by renowned analysts nationwide (ASRC, 1993; Banks, 1994). The reasons are numerous, but the relevant arguments include the over-reliance on hub-and-spoke route systems (and their many implications, to be

discussed shortly), possession of far too many different types of jet aircraft, offering a higher quality of service (Macy's) on short trips than the public desires (Wal-Mart), and archaic work rules. The problem is most acute for short trips because it is difficult to tack all of the megacARRIER inefficiencies onto the price of a presumably cheaper ticket. The megacarriers engage in this latter practice, anyway, but are foiled whenever a low-cost airline enters the market.

Again, the recent flood of low-cost jet airlines into the marketplace is apparently such a threat to the majors that they appear to be handing over routes to their regional partners almost willy-nilly. As noted earlier, when a regional inherits a route it tends to focus on connecting traffic because it cannot compete for large numbers of local O&D passengers due to its very high per seat costs. However, the regional has so few seats to sell that it does not have to compete for very many of the local passengers, anyway. The problem is that the regional carriers operate aircraft models (medium-size turboprops in the types of markets under scrutiny) that are demonstrably inferior to the kinds of aircraft (pure jets) operated by even the lowliest of low-cost startup airlines: inferior in comfort, inferior in speed, and inferior in per seat economics (Regeski, 1995).

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The megacarriers' hub-and-spoke systems are expensive to operate but provide the flying public with frequent, convenient connecting service between literally every pair of metropolitan places in the United States as well as between many smaller city-pairs. As described extensively elsewhere, the major problem with this mode of operation is that aircraft must sit idle at hub airports for 50-60 minutes each time they land in order to provide boarding passengers coming from scores of other planes with convenient, guaranteed connections (ASRC, 1993). Obviously, planes and flight crews are totally unproductive sitting at airport gates. The cost is quite significant, therefore, whenever a jet has to transit a connecting hub city more than once a day. For a predominantly short-haul hubbing airline like USAir, the costs can be immense. Additionally, the expense of leasing dozens of airport gates that are used only once every hour or two is not insignificant either. Combine

this with the alternating peaking and ebbing of ticket counter, gate agent, and other requirements, and a very expensive system has been created.

The opinion of many industry analysts is that passengers, especially business passengers, were willing or able in the 1980s to subsidize this convenient though expensive system by paying relatively high fares. In the 1990s, this may no longer be the case. Moreover, it is evident that the airline industry engaged in excessive hub building in the 1980s, exacerbating the problem. (Many of these secondary hubs have since been closed or handed down to regional partner airlines.)

The continuous hubbing approach Southwest Airlines takes is altogether different. By providing frequent flights in literally every market it serves, Southwest offers reasonably good connections as a byproduct. Flights are not scheduled to depart or arrive at the same time. If they do, fine. If not, connecting passengers may have to wait one hour, perhaps two, to catch their ongoing flights. Southwest's primary goal is to keep ground time to a bare minimum: 20-25 minutes maximum.

Therefore, purposely coordinating flights is actually undesirable. A passenger who traveled on Southwest Airlines from, say, Sacramento to San Antonio in mid-1995 would likely have had to transit Phoenix (*Official Airline Guide*, 1995). Assuming a Sacramento departure on the early morning Phoenix nonstop, the San Antonio-bound passenger would have had to wait two hours in Phoenix for the best nonstop connection to San Antonio. If, however, that Sacramento originating passenger's destination were Kansas City, the connecting time in Phoenix would have been only one hour. In comparison, the banked hub-and-spoke systems of the megacARRIER airlines literally guarantee 45-60 minute connections between any two cities; however, this very convenient type of service comes at a price that, especially for shorter trips, many people are no longer willing to pay.

Some analysts have suggested that megacarriers such as American Airlines operate hybrids of banked and continuous/turnaround connections at their large hub cities (Jennings, 1993). They would work something like this: On dense, short-haul routes such as Dallas-San Antonio and Dallas-Houston, American would operate

continuous, quick turnaround (Southwest Airlines-style) jet service to maximize aircraft use and overall efficiency.

On less dense, long-haul routes into Dallas from medium-size cities such as Dayton, Hartford, and Reno, American would continue operating banked flights (aircraft use on long-haul services is by definition high). In theory, the Reno-San Antonio passenger could continue to receive adequate Dallas-connecting service even though Dallas-San Antonio planes would no longer be specifically banked to meet Reno-originating flights. This is because flight frequency in markets such as Dallas-San Antonio needs to be very high, anyway, due to local O&D demand. However, analysts at American Airlines and the other megacarriers have historically argued that simultaneously operating both banked and continuous/turnaround flights at hub cities may not work, even at the busiest of hubs; the mixing and matching, they say, would undermine the synergies associated with tightly timed feeds (Jennings, 1993). On the other hand, the analysts at Aviation Systems Research Corp. feel it is a viable way of lowering hub-related costs (ASRC, 1993).

It is worth noting, however, that United Airlines' new (1994) low-cost Shuttle service operates rapid turnaround flights, essentially Southwest Airlines-style continuous hubbing, in its West Coast service area. Regardless, events appear to be moving toward an untenable state because everyone is scrambling. New entrant airlines continue to appear on a regular basis, and while a few come and go, the majority are gradually expanding and eating away at megacARRIER yields. The big airlines, as noted earlier, are not standing still. They are making major cuts in their management payrolls, accelerating the transfer of short-haul routes to their regional partners, and streamlining their fleets of aircraft; the question is, are they making the correct changes? If so, are they making the metamorphoses quickly enough?

Of particular relevance here, however, are some controversial actions that may portend an all-out airline economics war. In the West, American Airlines transferred its San Jose hub to new jet entrant Reno Air in the recent past. Importantly, Reno's short-haul available seat miles (ASM) costs are dramatically lower than American's and are in fact only slightly higher than Southwest's ("Trends," 1995). American Airlines is able

to indirectly maintain a corporate presence on north-south Pacific coast routes through the coordination of scheduling, frequent-flier programs, and gate proximity with Reno Air. In the East, American is using the same formula with Midway Airlines, whose ASM costs are 35% lower than American's, at American's former Raleigh-Durham hub (Chandler, 1995). A similar program may follow at American Airlines' other weak (though still operational) hub, Nashville.

The farming out of megacARRIER markets is nothing new; the regionals have been inheriting these routes for decades. What is revolutionary is the transfer of relatively high-traffic markets, especially since the farmed out routes are being earmarked for low-cost, low-wage partner regionals and startups. This means that prestigious pilot jobs, and other positions as well, are being removed from large unionized airlines and handed to generally non-union partner airlines. Major carrier employees are not happy. However, American Airlines' management claims that to compete with the likes of Southwest, many short-haul routes must be moved to regionals and startup jet partner carriers. This is a debatable point, however, because the megacarriers are grossly inefficient on even their medium hauls when compared with Southwest Airlines. Because American's salaries are on average no higher than Southwest's, and as American's flight crews say they are willing to operate turnaround-type service similar to Southwest's, American's management has to take much of the responsibility for the company's dismal performance while Southwest was making handsome profits (ASRC, 1993; Babbitt, 1994). Of course, some airline managers state that the extra expenses associated with hub-and-spoke systems more than pay for themselves through high-yield connecting and local O&D traffic. The upshot, though, is that these systems did not work successfully for the megacarriers in recent years, especially for shorter flights operating to and through the hubs.

The widespread, unprecedented abandonment of short-haul routes by the major airlines to adjust to the travel environment of the 1990s and to be competitive with low-cost airlines has taken many forms. As detailed above, American Airlines has already farmed out its medium-to-high density short-haul routes along both

coasts to new jet airline companies with no corporate links to American Airlines or its parent corporation, AMR. At the American Airlines mega-hubs in Dallas and Chicago, American has accelerated its transfer of routes to its AMR-owned regional turboprop partners. For the first time, however, many of these Dallas or Chicago transferred markets (for example, Dallas-Wichita), are unquestionably jet-appropriate routes. American should probably not be engineering the downgrading of service to important medium-size cities. Although most of the economic reasons for this substitution were discussed earlier, one very important element, perhaps the most critical factor in these decisions, relates not to the economics of turboprops versus jets, but to the scope clause in American Airlines' contract with its jet pilots.

A scope clause is written to ensure that the work unionized employees do is owned by the employees; in other words, scope clauses are written to prevent management from going out and finding non-company employees (who may be willing to perform the work for less compensation) to do the in-house work. The scope clauses in airline pilot contracts specifically address what kind of work may be carried out by other companies, such as regional flights to/from small communities and, more importantly, what types of work cannot be farmed out. Among the megacarriers, all are restricted by their pilots' contracts from shifting the operations of large aircraft (more than 70-90 passengers) to partner (code-sharing) regional airlines. Some contracts also restrict code-sharers from operating any and all pure jet equipment, even small 50-passenger regional jets (Flint, 1995; Lewis, 1994). American Airlines circumvented the scope clause in its pilots' contract when it transferred its San Jose and Raleigh-Durham routes to wholly new airline companies. However, as neither Reno Air nor Midway Airlines has any corporate connection with American Airlines or AMR, the new airlines simply moved into their respective new hubs when American pulled out; the marketing and frequent-flier ties followed. Thus, the routes under scrutiny (San Jose-Seattle, Raleigh-Boston, and many others) were never, and could never be, because of American's contract with its pilots, formally transferred to the jet startups. Thus, American successfully dodged the scope clause in its pilots' contract

with an ingenious tactic.

The other megacARRIER airlines are using different strategies to deal with their short-haul economic and labor problems. United's Shuttle, as noted earlier, inaugurated Southwest Airlines-style Boeing 737 quick turnaround service on the West Coast in late 1994. While United's management proclaims that the new operation is financially successful, Southwest's chairman has stated that his carrier's costs are still far lower than the Shuttle's (Velocci, 1995). In any case, as nearly one-half of Shuttle by United's passengers are connecting travelers, the Shuttle and Southwest are not completely comparable. Of note is the fact that along with participating in the recent employee buyout of the airline, United pilots agreed to allow the new airline within an airline to operate Boeing jet equipment. There are, however, restrictions on how large the Shuttle can grow as compared to big United. That is because Shuttle by United pilots fly more hours and are paid less money than their counterparts at big United; they therefore represent a threat.

Delta territory, however, is where Battle 2000 may begin. As Delta Air Lines' scope clause in its pilots' contract does not restrict code-sharing partners from operating small jet aircraft, regional jets in Delta colors were literally crisscrossing America from north-to-south and east-to-west by mid-1995 (Flint, 1995). Operating out of Cincinnati and Salt Lake City, respectively, Delta Connection partners Comair and SkyWest are flying significant fleets of 50-passenger Canadair Regional Jets on long, thin routes such as Omaha-Cincinnati (Comair) and Eugene-Salt Lake City (SkyWest). In the Northeast, Delta Connection's Business Express is using three 70-passenger BAe/AVRO RJ70 jets to ferry passengers to Delta's New York (JFK) hub. Although these flights represent merely a small fraction of former Delta mainline routes, they are apparently a precursor to the acquisition of a sizable fleet of medium-size jets by the largest of Delta's code-sharing partners, Atlantic Southeast Airlines (ASA) (Lewis, 1995). Is it the intention of ASA to merely add seat capacity to some of the very busy short hops into Atlanta from cities like Birmingham (134 miles) and Chattanooga (105 miles)? Or, is it ASA's (read: Delta's) intention to make an

attempt to compete head-to-head with low-cost jet startups such as Valujet on routes such as Atlanta-Jacksonville (277 miles)? With ASA's very trim wage and overall operating structures (compared with partner Delta or any megacARRIER airline), a jet-equipped ASA might be able to deliver a punishing or even fatal blow to all Atlanta-region new entrant competition, including the much vaunted Valujet.

Of course, the pilots at Delta Air Lines are vehemently opposed to the transfer of any sizable Delta routes to a low-wage regional carrier planning to use medium-size jets to replace somewhat larger Delta jets. As far as Delta pilots are concerned, management would be violating the scope clause of its contract by such an action. Perhaps it is merely the intention of Delta management to intimidate its pilots (through actual and/or threatened large-scale jet operations at ASA, Business Express, Comair, and SkyWest) into agreeing to the wage and work-rule concessions necessary for starting an Atlanta-based Delta branded replica of Shuttle by United.

From a wider perspective, Delta management's negotiations with its pilots may not bode well for new entrant jet airlines or the public at large; both would appear threatened by a corporate metamorphosis resulting in a much stronger Delta Air Lines. There are some analysts who say the days of scope clauses in airline employee contracts are numbered (Lewis, 1994). What can be said with absolute certainty, however, is that more and more moderately dense short- and medium-length routes are being farmed out to regional partner airlines that are lean operations paying relatively low wages; indeed, the pace of such route transfers is accelerating. It is also true that regional airlines are increasing their ownership of pure, although smaller, jet aircraft.

Is it conceivable, therefore, that in the near future the megacARRIER airlines will have so supplied their low-cost partners with routes and, indirectly, equipment, that the partners will be used as weapons to eliminate new startup competition?

CONCLUSION

It would be naive to make the assumption that the grandfather airlines are willingly sacrificing important short- and medium-haul, medium-density markets to the

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new jet entrants. Still, it is not difficult to come to that conclusion given the tremendous strides new low-cost jet carriers have made in the last half-decade amid a massive retreat by the grandfather airlines. The latter's required replacement service invariably translates to turboprop equipment: nice airplanes, but ill-suited in every competitive way to the task at hand. This insult to cities such as Fresno, Jackson, Midland/Odessa, Portland (ME), Syracuse, Wichita, and scores of others is the bread and butter of jet startups coast to coast.

MegacARRIER management is not unaware of these facts and is likely quite cognizant of the ill will conveyed to some of its best customers when it pulls its jets from medium-size cities. Today's lost Fresno-Los Angeles customer is tomorrow's lost Fresno-Frankfurt passenger.

To remain competitive, the megacarriers must find some way of operating on a level playing field with the

masses of low-cost jet entrants. Some say it is already a lost cause; it is simply too late for the retreating dinosaurs. However, there is considerable evidence indicating otherwise. It is becoming apparent that the grandfather airlines are advancing, although cautiously, by entering into partnerships with selected independent startups, such as Reno Air, creating low-cost subsidiaries in their own organizations (for example, Shuttle by United), and, perhaps most importantly, artfully negotiating with their pilots' unions to relax scope clauses prohibiting regional code-sharing partners from operating medium-size jet equipment. Once the co-opting of selected startup airlines and the renegotiating of scope clauses are complete, the megacarriers may well possess sufficient low-cost ammunition to destroy new entrant jet airlines at will. □

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