

Looking Back and Ahead: The Future of the US Domestic Airline Industry

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The U.S. Airline industry has reached a crossroad. The legacy network industry has managed to reach new heights of suspense in its *Perils of Pauline* history, and has never been in more difficulty. It is tied to the track, the train bearing down on it is getting bigger and faster and the actions it takes in the next couple of years will determine whether it lives or dies. Whether it lives or dies will determine the shape of the future of the US industry, and to the extent that the US serves as the paradigm for deregulated markets abroad, a significant part of the world.

Let's look at the facts: Two of the remaining six large hub-and-spoke carriers, United and US Airways, either are in or have just emerged from reorganization in bankruptcy. US Airways, which recently emerged from bankruptcy, managed after its restructuring only to break even in the second quarter of 2003, and is widely regarded by industry analysts and observers as still being very fragile financially. United, in bankruptcy, has delayed its emergence and is setting corporate cost targets for the next few years that would reach the best current levels of the legacy network carriers, none of whom are expected to make a profit for 2003 and all of whom are facing a competitive environment that will continue to intensify. Some will just eke out an operating profit for the third, and best, quarter of the year. This is clearly not a recipe for long-term viability.

Of the airlines not in bankruptcy, American continues to lose cash and is burning through its liquidity cushion. Many think that it will be forced to file bankruptcy in order to reorganize. In any event, it cannot sustain operations in its current mode under any reasonable industry environment assumptions, even if its currently projected cost savings are taken at face value. Delta will lose cash for 2003, but at a lower rate and with a bigger cushion than American, but is also nonsustainable in its current mode. Continental and Northwest are cash positive now on a 12-month basis and may manage an operating or small net profit in their strong quarters, but they will continue to make annual net losses unless the competitive environment improves dramatically instead of intensifying. They cannot meet their contractual obligations and are not sustainable under any but the most favorable industry projections, which in my opinion are unlikely to come about. The legacy network carrier likely to post the best results (Continental) has been through two bankruptcies and has the lowest labor cost/revenue ratio of the group (actually competitive with Southwest's). Even with these "advantages" it is not earning its cost of equity capital.

One might object that third quarter RASM has improved very substantially, making this pessimistic picture unrealistic. But look at the components of the improvement: dramatic capacity reductions (around 500 domestic network aircraft are out of service and

many others are operating at reduced utilization) have raised load factors to levels not seen since World War II and the loss of “excess” seats forced some leisure fare levels up. The loss of leisure travelers has slightly improved fare mix even as total revenue has declined. Network RASM improvement is virtually all in the denominator, not the revenue numerator. Network capacity reduction has created an opportunity for LCC’s who have replaced some of the capacity withdrawn. Expanded competition from LCC’s continues to drive business fares lower. Continuation of these “positive” trends will create a “black hole” for the legacy network industry. To paraphrase Pyrrhus, a few more victories like this and the legacy network industry will be lost.

And if this isn’t bad enough, the legacy network industry faces further challenges:

- An economy whose recovery is fragile.
- Continuing, probably permanent, resistance to its historic pricing model.
- Desperate manufacturers and an enormous capacity overhang of underutilized or parked aircraft and whose introduction into service would not increase overhead, meaning that the cost of capacity expansion is at historic lows.
- High fuel prices, likely to remain high until the situation in Iraq stabilizes.
- Risk of further terrorist events producing sharp traffic drops or additional fleet groundings and the continuing costs of defense against terrorism.
- The traffic-suppressing effects of traveler inconvenience and tax expense from security measures.
- Additional conflict in the Middle East.

All these events will cause continued margin erosion, even if legacy network airlines reduce costs as projected. This margin erosion will accelerate and become embedded because the LCC’s and their pricing are expanding rapidly. Their offerings are now reasonably accessible to around 75% of domestic passengers, a proportion that will increase as LCC route systems continue to expand and will be taken up by more passengers as LCC capacity expands to accommodate them.

Look at the facts. In contrast to the shrinking and unprofitable legacy network carriers:

- Southwest is growing rapidly. As of May, 2003, it is chosen by more domestic passengers than any other airline and is now nearly as big as Continental in RPM share. It is profitable, financially strong and growing. It has a very large domestic route system, mainly deficient in the Mid-Atlantic, Southeast (excluding Florida), and Upper Midwest regions.
- Jet Blue is growing very rapidly, is very profitable and has virtually eliminated transcontinental profits for network carriers.
- Air Tran is growing rapidly and has recently been cited in surveys as offering particularly good value to business passengers.
- America West has adopted an LCC pricing model. Its market share is growing and it is profitable (barely). It is the largest hub and spoke LCC.

ATA, Frontier, and Spirit are expanding capacity to varying degrees and are all profitable on an operating basis. ATA and Frontier were profitable on a net basis in the 2nd Quarter of 2003, when no historic network airline was.

LCC market share is now about 25% of domestic tickets sold and expanding rapidly. Its growth coupled with historic network contraction means that LCC capacity share has grown 50% in the last two years.

Where do we go from here? To help answer that question, let's start by looking at how we got here.

The pattern is now recognizable and has been straightforward. It follows the most important of the predictions made at the time of deregulation 25 years ago, even though the scenario has played out more slowly and many of the details are different from what was predicted. Removal of entry barriers and fare regulation has allowed competitive challenges to legacy network carriers. These carriers made contractual commitments under regulatory protection that don't allow them to compete with airlines unburdened by these legacy commitments. These commitments include labor contracts that in turn influenced fleet and network decisions that influenced infrastructure commitments. None of these is sustainable as the competitive environment moves at an accelerating pace toward a new equilibrium.

The process took a lot longer than predicted, because (unsurprisingly, in retrospect) the "dinosaurs" didn't give up easily and proved surprisingly resourceful and resilient in the face of low cost new entrant competition. Over the years, they developed hub and spoke systems, frequent flyer programs, alliances, differentiated price structures, corporate discounts, travel agent incentive programs, revenue management programs and computer reservations systems. All these devices created and reinforced economies of scope, creating genuine networks (as opposed to CAB-designed "route systems") and the tools to manage them and extract maximum competitive advantage from them.

The networks they created had genuine value to passengers, which is why the historic network carriers were able to hold out so long. They enhanced a traveler's ability to go from an airport near her origin to an airport near her destination many times a day, even in airport pairs that exchanged only a few passengers a day, and to do so inside a system with routines they understood, single-point accountability and (especially for leisure passengers) at fares lower than those that could be charged in a less comprehensive system with a less differentiated price structure. The business passengers who made up most of those who were charged more for the use of this system got their money's worth from it in terms of go-anywhere, go-anytime convenience.

Most of the elements of this system were created to withstand the waves of assault by LCC's (PeopleExpress, New York Air and many others) that were launched from 1981 through 1986. Only Southwest, a pre-deregulation intrastate carrier, survived. A second assault (Reno Air, Midway in its second and third incarnations, Valujet/Airtran, Spirit, etc.) occurred in the post 1992- period, was faltering by 1998 and was rescued only by dramatic revisions in the network airline price structure that started in 1999.

This formula worked for the legacy network airlines for twenty years. They were able to earn revenues adequate to cover their historic costs, at least in good parts of the business cycle. Loyalty programs (including frequent flyer programs, corporate discount programs and travel agency incentives), plus the travel agent's near-monopoly over the customer-airline information interface, kept the convenience-oriented business traveler tied to network airlines, and continuing competitive scope expansion cemented convenience-based choices and created the perception of value. Price-oriented travelers were effectively kept from taking full advantage of network convenience by a variety of conditions put on low fares, but the fare levels offered were enough to keep network carriers competitive with LCC's for all travelers except those travelers who required flexibility but not necessarily convenience and were price-sensitive. Only in dense point-to-point markets were LCC's fully competitive, and then only if they were willing to mount very frequent service. For much of its history, this was Southwest's *modus operandi*.

How did this make the network carriers vulnerable? Scope competition encouraged fleet commitments to service the expanding network. Fleet costs tended to have a large long-lived fixed component, especially as the tax-advantaged long-term operating lease became the dominant mode of aircraft finance. In addition, the highly differentiated fare structure plus pilot wages based on aircraft size meant that relatively few business passengers could pay most of the higher unit costs of relatively small aircraft (mostly 80-110 seaters in the period we are discussing). Passengers paying very low restricted fares filled the large number of otherwise-empty seats. In the same way, hub and spoke systems and highly differentiated fare structures allowed the use of quite large aircraft on domestic systems. These aircraft had high fixed costs but low unit costs. Larger hubs and more differentiated fare structures required larger terminals, more massive IT systems and more refined revenue management systems. All these investments represented either sunk costs or long-term contractual costs that were relatively volume-insensitive, or both.

Finally and most important, unit cost reduction through capital investment, system expansion and labor price differentiation provided partial anesthesia for the pain inflicted by a labor cost structure that was a holdover from the pattern bargaining and cost-plus rate setting of the regulated era. This system was maintained by the vulnerability of airlines to strikes by licensed and technically skilled people who were very difficult to replace due to the carrier specific requirements of safety regulation. As long as the airlines could find strategies to increase unit revenues and as long as labor remained flexible enough to make some adjustments for bad times, airlines could survive more and more costly contract commitments that became more like fixed costs in their environment and pulled their costs farther and farther away from those of LCC's. The stage was set for catastrophe.

The catastrophe started with yet another round of fixed or quasi-fixed contract commitments after the network airlines had recovered from the near-disaster of the 1990-1993 period. Airlines bent on scope competition placed another large round of aircraft

orders, expanding their hubs and their systems in an effort to attract high-yield business passengers. They bought both larger and smaller aircraft to service the dense spokes in their hubs and to add “thin” spokes (often operated by affiliates who facilitated labor cost differentiation). These aircraft were financed through operating leases that became less and less renegotiable outside bankruptcy as they were based on tiered public debt instruments.

Legacy network airlines also invested huge sums of money in IT systems designed to support revenue management systems, sophisticated hub management and a host of other functions. To compound the effects of these decisions, each airline insisted on customizing its aircraft and having its own IT platform. There also was heavy investment in CRS systems because airlines that were not at least part owners or could not use their previous ownership to capitalize and contractualize their advantages were at a competitive disadvantage to those who were. As traffic expanded in the economic boom of the 90’s, investment in terminal and maintenance infrastructure seemed necessary. Fixed indebtedness soared. The volume-insensitive cost burden of running a legacy network airline became very large indeed.

Unions that had offered givebacks or restrained themselves in the 1990-93 period came back to the table as network airline profits were hitting record levels. A series of labor settlements in the 1995-1998 period raised airline unit costs substantially and reduced airline flexibility to adjust them in down cycles.

Legacy network airlines became more and more desperate to find the revenue to cover these ever-ratcheting fixed costs. Continually increasing capacity in or adding markets where demand fluctuated by day of the week and season of the year meant that there were more and more “byproduct” seats for sale, so fares to price-sensitive travelers couldn’t be raised. The beneficiaries of expanded networks and frequency were business travelers and fares charged them started to rise in the 1997-98 period and then rose spectacularly in the 1999-2001 period. Walkup fares reached levels heretofore thought beyond fantasy (at or above *taxi* fares in many markets!). Higher and higher business fares supported more and more network expansion since as few as eight or ten full-fare passengers (if you could find them) would pay all the costs of a regional jet trip, and as few as fifteen might pay all the costs of a small mainline jet.

The impact of these developments was masked as the economic boom of the nineties turned into the economic bubble of 1999-2000. Dot-commers and their lawyers and investment bankers would pay almost anything for a ticket and even mere mortals employed by companies making record profits rarely were pressed hard to economize on travel costs.

LCC’s had always competed effectively for price sensitive leisure travelers. But they lacked the richer fare mix achievable by selling tickets to convenience sensitive business passengers. This limited their growth and made survival difficult. Fare decisions by the network carriers cured this problem for them. The percentage of passengers paying fully flexible fares shrank slowly from the late eighties on as flexible fares slowly rose and

business passengers shifted to restricted fares. Meetings were rescheduled for weekends, back-to-back ticketing became attractive as two or more restricted tickets came to cost less than one flexible ticket. Business passengers remained tied to the legacy carriers by scope and scope-reinforcing devices (frequent flyer programs, corporate discount programs, etc.).

But after February, 1999, flexible fares (by then three or four times restricted fares) rose by about fifty percent in two years. Even in the middle of the bubble, business travelers began looking for alternatives. The legacy carriers tightened restrictions in response. Flexible fares rose to levels five or six times restricted fares. These moves created a strong incentive for many to look elsewhere and a price umbrella for LCC's to accommodate them. LCC's could live well off walkup fares that were one-third or one-fourth prevailing network unrestricted fares. The LCC's began to expand as their unit revenue improved. The more they expanded, the more scope and frequency they had and the more convenient they became to more travelers. Their revenue mix improved further. They expanded even more rapidly.

Then the economic bubble burst. Many of the network airlines' best customers were unemployed. If they were flying, they were watching every penny. Businesses laid off workers and monitored travel closely. LCC's found new customers and the virtuous cycle (for them!) accelerated, producing unprecedented growth. For network carriers, the cycle was vicious. Unit revenue collapsed and unit costs soared. Fewer people were traveling and watching every penny as their bubble-negotiated labor contracts came into force, their bubble-ordered aircraft were delivered, starting the lease-payment clock, and as the bubble-initiated maintenance and passenger infrastructure came on line and bond payments started. And all this started happening BEFORE September 11.

September 11 was the coup de grace. Travelers became reluctant to fly, and had to be coaxed with price. Volume went way down, forcing network carriers to shrink. Unit costs were forced up for airlines that had to shrink, as fixed commitments couldn't be reduced commensurately and had to be spread over a smaller base. Variable and fixed security costs soared. As network airlines reduced and simplified their systems and decontented their product to get costs under control, the LCC convenience disadvantage narrowed or disappeared and their comfort disadvantage narrowed or disappeared as well. JetBlue's stylish product came on the scene and Airtran offered business class service at below coach prices. As the cycle continued, LCC market share grew both because their traffic numerator was growing and the industry denominator shrank with the network system.

Network airlines desperately tried to renegotiate their commitments, but labor balked. (It's as hard for labor leadership to keep their jobs while cutting member compensation and raising productivity as it is for politicians to run for office promising sacrifice. Churchill managed to accomplish it, but even he got thrown out right after the war!) Aircraft lenders were locked in by tiered arrangements, public debtholders and tax liabilities. Infrastructure was embarrassingly permanent and immobile and the public entities that had built it were not able politically to finance shortfalls.

So that's where we are today. Network airlines have continued to make heroic efforts to cut costs, but the cycle continues. Unable to restructure outside bankruptcy, US Airways and United have filed for Chapter 11 protection to force restructuring. AMR is teetering on the brink, Delta has been unable to restructure its labor or fleet costs and is going through its cash cushion. CO is buried in aircraft with non-renegotiable financing and NW has nonsustainable labor contracts and also has mostly publicly held, tiered aircraft financing.

As the difficulty of lowering costs becomes apparent, managements try to move the goal posts toward them, whether their efforts are supported by reality or not. Efforts to temporize by setting up leisure-oriented low-fare subsidiaries do not deal with the fundamental problem. Neither do bankruptcies, as human factors and labor politics force airline managements to settle for less cost reduction than they know is necessary. As the cycle continues, business fares drop, LCC's expand and legacy network airlines face an agonizing choice between contraction that continues to reduce their attractiveness as an alternative and expansion that will kill them faster. No credible scenario will produce revenues that will support today's contractual commitments, either outside bankruptcy for those legacy networks who haven't filed, or apparently inside bankruptcy for those that have already availed themselves of the process but not done what is necessary to become competitive.

Where are we going? Again let's look at the fundamentals. Every traveler would like to choose from a wide menu when to leave from her preferred airport and would like to arrive at her preferred airport as soon as possible. Many travelers wish to have this convenience despite the fact that their preferred airport pairs exchange only a few passengers every day. Many are willing to pay extra for it. While frequent nonstop service at low cost would be ideal for them, without traffic flow it can only be offered in a relatively few dense markets. Another way to accommodate them is to force them to drive to a less convenient airport and join other passengers who want nonstop service. As the passenger has to drive farther and farther, the nonstop advantage becomes less and less valuable and as the traffic density (even with the help of drive feed) declines, nonstop service becomes less frequent, forcing travelers to choose less-than-ideal departure or arrival times.

Here is where the hub and spoke system creates value and will continue to. It allows a passenger to fly together with everyone who wants to leave from their preferred airport (no matter what their destination) at their preferred time and to combine at the hub with everyone (no matter what their origin) who wants to arrive at their preferred airport at their preferred time. The time penalty and completion risk entailed by the connection at the hub is offset by the frequency of service and the convenience of the airport-pair. Since very few markets will support frequent nonstop service without drive feed and relatively few will support frequent nonstop service even with drive feed, the hub and spoke system becomes the most efficient way to serve convenience-oriented passengers in the great majority of airport-pair markets. A bonus is that the feed traffic from the spokes also allows much many more points to be served nonstop more frequently from

the hub, thus producing as a joint product much more of the most valuable form of service.

There is a stringent limit as to how much extra a traveler will pay for convenience. It depends on the next most attractive alternative in comfort and passenger handling, distance to airport, travel time and displacement from the preferred time channel. An airline trades off these parameters to see how much extra travelers will pay for incremental reduction in hassle, comfort and convenience and to compare it to how much the additional benefit costs. Application of this principle explains all of the strategies available today and in the future: hub and spoke (legacy network plus America West, Airtran and Frontier), point-to-point (JetBlue), charter-like relatively low-frequency nonstop service (Spirit and ATA's former system), and the newest development, pioneered by Southwest and imitated in a very limited way by American, the "quasi-hub" strategy in which nonstops, onestops, loose connections and drive feed are combined to try to provide convenience acceptable to many at costs competitive with virtually all alternatives. Many airlines mix these strategies.

From these fundamentals, we can see the future. I would divide the future into two likely scenarios for the next fifteen years. Even that is a real strain on my crystal ball! Common to these alternative scenarios are the following facts:

The environment will continue to become more competitive as the LCC's continue to become more convenient. Business fares will continue to drop. Leisure fares won't rise much until capacity is generally in line with demand, which won't occur until much of the capacity overhand has been employed either by surviving legacy carriers or LCC.

This means that with any business model, you must have the lowest costs consistent with the strategy you have chosen and the product has to be attractive enough (along convenience, reliability and comfort dimensions) to attract the revenue to cover them. Every survivor will be one form or another of LCC (even if an LCC created by reorganizing a legacy airline), but they will not all use the same business model.

Passengers will still pay for convenience, but there are few circumstances that will attract them to pay more than 25 %-40% for convenience (the most isolated or least price sensitive will be willing to pay as much as 40-50% for convenience, but there are not very many of them). Critically important is the fact that, where passengers have alternatives roughly comparable in convenience and reliability almost nothing else will make them willing to pay more than a few percent, if that, for comfort and system scope benefits, even if all things being equal, they will choose that alternative. In the new equilibrium, passengers in many markets will have comparably convenient alternatives to legacy hub service. This will limit system revenue premiums for hub and spoke passengers to much lower levels than have been publicly announced as targets by legacy network carriers.

Leisure passengers won't pay a premium for convenience, further limiting system revenue premiums for legacy hub airlines.

Accordingly, the cost “premiums” of 30%-50% on a stage-length adjusted basis offered as current targets by legacy network carriers will not be sustainable.

Differentiated fare structures will remain, because it is more advantageous to every business model except the low-convenience charter-like model to combine relatively more price-sensitive passengers with relatively more convenience-sensitive passengers, within the limits of the model. But differentiation will look like that of JetBlue or Southwest, not like the “good old days” for hub and spoke carriers (who will get at least one more fare layer up for very convenience-sensitive passengers in markets where non-hubbing carriers can’t offer convenient alternatives).

So the hub and spoke model can create value, but the key question is whether it can be operated at costs that match the value premium. I believe it can, because many passengers will pay extra to fly in airport-pair markets that don’t support enough service on their own to reach competitive levels of frequency at competitive costs. The closest airlines we have to the model I have in mind are Airtran and America West, but they don’t have competitive scope. America West’s challenge is in one respect the clearest harbinger of the future, since they compete at Phoenix with a loose quasi-hub operated at very low costs by Southwest. It remains to be seen whether even in the brave new world of low costs, a city can support more than one hub airline.

Scope and schedule convenience will matter, and matter enough to support some service in small jets (under 70-80 seats) but not nearly enough to support the huge fleets of RJ’s in service or on order. The labor cost arbitrage and fare differentials that support their economics will disappear.

The very large scope advantage possessed by legacy network carriers over current LCC’s will give them some time, but not much, to adjust. In the not too distant future, legacy shrinkage will meet LCC growth going in opposite directions. Southwest is at this point now in comparison with the smallest of the large legacy hub airlines, but it has not chosen a maximum convenience strategy.

No single business model will become universal, because markets and passengers differ too much in their characteristics and preferences.

Applying fundamentals to these facts yields the two scenarios:

In the first, the legacy network carriers restructure their fixed commitments and achieve competitive costs. This could be done through workouts (unlikely, given the impediments to bargaining and the internal politics of labor unions) or bankruptcy restructurings, where the power of the courts to sanction contract rejection will cut through the impediments to bargaining. The most likely airlines to restructure without bankruptcy will be the last to go through the workout process. Their position will be very difficult because, although the bankruptcies of others will provide a helpful backdrop to

workouts, time will be short for them as they compete with already restructured airlines and growing LCC's.

If successful restructuring is possible one way or the other, hub and spoke networks will be sustained as business improves, because they provide lots of nonstop service with nearly universal high-frequency coverage in thin markets. The revenue premium they can earn will help them compete against all but the most successful non-hub strategies. If it can be done quickly, they will have at least the domestic industry market share (75-82%, depending on how you measure) as they do now. At least one and perhaps more than one less-convenient quasi-network LCC will survive, along with a number of low-convenience leisure market charter-like niche players, defended by their connections to tour operators. Many LCC's will fail. RJ's will play the same role in hub airlines as they do now, providing service in less-dense markets and frequency augmentation in denser markets, but to a much lesser extent than at present as their cost advantage shrinks radically and bigger passenger loads are necessary to achieve the total revenue per departure necessary to support service.

In the second, more likely scenario, the legacy network carriers will be unable to reorganize in time to avoid liquidation one by one. This process will be slowed by the increasing impact of international travel on domestic airlines and the advantages that network airlines have in maintaining international partnerships, but the process will continue nevertheless. As each liquidates, substantial capacity (12-25% of the shrinking legacy network market) will disappear in the short term (one year or so), but it will be replaced by existing or new LCC's or surviving legacy hub carriers expanding at low incremental cost using grounded or underutilized lift.

Conflicting attempts to fill the vacuum created by legacy disappearances will create new competitive wars that the LCC's will ultimately win. In the process, convenience-sensitive customers will be identified as too valuable to lose, so there will be pressure on LCC's to become more convenient and several of them will evolve into hub-and-spoke carriers (with much lower costs than the legacy networks). For a while one or two legacy network carriers may hold out by shrinking and taking advantage of their labor arbitrage and international partnerships to morph into smaller scale RJ-heavy airlines of broad scope and high costs, but they will eventually be brought down by their other legacy commitments (remember, we are addressing a situation where restructuring hasn't been successful in making them competitive, examples of which we already have) and the growth of LCC's. Recall that system growth will automatically make LCC's more convenient, and market pressures will force some of them to evolve into efficient hub and spoke airlines.

As some LCC's become convenient networks, they will become desirable partners for international networks and will replace the inefficient legacy hub and spoke airlines in international alliances. When this occurs, it will accelerate the demise of unstructured legacy airlines.

So there you have it: the future predicted by careful attention to fundamentals, facts and the lessons of the past. I can't be certain which of the two scenarios will finally dominate: That depends on management skill labor leadership at the legacy airlines – bankruptcy courts can take care of the other commitments. But notice that, if we have identified the fundamentals and facts correctly, the overall economic environment is irrelevant to the final outcome, only to the pace at which it occurs.