



By: ACI AVIATION CONSULTING

***Industry in Crisis: Should We Expect a Recovery?*
 ACI's President Quentin Brasie's Comments...**

Quotable Quotes...

"It is safe to say that enterprise which depends on hopes stretching into the future benefits the community as a whole. But individual initiative will only be adequate when reasonable calculation is supplemented and supported by animal spirits, so that the thought of ultimate loss which often overtakes pioneers, as experience undoubtedly tells us and them, is put aside as a healthy man puts aside the expectation of death.

This means, unfortunately, not only that slumps and depressions are exaggerated in degree, but that economic prosperity is excessively dependent on a political and social atmosphere which is congenial to the average business man." (J.M. Keynes, The General Theory of Employment, Interest and Money, 1936, p. 161).

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In the best of times, a full recovery in the aviation industry is very difficult to predict. A recovery is dependent on a multitude of factors. The traditional issues that influence the aviation industry remain, while new factors now play a large role in the industry's full recovery. In this first issue of the ACI Aviation Consulting "The FlightLine," our own economist Mr. Henry E. Kilpatrick, Ph.D. addresses the factors most likely to influence a recovery while providing some insight into when the aviation industry will most likely experience growth and profitability.

A comprehensive analysis of the aviation industry and its likely recovery path is available at ACI Aviation Consulting. Please call for additional details. In the meantime, I wish each of you a successful new year.

**Aviation Industry Forecast, by Henry E. Kilpatrick, PH.D
 ACI's Vice President, Economics**

How long will it take the aerospace industry to come out of its current slump and return to profitability? We, at ACI Aviation Consulting estimate that 18-24 months is a reasonable expectation, based upon the analysis of both the macro economy and the airline industry sector. As in all economic forecasts, a prediction is based partially upon best efforts to fathom the unknown and unknowable. In particular, what Keynes termed "animal spirits;" i.e., feelings of euphoria or, alternatively, gloom, that drive business people to invest or remain cautious (no matter how low the interest rate), perhaps even laying off additional workers, cannot be fully captured by modelers.

There have been thirty cycles of economic growth and contraction (i.e., business cycles) since 1854. Since the end of World War II there have been nine business cycles. The latest expansionary period lasted 10 years, the longest on record. Traditionally, the National Bureau of Economic Research 's (NBER) Business Cycle Dating Committee determines when the country is in a recession. NBER has

declared that the US has been in a recession since the end of the 2nd quarter of 2001. This recession is quite different from most previous post-World War II recessions. Recessions since World War II have normally occurred as the Fed increases the price of money or restricts credit when the economy is overheated. This did not happen. Instead there was a crash of high-flying Internet and telecommunications companies, followed half a year later by terrorist attacks.

Demand for the aviation industry's services is a derived demand based upon the demand for transportation services, including leisure and business travel and the quick and efficient movement of goods. Hence, aviation services are not final goods; few people and certainly not cargo consume flying for its own sake. Nor are these services capital goods that produce more output in the future, although the cost of travel does get built into both physical and human capital. While the transport of air cargo is based on the general health of the economy or at least the health of the sectors that make heavy use of this service,

ACI Aviation Consulting History and Services

ACI was founded in July 2000, by Mr. Quentin R. Brasie. Mr. Brasie has over 20-years experience in the aviation industry, working with prominent law firms, financial institutions and airlines. His professional experience is comprised of serving in the United States Air Force, working with Discovery Airlines, Avitas, Inc. and was a founding partner of AvSolutions, Inc.

ACI, based in Warrenton, Virginia, is an aviation consulting corporation that offers specialized services in aircraft appraisals, future forecast valuations, aircraft and engine physical inspections, litigation assistance, asset management and general consulting. Our services and assistance are provided to the financial, legal and airline communities, both domestically and internationally.

ACI provides superior client service, product quality, and professionalism. Our services are delivered in a prompt and professional manner. To learn more about ACI's services and to see a list of our clients, please visit our website at www.aciaviation.com.



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ACI Aviation Consulting Introduces...

Tavis D. Anderson

Valuation Analyst



ACI Aviation is proud to announce the arrival of our newest member, Mr. Tavis D. Anderson. Mr. Anderson obtained his Bachelor's degree in Aviation Business Administration from Embry Riddle Aeronautical University in 2000.

His academic history is complimented by a solidified knowledge base and experience gained while being employed within various segments of the aviation industry: Flight Safety International-Aircraft Technical Training Assistant, Philadelphia International Airport-Airport Operations Officer, Back Aviation Solutions-Southeast Regional Manager.

Alex Harwood
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Mr. Alex Harwood has over 33 years experience as a system engineering manager, reliability and maintainability engineer, financial and management analyst and as a marketing and sales executive. He has hands-on experience in aviation, avionics, electronics and logistics.

Mr. Harwood has worked in private industry at IBM, Hughes Aircraft, E-Systems and Texas Instruments. He has worked as a consultant for Raytheon, Martin Marietta, ITT Bendix and other firms. He has been a United States Air Force officer and a civilian employee of the USAF. He holds a BA from Cornell University, a MA from Stanford University, and has completed all coursework requirements for a PHD from the John Anderson School of Management at UCLA. He has been an adjunct professor and has taught courses in Engineering Economics, Statistics, Research Methodology, Management Theory, and policy and Strategy.

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the transportation of humans is heavily affected by convenience and the perceived risk of flying, which may be higher than the actual risk.

As the late Otto Eckstein, a noted economic forecaster in his own right, once said, "If you must forecast, then forecast often." Accurate forecasts are extremely difficult in the best of situations, since forecasts are necessarily developed from past data and experience or are a reflection of consumer confidence surveys in which respondents' moods rather than actual purchasing decisions are registered. Forecasts are much harder to make when the economy shifts from expansion to downturn or vice versa. "Random" shocks to the system, such as the September 11 terrorist attack, make the forecaster's job even more difficult. However, efficient planning requires that forecasts be made.

The Macroeconomic Forecast

Most economists and economic forecasting services believe that this recession will be a short one. Many in the forecasting business believe that the US economy bottomed out in the 4th quarter of 2001. Recovery is generally expected to occur towards the end of the 1st or the 2nd quarter of 2002. For example, the University of Michigan's Research Seminar in Quantitative Economics predicts 3.3 percent growth by the second half of 2002. The University of Michigan's *Survey of Consumers*, a widely watched survey from the same campus, reports that confidence levels are up from the past two months, but below the levels of last December (<http://athena.sca.isr.umich.edu/scripts/press.asp>). A Conference Board press release dated December 28, 2001 states: "The Conference Board's Consumer Confidence Index, which had declined dramatically over the past three months, rebounded in December. The Index now stands at 93.7 (1985=100), up from 84.9 in November. The Expectations Index rose sharply, from 77.3 to 91.5. The Present Situation Index increased slightly, from 96.2 to 96.9 (<http://www.conference-board.org>)."

Although the consensus forecasts could very well be accurate, there are a number of problems with such optimistic forecasts. ACI Aviation Consulting may be stepping out on a limb, but we are not quite so optimistic. The following sections will illustrate the concerns.

Energy

Energy prices dropped significantly after September 11, primarily reflecting a dramatic fall in demand. There are signs that OPEC nations will attempt to cut production, although predicting OPEC's ability to manage the world oil supply has been tricky for the past 20 years. Furthermore,

the US suffers from an energy infrastructure problem, particularly in regards to refineries. There have been no new refineries built in 30 years. Additionally, the energy infrastructure may be vulnerable to terrorist attack. While increased security measures have been taken, particularly in the protection of nuclear power plants, there is only so much that can be done to protect transmission lines, pump stations and compressor stations. Should a terrorist attack on the energy infrastructure occur, prices would rise sharply in the short-run. This is evident by the increase in prices that occurs whenever there is a major refinery or pipeline outage. This would put even more pressure on the ability of the airline industry to regain profitability.

Interest Rates

Short-term interest rates such as the discount rate, the federal funds rate and commercial paper are below the inflation rate and there are indications that the Fed might push the rates even lower. In other words, the real cost of short-term money is negative and that does not bode well for the future.

Consumer and business debt are at high levels and this is the greatest source of concern for the economy. Furthermore, while the fiscal package is stimulative, largely because of the extra money pumped into the economy due to the terrorist attacks and the Administration's desire to offer tax cuts under any and all possible circumstances, there seems to be only one instrument that is readily available to fight both recession and inflation – monetary policy. Monetary policy works well to control inflation. However, its ability to pull the country out of a recession has been likened to pushing on a string. Fiscal policy (government spending, tax cuts) work far better to increase demand. However, tax cuts are of limited use when taxable earnings are falling and there may be some question as to whether localized defense and security spending will prop up the entire economy.

Stock Market

Despite the failures of Enron and **Excite@Home**, stock prices have increased in recent months and this may be fueling optimism. However, price earnings ratios are extremely high (25 times projected earnings according to some estimates) and earnings in many industries, including the airline industry, are very weak. There may be other companies that have problems similar to Enron, because the US financial oversight system has had a severe weaknesses exposed. Hence, the current stock rally may likely be what technical analysts call a "dead cat bounce," which refers to the fact that even a dead cat will bounce off the pavement if dropped from a high enough altitude (we did not invent this colorful Wall Street terminology). If this is correct, as soon

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as optimism gives way to reality the market could plummet.

The Internet Economy

2001 was the year in which ordinary companies learned to use the Internet efficiently, integrating it into their sales programs. The Internet decreases the cost of information, which is great for consumers but requires sellers to stay on their toes constantly (giving rise to some modern folk wisdom such as, “just when I thought I was winning the rat race, along came faster rats”). While Internet shopping and spending was up significantly in the 4th quarter of 2001, discounts were significant. Long-run payoffs in cost savings should be realized and there will be increased business for transporters, including air, but profit margins have been squeezed in the short run.

The amount of excess capacity in long haul fiber optic networks is at unheard of levels. Most public utilities of any size, having available right-of-way and proceeding with the gleam of profits in their eyes, set up subsidiaries to invest in unregulated telecommunications markets. This turned into a disaster for them in 2001, but it is a disaster that will not be repeated in the next year. The worst is probably over for the telecommunications downturn.

Internet service constraints occur in the “last mile” of access. In particular, local broadband service through cable and DSL is problematic in many areas and hampers rural development. This could be a source of economic growth in the next few years if entry barriers can be overcome.

The Networked Economy

The modern information economy, which achieves efficiencies from networks, is quite different from the industrial economy that achieves efficiencies primarily from economies of scale and scope. This has been the primary source of productivity gains over the last decade. However, most of these gains may have already been realized.

Defense Spending

Defense spending, including the new category, homeland security, will obviously be up sharply and will favorably impact some communities. It will also be good for the parts of the aviation industry, but it is doubtful that it will be beneficial enough to return the industry to profitability in the short-run.

Other Federal Spending

Congress and the Bush Administration have been unable to get together on a fiscal stimulation package, but there is no doubt that current spending levels combined with tax cuts are somewhat stimulative. However, the tax cut that put money into people’s pockets occurred prior to the September 11 terrorist incident.

National Economic Forecast

Given the concerns listed above, while we hope the economy will recover and we see the same signs of recovery that everyone else does, predicting a recovery in early 2002 is too optimistic in our view. Productivity increases were low the first 3 quarters of 2001, indicating that the gains from the Internet economy have largely been realized. What appears to be more likely for the national economy is a slight upturn in the first and second quarters, followed by a dip as short-term interest rates rise, putting a squeeze on profits and consumer spending. Full recovery is not likely until at least the first quarter of 2003 and even then profits could be shaky in many sectors, especially the auto industry. Anemic growth is far more likely than a rapid recovery.

The Aviation Industry and the National Economy

As noted, the demand for the airline industry’s products is a derived demand. Hence it is cyclical rather than counter-cyclical. It is heavily driven by economies of scale and scope, investments in airplanes being lumpy. Network economies are available in pricing and scheduling, but these economies have been largely realized already.

The Implications of the Terrorist Attacks, Increased Security and Other Problems on the Recovery of the Aviation Industry

According to the Air Transport Association, traffic was down 20 percent in November 2001. While numbers are not out, traffic appears to have picked up a bit more in December due to the return of some leisure travelers taking advantage of deep fare discounts. These discounts increase the load factor, but they are loss minimizing rather than profit maximizing. Furthermore, much of the general public is still afraid to fly.

The business traveler, especially the traveler that pays full fare taking short trips on short notice, has not yet returned. Not only does the weakness in the economy affect this market, but also the delays and uncertainty created by the increased security contribute to a lack of traffic. Since much of the full fare traffic is short-term travel, the delays created by increased security or the inability to tightly schedule trips not knowing whether there will be delays is of great concern and must be addressed. The only bright spot

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in the industry recently has been the increase in business traffic on charter carriers.

The argument has been made off and on since the energy crisis of the 1970s that telecommunications can substitute for business travel. Even given the technological improvements in audio and video equipment, we do not believe that it will prove to be a major source of competition for business travel in the foreseeable future. Face-to-face meetings are still very important in conducting business and telecommunications is merely a supplement to this travel.

Forecast for the Aviation Industry’s Recovery

We do not see the industry recovering to modest profitability before the end of the third quarter of 2002 at the earliest. It is more likely that a recovery will not occur before the end of the first quarter of 2003. It could take even longer if there are additional terrorist attacks, there is an extended psychological reaction to the safety of airline travel, if the economy does not recover fully, energy prices increase significantly, or if steps are not taken to eliminate the delays and uncertainty caused by increased security.

Of course this forecast is subject to the usual caveats. The economy could heat up the first quarter of 2002, mergers and consolidations could eliminate unprofitable routes and decrease competition, and government subsidies could increase lender’s confidence while allowing the airlines breathing room to restructure to meet changing conditions. On the other hand, the weakness in the economy could stretch out over another year or more.

Conclusion

The economy as a whole is weak. While there are some bright spots in the economy and most forecasters predict an early recovery, we are doubtful that this will occur. The profitability of the aviation industry depends heavily upon the return of the full fare business traveler as well as the ability of the industry and the government regulators to get the security system operating efficiently. Thus our forecast is that the aviation industry will most likely not return to profitability until the end of the first quarter of 2003, although some sectors may become profitable earlier.

* * *

Definitions

NBER’s definition of recession: A recession is a significant decline in activity spread across the economy, lasting more than a few months, visible in industrial production, employment, real income, and wholesale-retail trade. A recession begins just after the economy reaches a peak of activity and ends as the economy reaches its trough. Between trough and peak, the economy is in an expansion. Expansion is the normal state of the economy; most recessions are brief

Leading economic indicators: A composite index (1992 = 100) of ten economic indicators designed to predict economic activity six to nine months in the future. These indicators consist of:

- The average manufacturing-worker workweek (from the employment report)
- Initial jobless claims
- Manufacturers’ new orders for consumer goods and materials (from the factory orders report)
- Vendor performance (from the Purchasing Managers’ Index report)
- Manufacturers’ new orders for non-defense capital goods (from the factory orders report)
- Building permits (from the housing starts report)
- The level of the S&P 500
- The inflation-adjusted measure of the M2 money supply
- The interest-rate spread between the 10-year Treasury note and the fed funds rate
- The expectations portion of the University of Michigan’s Consumer Sentiment Index

Source: The Conference Board

See corresponding charts on page seven

Did you know...

40 percent of ACI Aviation Consulting's business is in the corporate aviation industry?

- Corporate Aircraft Appraisals
- Market Studies
- Pre-purchase Inspections

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ACI Aviation Consulting Introduces...

Henry E. Kilpatrick, PH.D.
Vice President, Economics



Mr. Kilpatrick, has over 20 years of experience in the application of economic and policy analysis, including dynamic and statistical analysis, to various US industries. He has published articles, chapters, papers and book reviews in academic journals, the trade press, edited volumes, for various governmental agencies such as the National Academy of Sciences and the International Food Policy Research Institute, and as public and private studies for clients. He has served as an expert witness as well as a mediator. In addition, he is a Senior Fellow and Associate Assistant Professor in the School of Public Policy at George Mason University and a member of the adjunct faculty in GMU's Department of Public and International Affairs. He has a BS in Business Administration from Valdosta State University and an MA in Economics from the Pennsylvania State University. In 1998 he earned a PhD in public policy from George Mason University.

Eva Dalton
Editor



Mrs. Dalton has over 15 years experience in the administrative field. When the personal computer phenomenon burst into the scene in the mid-80s, she stopped working in her field of study (horticulture) and learned desktop publishing through her work at a national newspaper association. She has served in various capacities throughout her career, including desktop publishing, event planning and office administration.

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Upcoming Industry Events

February

2002 Aviation Summit on Capitol Hill
"An Industry in Crisis"
February 20-21, 2002
Capital Hilton, Washington, DC
ACI Aviation Consulting, Sponsor
Additional information:
www.aviationsummit.com

March

US Regional Airline Conference
March 5-7, 2002
Ritz-Carlton Hotel, Pentagon City, VA
Additional information:
www.commercialaviation.net



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The FlightLine