Empirical Research Partners

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# The U.S. Consumer: Airline Stocks December 2017

December 4, 2017

## *Airlines: Is There A Place for Capital Intensive in A Capital-Light World?*

*Can We Enjoy the Ride?*

- The consumer is prioritizing experiences over things. Our work has validated -- and even quantified -- this increasingly popular refrain. But in life we are often reminded that the journey can be as important as the destination. This makes sense at the human level, but does the same advice ring true when it comes to making investment decisions? Airline stocks technically fall into the transports sector, but since the majority of their sales are to leisure travelers we thought it would be interesting to look at them through our consumer lens in addition to a more traditional analysis.
- Consumer spending has recouped two-thirds of the distance traversed in a typical recovery, suggesting that the consumer is still in the 6th inning even after 33 quarters of play. We believe that purely statistical analysis isn't far off the mark. Spending on air travel by comparison has reclaimed less than 40% of the ground covered in a typical recovery, leaving it in only the 4th inning. That coupled with the fact that airline stocks have trailed the market over the past year despite a vote of confidence from Warren Buffett makes us want to dive deeper.

*Three Knowable Factors That Matter*

- When comparing the industry's stock price performance to more traditional consumer sectors we can see that airline stocks exhibit an inverse correlation with "safe haven" consumer staples stocks. They are positively correlated with consumer discretionary names, but their closest match in the consumer realm is with hotel stocks. This relationship matches the correlation airlines stocks have with other transports. Oil matters too, but that fact is hard to exploit without knowing the future direction of oil prices. There has to be a better way.
- The good news is that airline stocks are influenced by three knowable factors – valuation, capital spending and Empirical's core model. The latter has excelled in picking opportune times to invest in the industry. The current reading is not much more compelling than its historical average, but our fundamental model strips away momentum-oriented factors. In that framework, airlines are well-represented. Appendix 1 on page 14 ranks airlines and other consumer-oriented cyclicals across these relevant factors.
- The market has generally not been a fan of capital-intensive businesses, hence the low multiple ascribed to airlines. Companies in the most capital-intensive quintile have underperformed their asset-light counterparts 80% of the time. Things might be different this time thanks to industry consolidation and a stepped-up propensity to repurchase shares, but lately incremental margins have not been bountiful enough to say for sure. Margins pre-rent and pre-fuel have lagged the baseline. This has not been the case for many other segments of the market including tech.
- Pricing power has also been slow to surface. This is evidenced by poor PRASM growth as well our separate analysis of monthly BEA data. Supply is a critical element to consider. For now, capacity growth has been following the short-tend of the commitment curve. Over time we are hopeful the airlines will make progress on this front by reducing their purchase obligations. Supply is not out-of-kilter, but it is not in pristine condition either.

*Conclusion: Constructive View of Airlines with a Healthy Dose of Fear*

- When we look at airlines through our consumer lens they are uninspiring. However, airlines are not just consumer stocks and -- like other value stocks -- they don't need to fit a theme in order to work. Airlines are trading in the best decile of their history based on relative earnings yields. They also rank in the top quintile of the market when it comes to buybacks. The combination of these two features has historically been a recipe for outperformance. Growth can also cover a lot of sins and our view is that there may still be loads of untapped demand on the horizon.
- In all, we are constructive on airline stocks with an appropriate dose of fear regarding margins, load factors and fuel. Our thinking is that pent-up demand, a consolidated industry backdrop, solid buybacks and cheap valuation offer enough reward to stomach the risk without getting terribly air sick.

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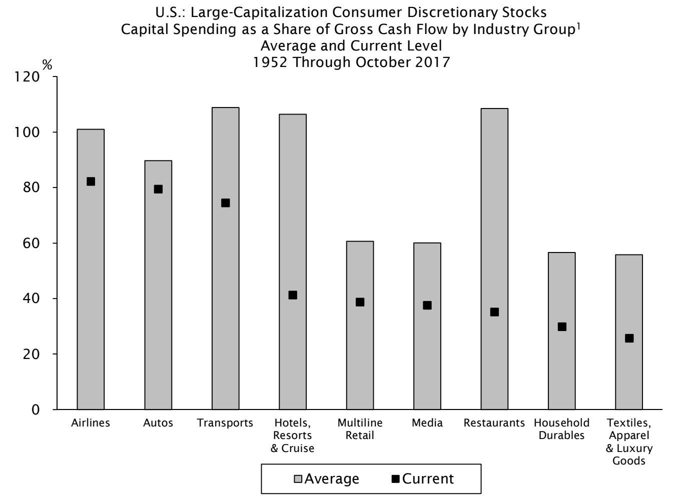
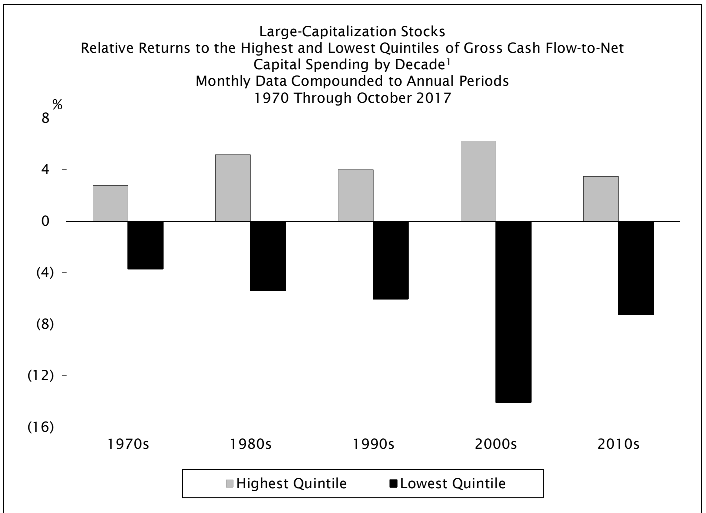
# Conclusions in Brief

- Airlines are capital intensive and likely to stay that way…



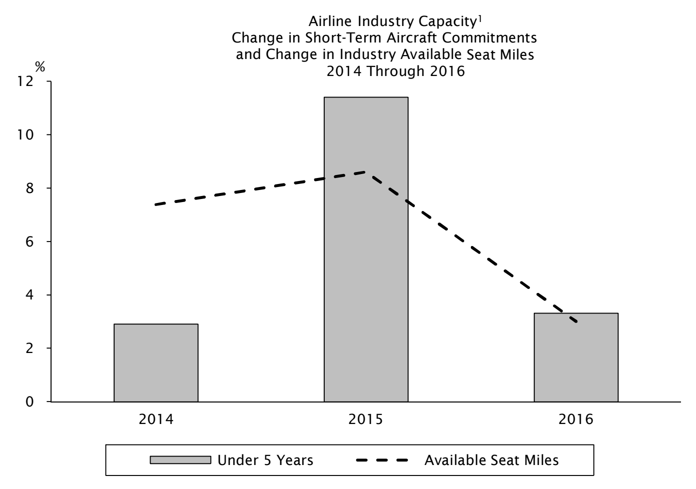

Source: Corporate Reports, Empirical Research Partners Analysis.
[1] Capitalization-weighted data. Drawn from the largest 1,500 stocks.

- …But the market consistently prefers stocks that are capital-light:



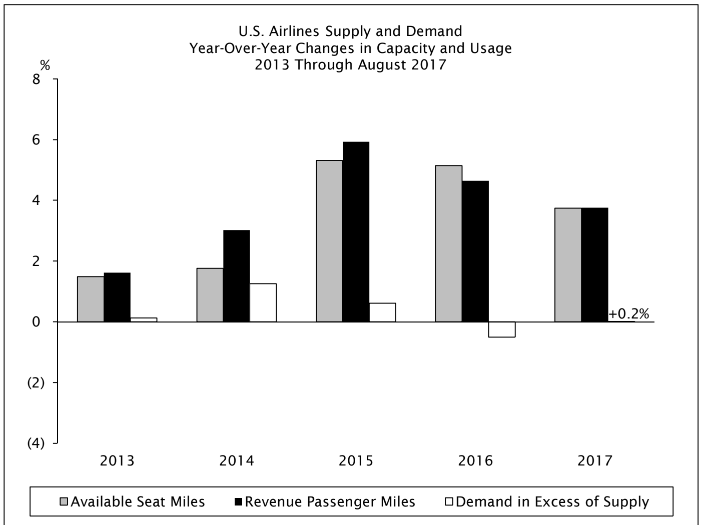

Source: Empirical Research Partners Analysis.
[1]Equally-weighted returns.

- Airlines are reducing commitments to buy new aircraft…



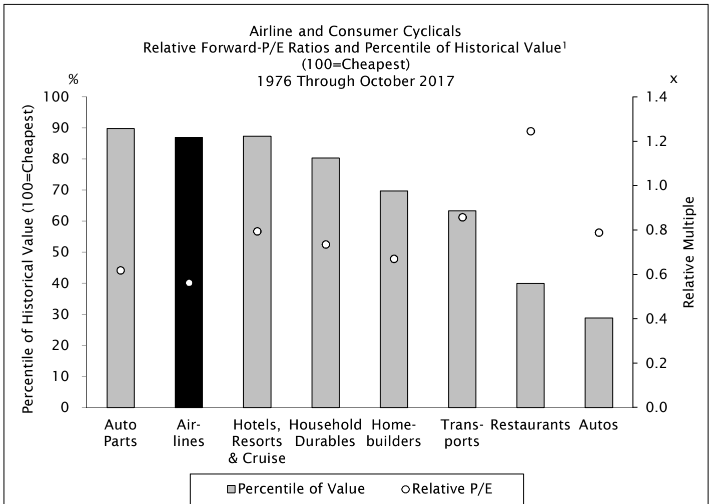

Source: Factset, Corporate Reports. Empirical Research Partners Analysis.
[1] Includes DAL, UAL, AAL, LUV, JBLU, ALK on a value-weighted basis.

- ....But we have yet to see it translate to reduced capacity:



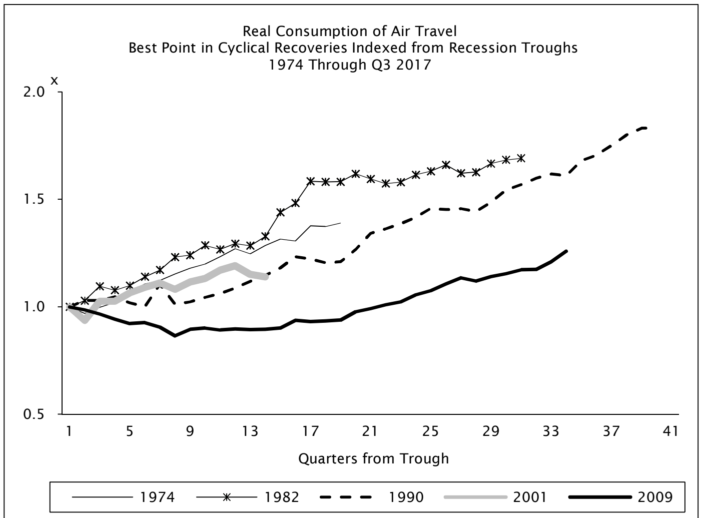

Source: Bureau of Transportation Statistics, Corporate Reports, Empirical Research Partners Analysis.

- In the meantime, the stocks are cheap….




Source: Empirical Research Partners Analysis.
[1] Capitalization-weighted data. Drawn from the largest 1,500 stocks.

- …And pent-up demand might come to the rescue:




Source: Bureau of Economic Analysis, Empirical Research Partners Analysis.

# Airlines: Is There A Place for Capital Intensive in a Capital-Light World?

### *Of Destinations and the Journey*

The consumer is prioritizing experiences over things. Our prior work has validated -- and even quantified -- this increasingly popular refrain. But in life we are often reminded that the journey can be as important as the destination. This advice, which is typically offered by our more mindful acquaintances, has not been lost on marketers. Nissan and others have converted the mantra into slogans such as "Life is a journey. Enjoy the ride." This makes sense at the human level, but does the same advice ring true when it comes to making investment decisions?

Our Consumer Lens portfolio is home to businesses that are highly experiential, including Live Nation and Las Vegas Sands. But in order to get to Las Vegas, you've got to fly. Driving didn't turn out so well for the crew in "The Hangover". So it seems logical enough that the airline industry should benefit from the trend towards experiences, at least by association. You may not snap a "selfie" of yourself crammed into seat 32B, but the flight can take you to more "selfie-worthy" places.

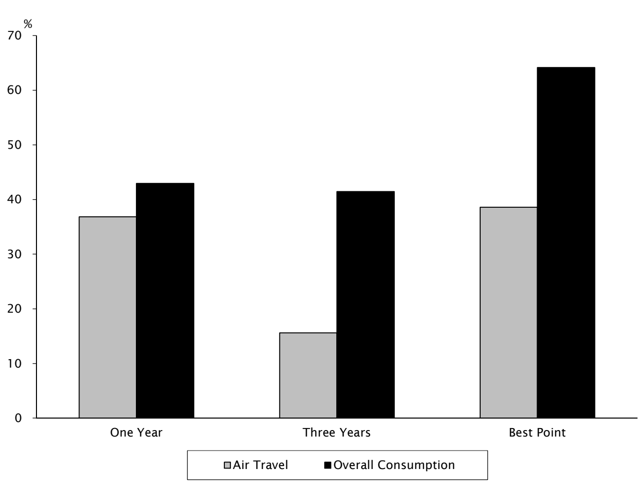
Airline stocks have certainly not performed that way. The group has trailed the market by roughly (10) percentage points over the past year. This is particularly noteworthy since it coincides with the one-year anniversary of Warren Buffet's inaugural investment in the sector. It also comes in spite of a renewed emphasis on stock buybacks. Airline stocks technically fall into the transports sector, but since the majority of their sales are to leisure travelers we thought it would be interesting to look at the stocks through our thematic consumer lens in addition to more traditional sets of analysis.

### *What Inning Are We In?*

The average post-war recovery has seen real spending on goods and services grow by an average of +35% from the trough. The current recovery has been more sluggish than most with real demand having grown by only +20% since the bottom. Taking the numbers literally, aggregate consumption has only recouped two-thirds of a typical recovery, suggesting the consumer is still in the 6$^{th}$ inning even after 33 quarters of play (see Exhibit 1). Air travel by comparison has recovered less than 40% of the ground covered in a typical recovery, leaving it in only the 4$^{th}$ inning based on data from the Bureau of Economic Analysis and the Bureau of Transportation Statistics.

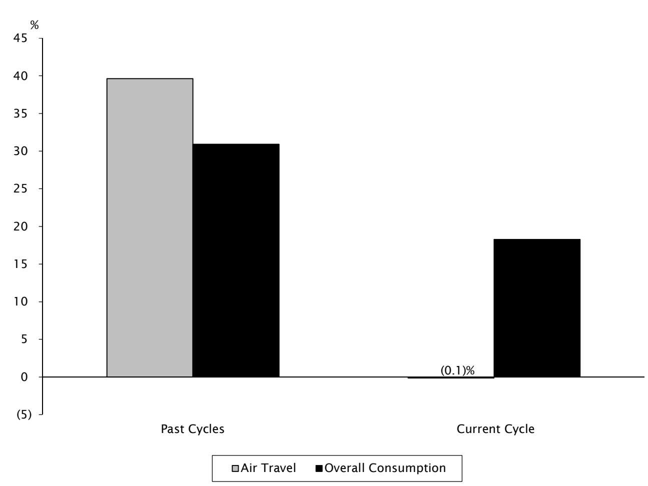
Measuring the strength of the recovery starting with prior peaks as opposed to troughs makes the same point even stronger. Aggregate consumption for goods and services in real terms has surpassed its prior peak by nearly +20% so far this cycle, but air travel has barely matched the top it made in 2007 (see Exhibit 2). On a purely statistical basis the current recovery has been incomplete by historical standards. That fact coupled with a healthy consumer that is increasingly craving experiences and recent share price underperformance makes us want to dive deeper.

**Exhibit 1: Real Consumption of Air Travel**
**Growth from Economic Trough in Current Cycle**
**Relative to Growth at Similar Points in Previous Cycles**
**1960 Through Q3 2017**




Source: Bureau of Economic Analysis, NBER, Empirical Research Partners Analysis and Estimates.

**Exhibit 2: Real Consumption of Air Travel**
**Growth from Previous Economic Peak to**
**Best Point of Current Cycle**
**Relative to Similar Points in Previous Cycles**
**1960 Through Q3 2017**



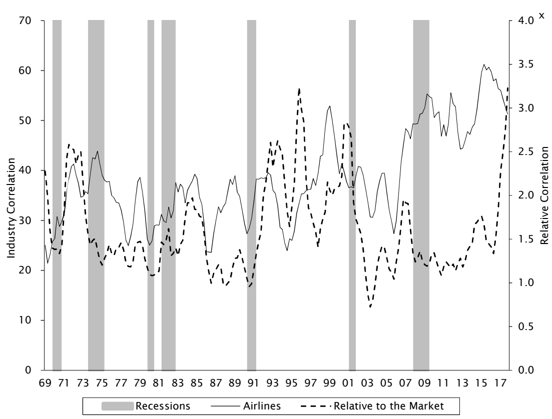

Source: Bureau of Economic Analysis, NBER, Empirical Research Partners Analysis and Estimates.

## *Airline Stocks – It's A Bird; It's A Plane…Well, It's Definitely Not Superman*

Many investors have long-standing biases towards investing in airline stocks, and they tend to express the view rather fully. They are often all-in or all-out. Just ask Mr. Buffet who was completely sidelined for decades until he bought into four U.S. airlines simultaneously. In this case, birds of a feather really do flock together. To make the point, Exhibit 3 shows the correlation of stocks in the sector to one another dating back to 1969. In recent months, the group has continued to trade as a unit even as the market's overall correlation has faded. This means that airline stocks are now more than 3-times as correlated to one another as the market is to itself.

When comparing the industry's stock price performance to more traditional consumer sectors we can see that airline stocks exhibit an inverse correlation with the "safe haven" consumer staples stocks. They are positively correlated with consumer discretionary names, but their closest match in the consumer realm is with hotel stocks. In fact, this relationship is nearly identical to the correlation airlines stocks have with other transports (see Exhibit 4). Oil matters too. The inverted relationship graphed in Exhibit 5 indicates that airline stocks have historically had a strong negative correlation with crude oil prices. The relationship has been elevated since the turn of the century as the commodity price soared and then reversed course. Unfortunately, this is of only minimal use since this correlation is hard to exploit without knowing the future direction of oil prices. There must be a better way.

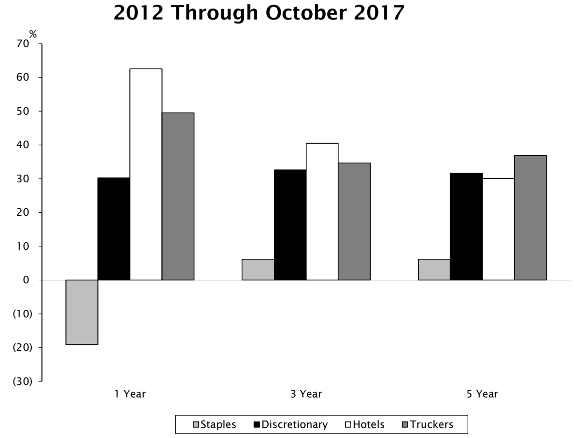
**Exhibit 3: Airline Stocks**
**Capitalization-Weighted Pairwise Equity Return Correlations Relative to the Market[1]**
**1969 Through June 2017**




Source: Empirical Research Partners Analysis.

[1] Data smoothed twelve months.

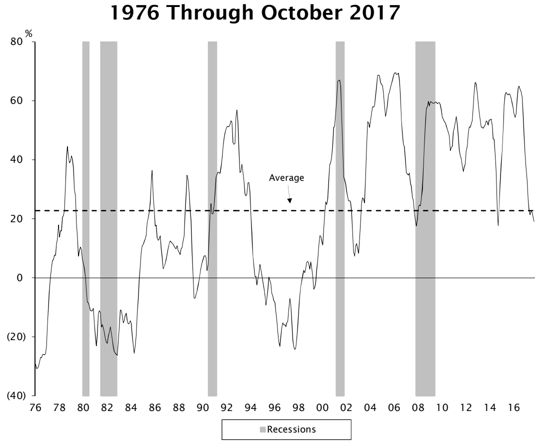
**Exhibit 4: Airline Stocks[1]**
**Correlation of Monthly Relative Returns With Consumer Staples, Discretionary Stocks, Hotels and Truckers[2]**
**2012 Through October 2017**




Source: Empirical Research Partners Analysis.

[1] Drawn from the largest 1,500 stocks.
[2] Measured over the prior twenty-four months; data smoothed on a trailing three-month basis.

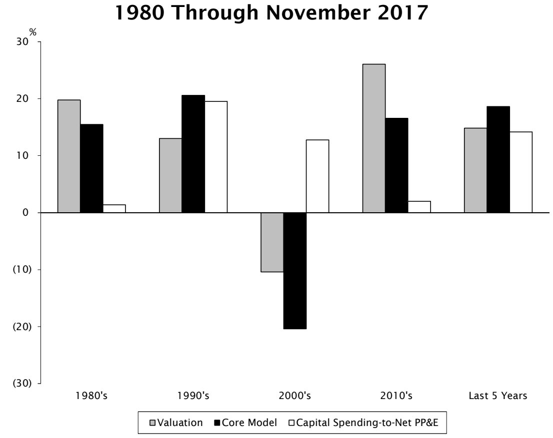
**Exhibit 5: Airline Stocks[1]**
**Correlation of Monthly Relative Returns with the Inverted Month-over-Month Percentage Change in Crude Oil Prices[2]**
**1976 Through October 2017**




Source: Empirical Research Partners Analysis.

[1] Drawn from the largest 1,500 stocks.
[2] Measured over the prior twenty-four months; data smoothed on a trailing three-month basis; oil price is average of WTI, Dubai and Brent.

**Exhibit 6: Airline Stocks[1]**
**Efficacy of Various Factors by Decade Measured by Best-Worst Quintile Relative Return Spread**
**1980 Through November 2017**



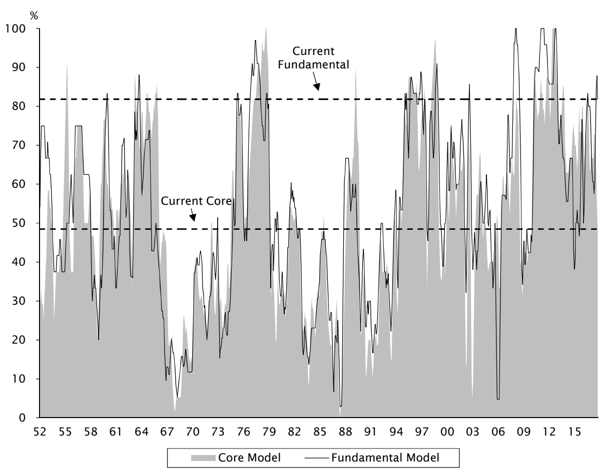

Source: Empirical Research Partners Analysis.

[1] Drawn from the largest 1,500 stocks.

### *Three Knowable Factors That Matter*

The good news is that airline stocks are indeed influenced by knowable factors. Empirical's core model for example has excelled in picking opportune times to invest in the industry. This has been the case across market regimes as well as time (see Exhibit 6 overleaf). The current reading on this basis is slightly more favorable than a random draw of 40%. If however, we exclude the market reaction factor which is momentum-oriented by nature, the outcome is more appealing. Our fundamental model which focuses on capital deployment, earnings quality and valuation is more telling. On this basis airlines are noticeably over-represented (see Exhibit 7). In fact the gap in representation for airline stocks is one of the highest on record. In Appendix 1 on page 14 we rank consumer-related stocks including airlines using our core and fundamental model.

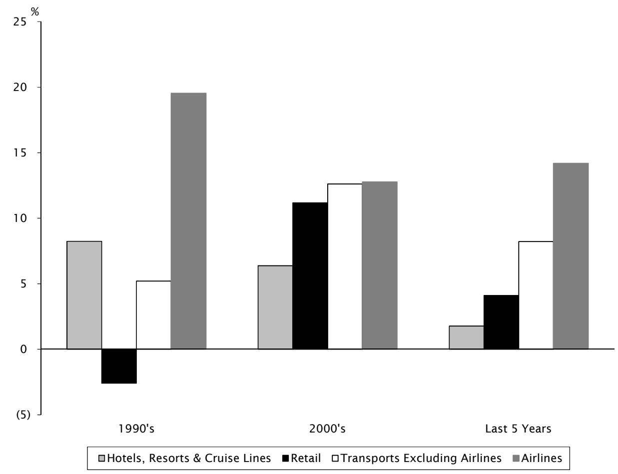
**Exhibit 7: Airline Stocks[1]**
**Share of Stocks in the Top Two Quintiles**
**of the Core and Fundamental Models**
**1952 Through Late-November 2017**




Source: Empirical Research Partners Analysis.

[1] Drawn from the largest 1,500 stocks. Data smoothed three months.

**Exhibit 8: Consumer Discretionary and Transportation Stocks[1]**
**Best-Worst Quintile Return Spread to**
**Capital Spending-to-PP&E by Decade**
**Measured Over One-Year Holding Periods**
**1990 Through November 2017**



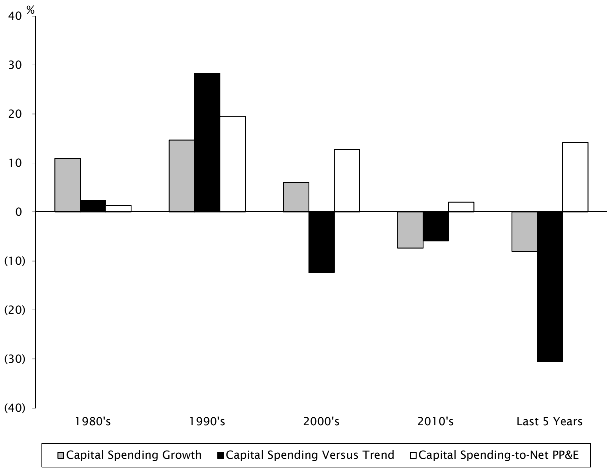

Source: Empirical Research Partners Analysis.

[1] Drawn from the largest 1,500 stocks.

Referring back to Exhibit 6, we can see that valuation and capital spending relative to P,P&E have also been important factors in understanding the performance of airline stocks. We devote considerable attention to valuation later in this report. This section deals with capital spending, which has been a determinant of stock price performance in the sector across all periods. In fact, the market is even more sensitive to capital spending when it comes to airlines than it is for other segments of the market (see Exhibit 8). What is particularly interesting about the market's view is that the level of spending has mattered more than the direction in spending per Exhibit 9. That is probably because the airline industry is a capital-intensive one and changes at the margin are not likely to alter that fact. The best time to buy the stocks is at the bottom of the cycle when capital-spending has been slashed.

Running an airline is a very physical business by nature. Property, plant and equipment comprise 60% of all assets, a measure which has been rising over time (see Exhibit 10). Hotels used to be even more physical than airlines, but they have found a better way. The same is true of the restaurant industry. Both of these sectors have learned to outsource capital intensity – and labor – by pursuing a strategy that is focused on franchising and brand management. This is an important underpinning of our optimistic view for these two industries. Unfortunately, airlines do not have the same opportunity available to them. It is hard to picture a day when Delta can unbundle its brand from the underlying operations. Capital intensity is therefore likely to remain high compared to other consumer-oriented sectors and the market overall. If there is an opportunity to create a capital-light model, the incumbent operators should hope they figure it out before Elon Musk or Jeff Bezos do. Both of these men are already playing with rockets and flirting with planes and trains.

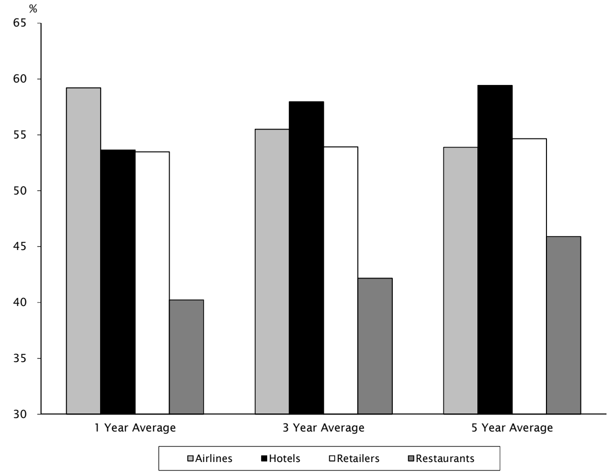
**Exhibit 9: Airline Stocks[1]**
**Efficacy of Select Capital Deployment Factors by Decade**
**Measured by Best-Worst Quintile Relative Return Spread**
**1980 Through November 2017**




Source: Empirical Research Partners Analysis.

[1] Drawn from the largest 1,500 stocks.

**Exhibit 10: Airline Stocks[1]**
**P,P&E as a Share of Assets**
**2012 Through Q3 2017**



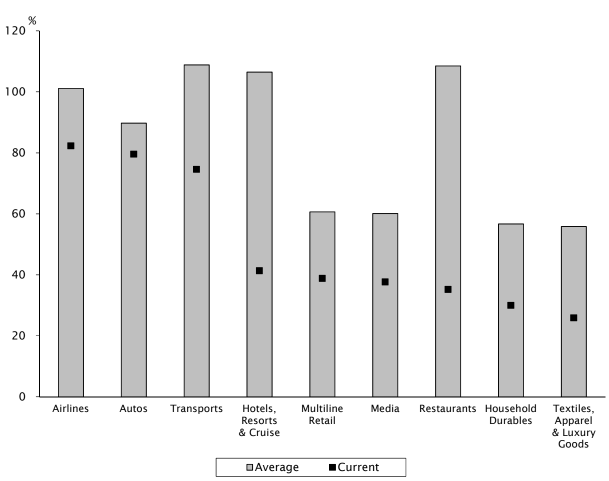

Source: Empirical Research Partners Analysis.

[1] Drawn from the largest 1,500 stocks.

## *Capital Intensive in a Capital-Light World*

In Exhibit 11 we compare the draw on gross cash flow from capital expenditures of airlines to that for eight other industries. The outliers are dominated by planes, trains and automobiles. No matter how you slice it, the airline business is a capital intensive one. This has been the case for 65 years during which airlines have been more capital intensive than the market on three important metrics. This has been true for every month over the past three years (see Exhibit 12).

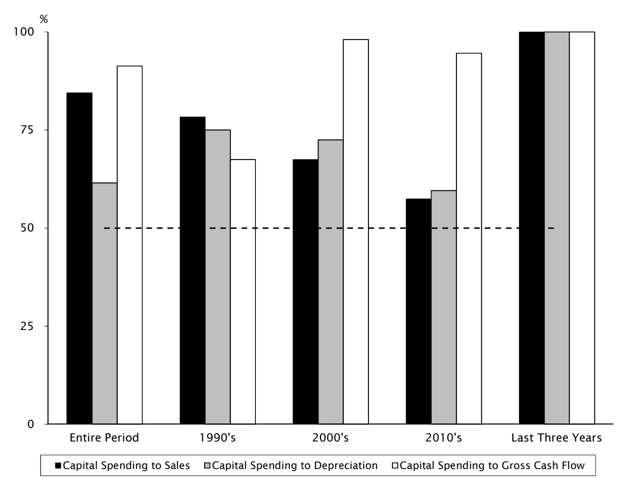
**Exhibit 11: U.S.: Large-Capitalization Consumer Discretionary Stocks**
**Capital Spending as a Share of Gross Cash Flow**
**by Industry Group[1]**
**Average and Current Level**
**1952 Through October 2017**




Source: Corporate Reports, Empirical Research Partners Analysis.

[1] Capitalization-weighted data. Drawn from the largest 1,500 stocks.

**Exhibit 12: Airline Stocks[1]**
**Share of Months With Capital Intensity**
**Greater Than the Market**
**Measured Relative to Sales, Depreciation**
**and Gross Cash Flow**
**1955 Through October 2017**



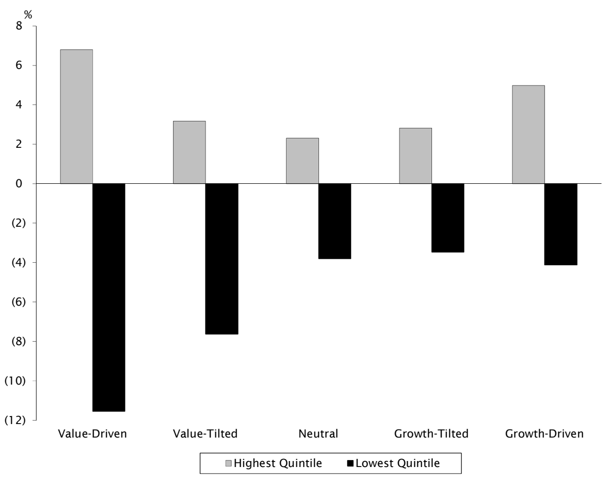

Source: Empirical Research Partners Analysis.

[1] Drawn from the largest 1,500 stocks.

The market has generally not been a fan of capital-intensive businesses regardless of regime or time period (see Exhibits 13 and 14). Companies in the highest quintile of capital intensity have consistently underperformed their asset-light peers. As more of the market has taken on a capital-light character the bar has been raised further. Growth-driven markets can be a bit more forgiving as the market gives a 'free pass' to companies that are investing to grow, but Empirical's view is that the market is poised to tilt more towards neutral than growth at the margin.

Many sage investors traffic in airline stocks yet the sector has a reputation for attracting traders more than owners. Adding Warren Buffet to the mix might help change that image, but the task is large. That is partly because the odds of capital-intensive stocks outperforming capital-light stocks have been low over time. Dating back to 1952, companies in the most capital intensive quintile have underperformed their asset-light counterparts 80% of the time. Outside of a growth-driven regime, the odds of outperforming asset-light stocks falls even further. Given how hard it is for capital-intensive stocks to outperform for long periods of time, it might be reasonable to expect a trading mentality to persist.

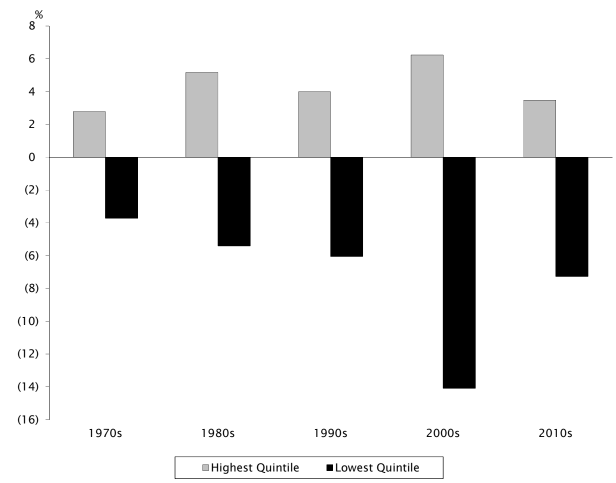
**Exhibit 13: Capital-Intensive Stocks**
**Relative Returns to the Highest and Lowest Quintiles of Gross Cash Flow-to-Net Capital Spending by Regime[1]**
**Monthly Data Compounded to Annual Periods**
**1954 Through October 2017**




Source: Empirical Research Partners Analysis.

[1] Equally-weighted returns for large-capitalization stocks.

**Exhibit 14: Capital-Intensive Stocks**
**Relative Returns to the Highest and Lowest Quintiles of Gross Cash Flow-to-Net Capital Spending by Decade[1]**
**Monthly Data Compounded to Annual Periods**
**1970 Through October 2017**




Source: Empirical Research Partners Analysis.

[1] Equally-weighted returns for large-capitalization stocks.

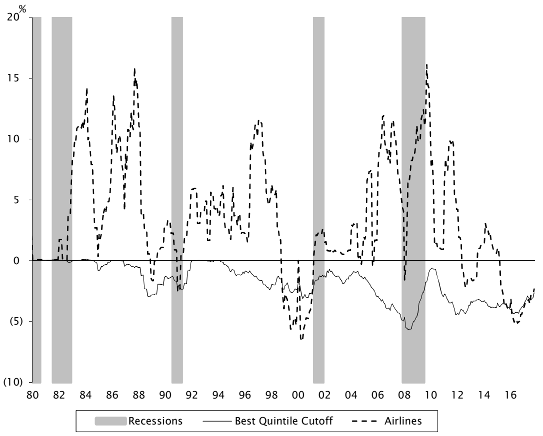
### *Buying Stock; Leasing Planes.*

A critical difference this time around is that the companies themselves are increasingly becoming owners -- of their own shares (see Exhibit 15). As a group, they are buying back more than 3% of their outstanding shares. This qualifies them as top quintile performers on this basis. With the economy growing at a nominal rate of only about +4% a large contraction in share-count is worth more than in the past and the market has rewarded such stocks. Devoting capital to buying back shares makes sense when the stocks are priced to a 9% earnings yield and the cost of borrowing is just over 2%. Ironically, this propensity to buy in more stock happens to be coinciding with operator's decision to own a smaller share of their aircraft (see Exhibit 16).

As it relates to financing aircraft, SEC filings have historically made it possible for investors to capitalize lease obligations as if it were ordinary debt. This practice will soon become formalized as lease obligations are scheduled to appear on company balance sheets by the end of 2018. The FASB ruling will affect retailers in exactly the same way. As a group, airlines carry roughly 1.5 turns of debt off-balance sheet in operating leases while retailers carry 0.8 turns of debt. The duration of lease terms is the same for both industries – roughly 7 years. Exhibit 17 offers a useful snapshot as it plots both the lease term and debt equivalence for airlines, retailers, hoteliers and restauranteurs. Retailers like DG, KSS and TPR (formerly known as COH) are loaded with operating leases. UAL leads the way in airlines, pulling the average up along with it. DAL and AAL are more typical in their positioning while ALGT, LUV and JBLU are less exposed.

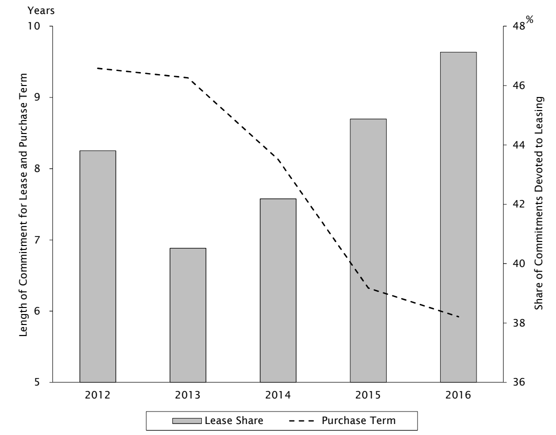
In a recent report entitled "Who's On the Hook?", we analyzed the degree businesses are committed to their constituents across industries including retail, media, hotels, cruise lines, restaurants, entertainment, homebuilders and airlines. We assessed both on- and off-balance sheet obligations, including leases. We add a new wrinkle to the analysis in this report that focuses on purchase commitments in aggregate as well as those that are beyond one-year in duration (see Exhibit 18). This has particular relevance for the airline sector, which is commitment-heavy. That's one reason why it perpetually sells at low multiples.

**Exhibit 15: Large-Capitalization Stocks**
**Change in Shares Outstanding**
**Lower Bound of the Best Quintile and the Industry Average for Airlines[1]**
**1980 Through October 2017**




Source: National Bureau of Economic Research, Empirical Research Partners Analysis.
[1] Equally-weighted data.

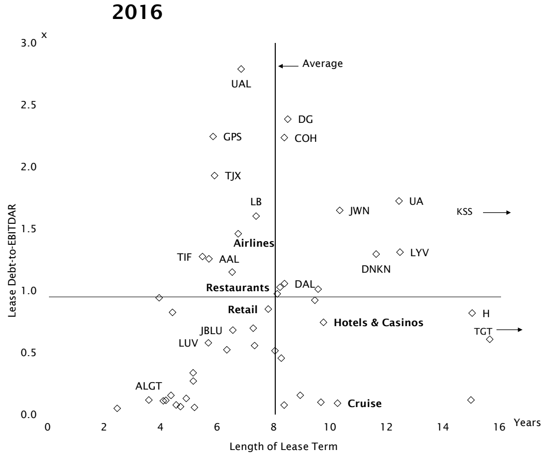
**Exhibit 16: Airline Stocks[1]**
**Commitments to New Aircraft by Term and Acquisition Type[2]**
**2012 Through 2016**




Source: Factset, Corporate Reports. Empirical Research Partners Analysis.

[1] Includes DAL, UAL, AAL, LUV, JBLU, ALK on a value-weighted basis.
[2] Term of commitment represents total commitment divided by first-year commitment.

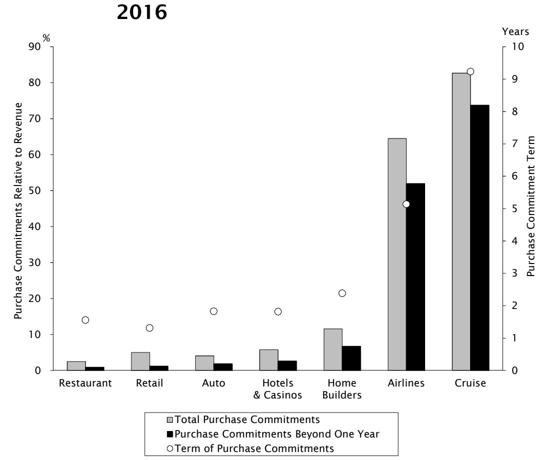
**Exhibit 17: Airlines and Select Consumer Companies**
**Term and Magnitude of Lease-Related Debt[1]**
**2016**




Source: Corporate Reports, Empirical Research Partners Analysis.

[1] Term calculated by dividing lease commitment by first year obligation.

**Exhibit 18: Airlines and Select Consumer Sectors[1]**
**Purchase Obligation Term and Relative to Sales[2]**
**2016**




Source: Corporate Reports, Empirical Research Partners Analysis.

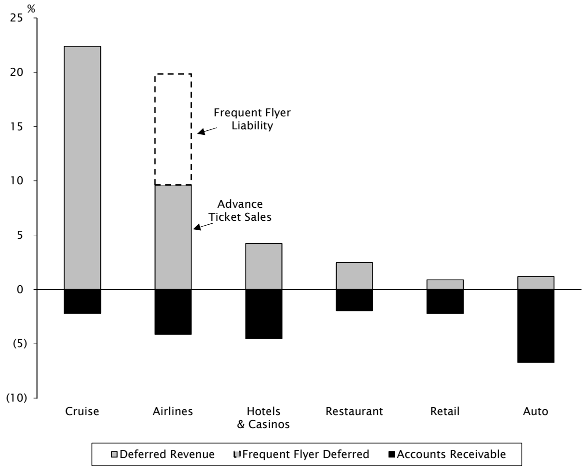
[1] Value-weighted data.
[2] Purchase term is total obligation divided by year-one commitment.

## *Airline Have Customer Clout*

In order to understand commitments at the customer level, we study deferred revenue and accounts receivable. The interplay of these two line items helps us determine which businesses have customer clout in their respective verticals. Cruise lines score the best on this measure (see Exhibit 19). That is because the customer commits to RCL, CCL and NCL well before the ships set sail. Deferred revenue balances – which largely represent advance ticket sales – equate to fully 22% of revenue for cruise operators. Airlines take second place on this measure. Their deferred revenue balances equate to 20% of annual revenue. Roughly half of this is comprised of advance ticket sales. The other half represents air traffic liabilities that are associated with frequent flyer rewards, which we break out separately.

The opposite of deferred revenue is accounts receivable. These represent payments that are made after the service has already been rendered and are graphically represented with a negative reading. Cruise lines have lots of deferred revenue and minimal accounts receivable. Customers like their product enough to pay them up-front with little in arrears. Airlines also have a big component of deferred revenue and a small balance of accounts receivable. In other words, they fare well when it comes to customer clout. Whether or not they have pricing power is another story. This is a function of supply and demand.

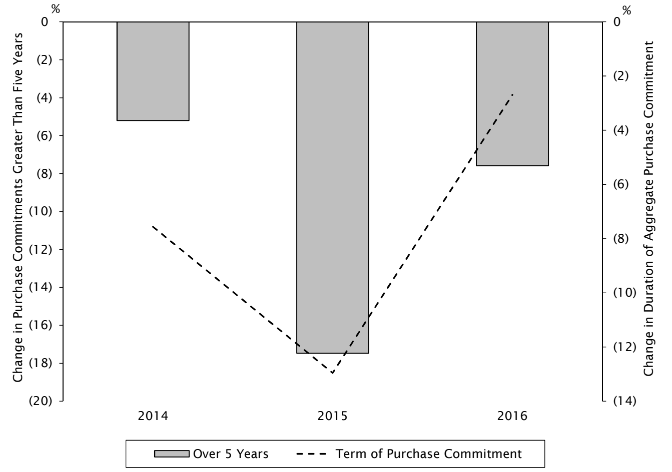
**Exhibit 19: Airlines and Select Consumer Industries[1]**
**Deferred Revenue and Accounts Receivables Relative to Sales[2]**
**2016**




Source: Corporate Reports, Empirical Research Partners Analysis.

[1] Airline stocks include: DAL, AAL, UAL, JBLU, LUV and ALGT. Value-weighted data.
[2] Accounts receivable are inverted to indicate their associated cash outflow.

**Exhibit 20: Airline Industry Capacity[1]**
**Change in Long-Term Aircraft Commitments and Change in Overall Commitment Term[2]**
**2014 Through 2016**



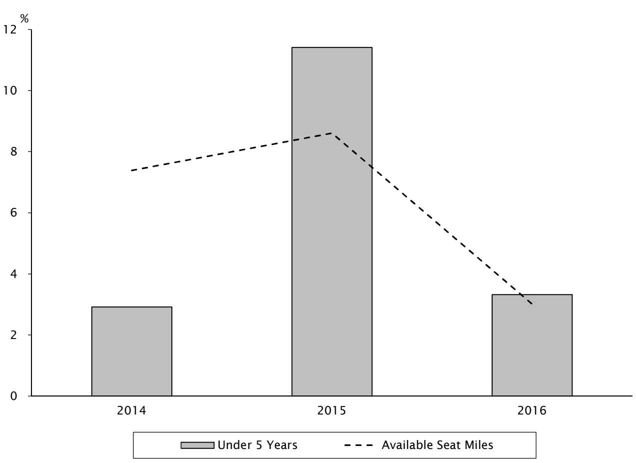

Source: Factset, Corporate Reports. Empirical Research Partners Analysis.

[1] Includes DAL, UAL, AAL, LUV, JBLU, ALK on a value-weighted basis.
[2] Term of commitment represents total commitment divided by first-year commitment.

## *Supply and Demand*

Using purchase obligations as a guide, airlines appear to be pulling back on supply. Their commitments to acquire aircraft beyond five years have been falling sharply. This has in effect reduced the term of their overall purchase commitment and given the appearance of disciplined supply growth (see Exhibit 20). Retailers have shortened their average lease life in much the same way, but aside from lightening the obligation load it may not be accomplishing much – at least not yet. That is because while offline backlogs may be falling, online capacity is still rising. The trend in available seat miles (ASM) seems to be following the short-end of the commitment curve, not the long-end. Exhibit 21 shows that commitments under 5 years are rising fast enough to create incremental supply. Data from the Bureau of Transportation Statistics seems to corroborate the difficulty airlines have had in striking a balance between supply and demand.

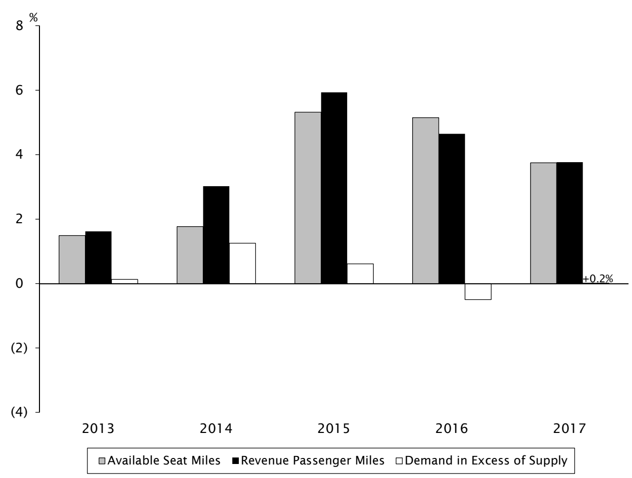
**Exhibit 21: Airline Industry Capacity[1]**
**Change in Short-Term Aircraft Commitments and Change in Industry Available Seat Miles**
**2014 Through 2016**




Source: Factset, Corporate Reports. Empirical Research Partners Analysis.

[1] Includes DAL, UAL, AAL, LUV, JBLU, ALK on a value-weighted basis.

**Exhibit 22: U.S. Airlines Supply and Demand**
**Year-Over-Year Changes in Capacity and Usage**
**2007 Through August 2017**

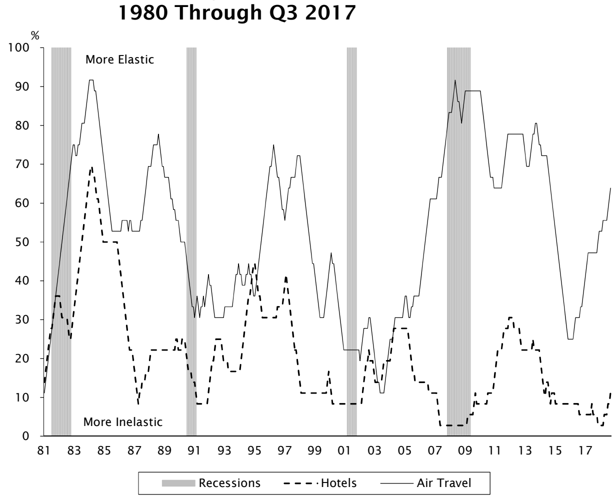



Source: Bureau of Transportation Statistics, Corporate Reports, Empirical Research Partners Analysis.

Exhibit 22 depicts the year-over-year growth in available seat miles (ASM), a reasonable estimate of online capacity, against revenue passenger miles (RPM). Supply is not out-of-kilter, but it is not in pristine condition either. Given the high degree of consolidation in the sector, we might have expected to see a healthier balance of supply and demand. Pricing power has been slow to manifest as a result. Exhibit 23 depicts the consumer's price sensitivity with respect to air travel. The analysis relies on monthly price and volume movements in the BEA's personal consumption series. The dotted line represents how frequently customers behave in a price-elastic manner. Low readings in this analysis augur well for pricing power and therefore margins. Even in the wake of consolidation, pricing power of airlines has been hot and cold. Hotels, live entertainment, restaurants and casinos are in better shape on this count.

On more traditional measures of supply and demand, passenger revenue per available seat mile (PRASM) and corresponding yields have been lackluster, evidencing the same phenomenon. The same goes for industry load factors, which have been flat at best. Pricing power and margin expansion are typical for consolidating industries, but both have been slow to surface in the airline sector so far. This is true even after excluding rent and fuel from the equation as we do in Exhibit 24. Incremental margins have not been a bounty just yet.

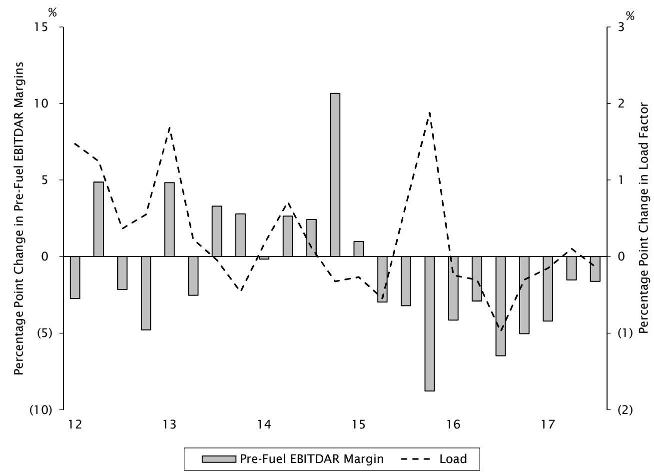
**Exhibit 23: Air Travel and Hotel Pricing Power Measured by Share of Observations Exhibiting Price Elasticity[1] 1980 Through Q3 2017**




Source: Bureau of Economic Analysis, National Bureau of Economic Research, Empirical Research Partners Analysis.

[1] Elasticity data smoothed on a trailing 36-month basis.

**Exhibit 24: Airline Stocks[1] Change in Pre-Fuel EBITDAR Margins and Load Factor[2] 2012 Through Q3 2017**




Source: Factset, Empirical Research Partners Analysis.

[1] Companies include DAL, AUL, AAL, LUV, JBLU, SAVE, ALK, Continental,
[2] Value-weighted data.

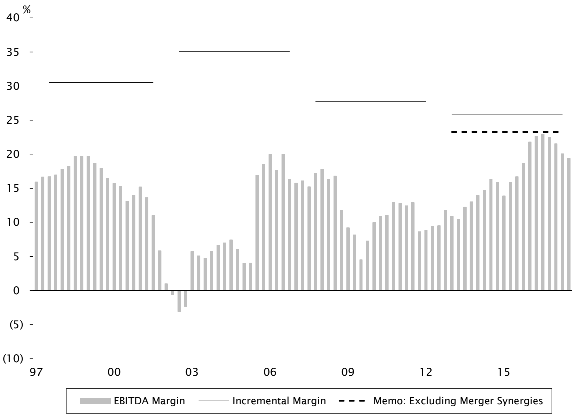
In Exhibit 25, we see EBITDA margins for airlines with market capitalizations that rank among the top 1,500 of all stocks. EBITDA margins have crested after making new highs, indicating poor incremental margin performance even despite a \$2+ billion synergy benefit that accrued to the group on account of mergers. Airline margins are prone to noise, so Exhibit 26 looks at EBITDA margins before rent and fuel, or EBITDARF (sounds appealing). Over the past five years, only DAL and LUV enjoyed incremental margins that were bigger than their baseline. The industry overall has seen incremental margins that have been well below the baseline in what was a good operating environment.

***The Destination Might Be Better Than the Journey, But…***

When we look at airlines through our consumer lens they are somewhat uninspiring. Stocks associated with a destination such as LVS, LYV and WYN fit better. However, airlines are not just consumer stocks and they do not need to fit a theme in order for them to work. The fact of the matter is that airline stocks are cheap, they have been meaningful underperformers, they are buying back shares at low valuations, they are operating in an increasingly consolidated industry and there may still be loads of untapped demand on the horizon.

The airline industry's relative earnings yield is 2% higher than other low-multiple peers that include autos, homebuilders and household durables (see Exhibit 27). In Exhibit 28 we show that airline stocks sport a multiple that is 40% less than the market's overall. This qualifies as the most attractive decile of valuation for the industry dating back forty years. With value as a support, it would not take a big improvement in fundamental metrics like the industry's load factor for the stocks to reverse course (see Exhibit 29). The group is not quite as attractive on a free cash flow basis given the heavy draw capital spending takes from gross cash flow (see Exhibit 30).

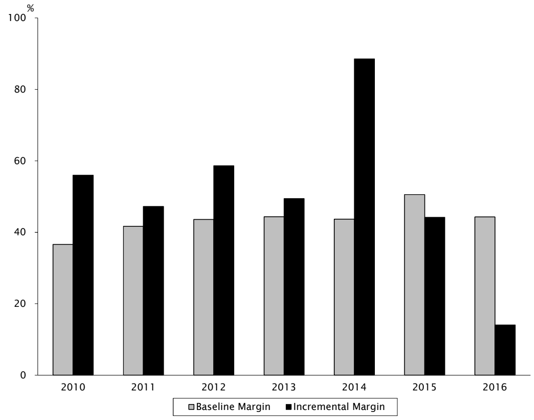
**Exhibit 25: U.S. Airline Stocks[1]**
**EBITDA Margins and Incremental EBITDA Margins[2]**
**1987 Through Q3 2017**




Source: Corporate reports, Empirical Research Partners Analysis.

[1] Sales-weighted data. Drawn from the largest 1,500 stocks.
[2] Incremental margins measure change in EBITDA divided by change in sales on a year-over-year basis provided both are positive or both are negative.

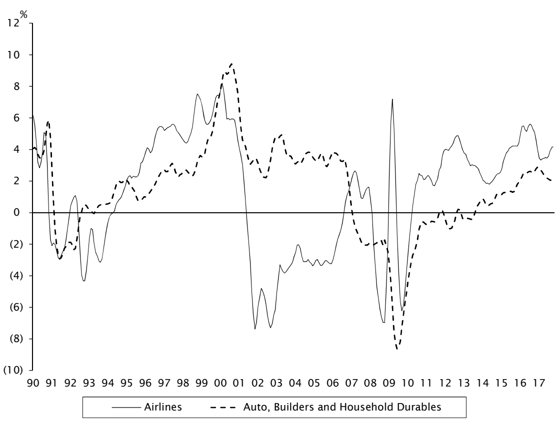
**Exhibit 26: Airline Stocks[1]**
**Profitability Before Rent and Fuel**
**Incremental Margin Relative to Baseline Margin[2]**
**2011 Through 2016**




Source: Factset, Company Reports, Empirical Research Partners Analysis.

[1] Stocks include: DAL,AAL,UAL, LUV, JBLU, ALK.
[2] Incremental margins smoothed three-years.

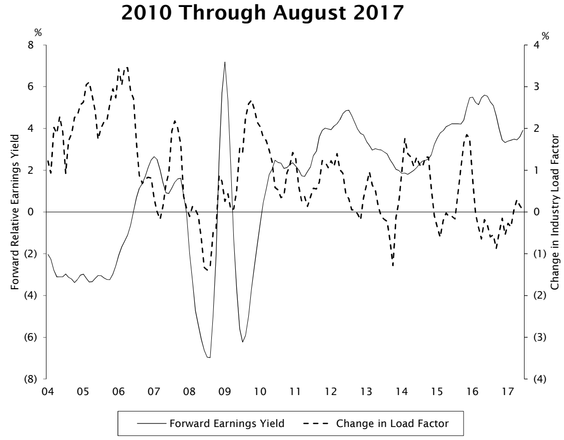
**Exhibit 27: Airline Stocks and Low-Multiple Consumer Cyclicals[1]**
**Forward Relative Earnings Yield**
**2010 Through October 2017**




Source: Corporate Reports, Empirical Research Partners Analysis.

[1] Capitalization-weighted data. Drawn from the largest 1,500 stocks.

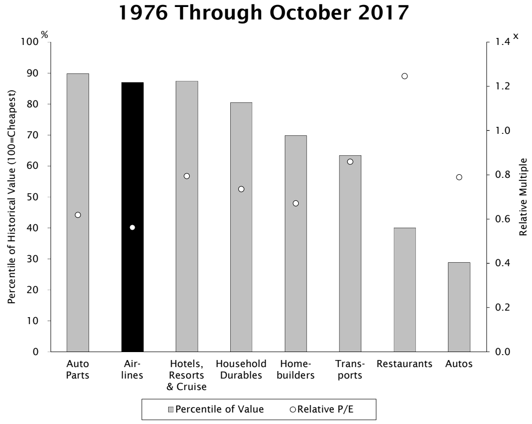
**Exhibit 28: Airline Stocks[1]**
**Forward Earnings Yield and Changes in Industry Load Factor[2]**
**2010 Through August 2017**




Source: Bureau of Transportation Statistics, Empirical Research Partners Analysis.

[1] Drawn from the largest 1,500 stocks; capitalization-weighted data.
[2] Year-over-year change in load factor smoothed three months.

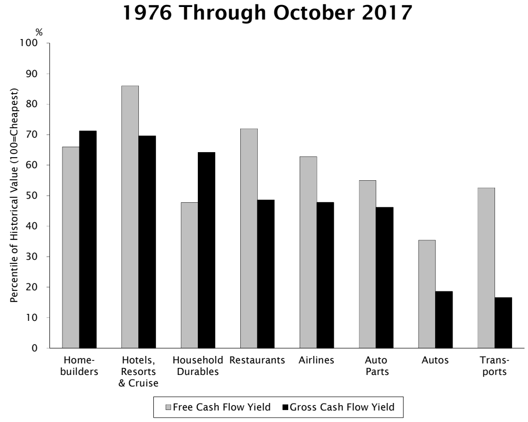
**Exhibit 29: Airline and Consumer Cyclicals**
**Relative Forward-P/E Ratios**
**and Percentile of Historical Value[1]**
**(100=Cheapest)**
**1976 Through October 2017**




Source: Empirical Research Partners Analysis.

[1] Capitalization-weighted data. Drawn from the largest 1,500 stocks.

**Exhibit 30: Airline and Consumer Cyclicals[1]**
**Relative Free Cash Flow and Gross Cash Flow Yields**
**Percentile of Historical Value**
**(100=Cheapest)**
**1976 Through October 2017**



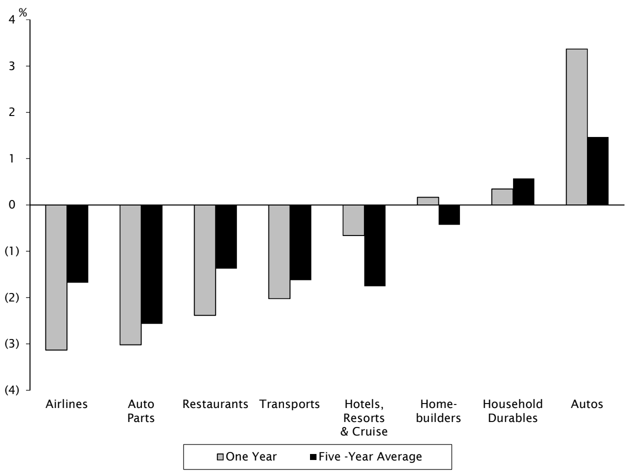

Source: Empirical Research Partners Analysis.

[1] Capitalization-weighted data. Drawn from the largest 1,500 stocks.

### ...Stocks Don't Need to Fit a Theme in Order for them to Work

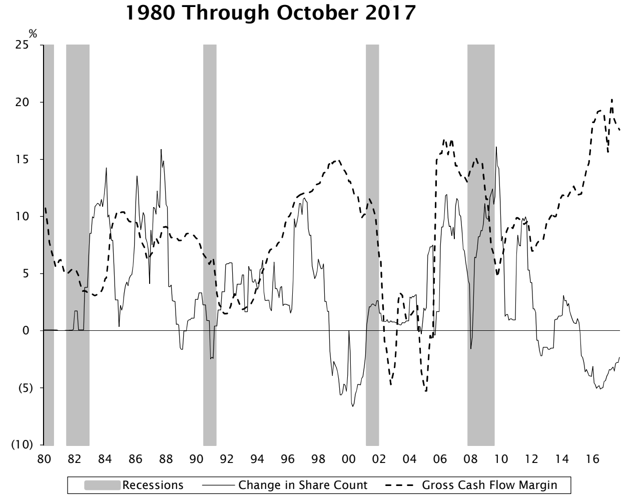
We noted above that airlines are buying back shares aggressively enough to qualify for the top quintile of all stocks. They show particularly well on this measure against other transports and consumer cyclicals (see Exhibit 31). At current levels margins are robust enough to accommodate both heavy capital spending and a healthy pace of buy-backs (see Exhibit 32). Fuel costs are the wildcard. In recent years, falling fuel costs have been a tailwind for margins and therefore for buybacks (see Exhibit 33). This is not uncommon. Other sectors like banks take advantage of improved business conditions and buy back stock as they permit (see Exhibit 34). There is reason enough to expect low fuel costs -- and therefore stock buybacks -- to persist. Moreover, stocks that are cheap have historically been rewarded most handsomely for aggressive repurchases. Companies trading in the lowest quintile of valuation that also rank in the top quintile of share buybacks have historically out-performed the market by 6% annually (see Exhibit 35).

**Exhibit 31: Large-Capitalization Airlines and Consumer Cyclicals Annualized Change in Share Count 2012 Through Q3 2017**




Source: Empirical Research Partners Analysis.

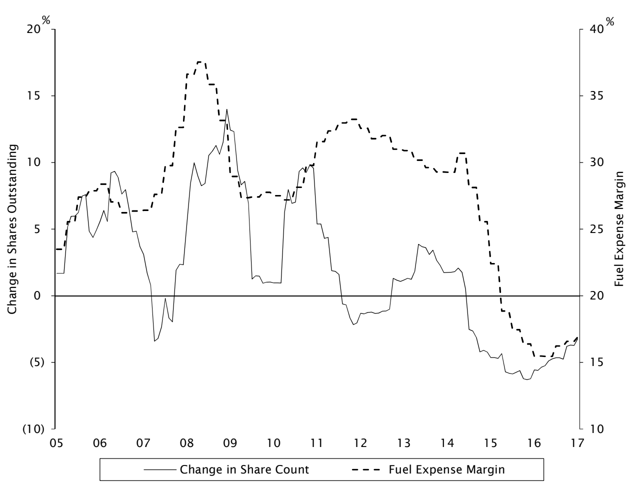
**Exhibit 32: Airline Stocks[1] Change in Shares Outstanding and Gross Cash Flow Margin 1980 Through October 2017**




Source: National Bureau of Economic Research, Empirical Research Partners Analysis.

[1] Equally-weighted data. Drawn from the largest 1,500 stocks.

**Exhibit 33: Airline Stocks[1] Change in Shares Outstanding and Fuel Expense Margin[2] 2005 Through October 2017**

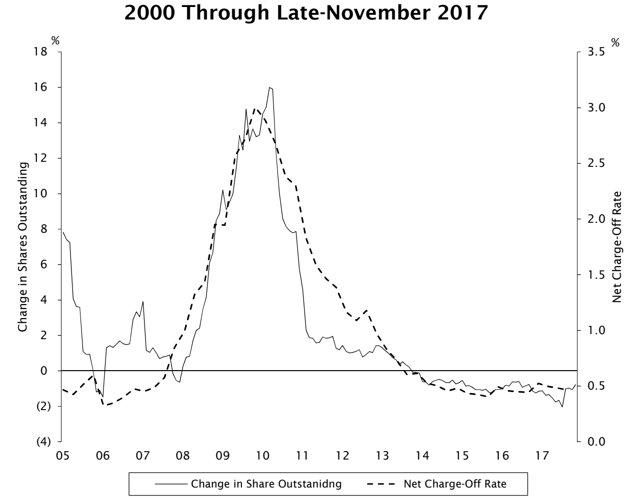



Source: Factset, Empirical Research Partners Analysis.

[1] Share count data are capitalization-weighted. Drawn from the largest 1,500 stocks

[2] Fuel cost data is value-weighted. Stocks include: DAL, AAL, UAL, JBLU, LUV, ALK, SAVE and ALGT.

**Exhibit 34: Large-Capitalization Bank Stocks Change in Share Outstanidng[1] and Net Charge-Off Rate for U.S. Commercial Banks 2000 Through Late-November 2017**



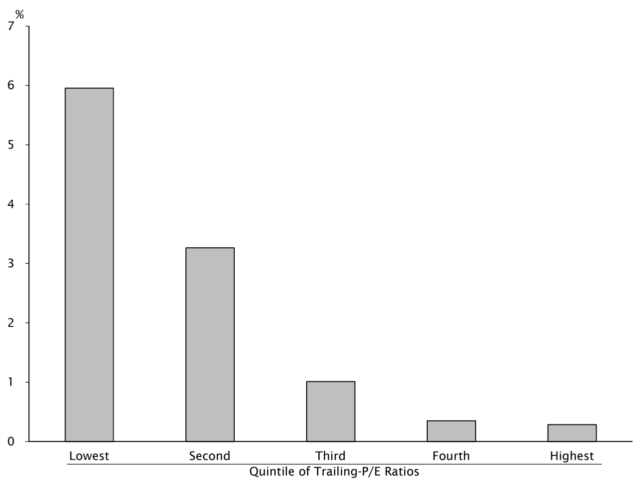

Source: Federal Deposit Insurance Corporation, Empirical Research Partners Analysis.

.[1] Capitalization-weighted data.

***Conclusion: We are Constructive on Airlines with an Appropriate Helping of Fear***

We struggle with the issue of capital intensity. We would also like to see the industry strike a more appealing balance of supply and demand. But one thing is for sure – if those things were already remedied, valuation would not be as compelling. The way we see it, there are enough merits to warrant exposure to the airline sector. Perhaps the most interesting one is that we believe a tick-up in demand is more likely than not. We are optimistic about the consumer, which seems to be getting stronger in the middle of the economic pyramid. This augurs especially well for the air travel which has not yet fully participated in the recovery. Historically, growth in air travel has followed the consumption of durables, but this cycle has been different (see Exhibit 36). The recovery in durables has been consistent with prior economic expansions. We show this is Exhibit 37 which depicts consumption trends in the wake of five post-war recessions. By contrast, air travel has lagged, leaving it in only the 4th inning of play (see Exhibit 38). In all, we are constructive on airline stocks with an appropriate dose of fear regarding margins, load factors and fuel. Our thinking is that pent-up demand, a consolidated industry backdrop, solid buybacks and cheap valuation offer enough reward to stomach the risk without getting terribly air sick.

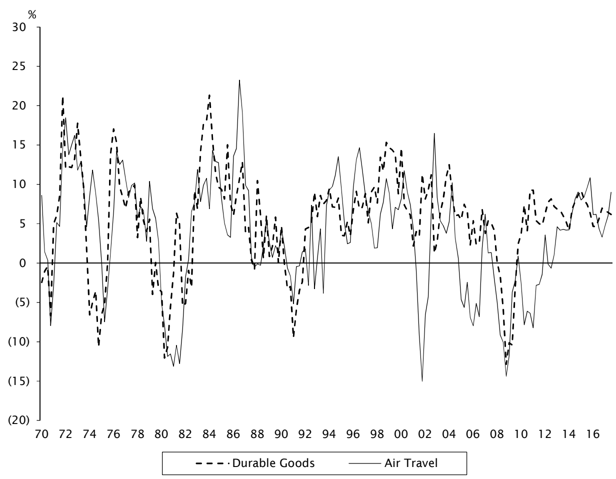
**Exhibit 35: Large-Capitalization Stocks
Relative Returns to the Best Quintile of Change Ratios in Shares Outstanding by Quintile of Trailing-P/E[1]
Measured Over One-Year Holding Periods
1952 Through Late-March 2015**




Source: Empirical Research Partners Analysis.

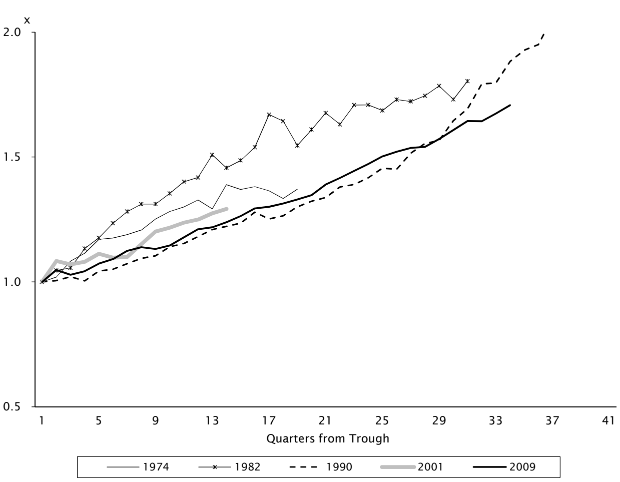
[1] Equally-weighted data.

**Exhibit 36: Air Travel and Durable Goods
Growth in Real Demand
1970 Through Q3 2017**




Source: Bureau of Economic Analysis, Empirical Research Partners Analysis.

**Exhibit 37: Real Consumption of Durable Goods
Best Point in Cyclical Recoveries
Indexed from Recession Troughs
1974 Through Q3 2017**




Source: Bureau of Economic Analysis, Empirical Research Partners Analysis.

**Exhibit 38: Real Consumption of Air Travel
Best Point in Cyclical Recoveries
Indexed from Recession Troughs
1974 Through Q3 2017**


Source: Bureau of Economic Analysis, Empirical Research Partners Analysis.

**Appendix 1: Consumer Stocks with Market Capitalizations Above $5 Billion**
**Fundamental Model Ranking Report**
**Sorted by Model Rank and Market Capitalization**
**As of Late-November 2017**

| | | | Quintile Ranks (1=Best; 5=Worst) | | | | Memo: | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Super Factors | | | | | | | | |
| Symbol | Company | Price | Valuation | Capital Deployment | Earnings Quality and Trend | Fundamental Model Rank | Gross Cash Flow -to-Net Capital Spending | Core Model Rank | Forward P/E-Ratio | YTD Return | Market Capitalization ($ Million) |
| **Top Two Quintiles** | | | | | | | | | | | |
| HD | HOME DEPOT INC | $177.25 | 4 | 1 | 2 | 1 | 1 | 1 | 20.0 x | 35.2 % | $207,028 |
| LOW | LOWE'S COMPANIES INC | 83.30 | 2 | 1 | 2 | 1 | 2 | 1 | 15.2 | 19.4 | 69,373 |
| GM | GENERAL MOTORS CO | 43.81 | 1 | 2 | 2 | 1 | 5 | 1 | 7.3 | 29.8 | 62,228 |
| LVS | LAS VEGAS SANDS CORP | 67.56 | 3 | 1 | 1 | 1 | 3 | 1 | 22.5 | 31.1 | 53,405 |
| F | FORD MOTOR CO | 12.56 | 1 | 1 | 4 | 1 | 4 | 1 | 7.7 | 9.3 | 49,894 |
| **DAL** | **DELTA AIR LINES INC** | **52.10** | **1** | **1** | **4** | **1** | **4** | **2** | **9.7** | **8.1** | **37,146** |
| FCAU | FIAT CHRYSLER AUTOMOBILES NV | 17.05 | 1 | 2 | 1 | 1 | 4 | 1 | 5.8 | 87.7 | 33,350 |
| RCL | ROYAL CARIBBEAN CRUISES LTD | 124.70 | 2 | 1 | 1 | 1 | 3 | 1 | 15.1 | 54.2 | 26,697 |
| MGA | MAGNA INTERNATIONAL INC | 55.21 | 1 | 1 | 2 | 1 | 4 | 1 | 8.6 | 30.2 | 20,083 |
| BBY | BEST BUY CO INC | 58.83 | 1 | 1 | 3 | 1 | 1 | 1 | 13.5 | 40.5 | 17,649 |
| WHR | WHIRLPOOL CORP | 168.99 | 1 | 1 | 3 | 1 | 2 | 2 | 11.3 | (4.7) | 12,167 |
| LEA | LEAR CORP | 179.10 | 1 | 1 | 2 | 1 | 4 | 1 | 10.1 | 36.7 | 12,100 |
| PHM | PULTEGROUP INC | 33.81 | 2 | 1 | 1 | 1 | 1 | 1 | 13.5 | 86.0 | 9,939 |
| H | HYATT HOTELS CORP | 72.09 | 2 | 1 | 2 | 1 | 3 | 1 | 47.0 | 30.5 | 8,763 |
| HOG | HARLEY-DAVIDSON INC | 48.98 | 1 | 1 | 2 | 1 | 1 | 1 | 13.5 | (14.3) | 8,243 |
| TOL | TOLL BROTHERS INC | 50.09 | 2 | 1 | 1 | 1 | 1 | 1 | 14.2 | 62.6 | 8,117 |
| GT | GOODYEAR TIRE & RUBBER CO | 32.14 | 1 | 1 | 4 | 1 | 4 | 3 | 9.3 | 5.5 | 7,917 |
| ADNT | ADIENT PLC | 79.08 | 3 | 3 | 1 | 1 | 4 | 1 | 7.9 | 36.5 | 7,362 |
| GNTX | GENTEX CORP | 20.17 | 2 | 1 | 1 | 1 | 3 | 2 | 15.1 | 4.4 | 5,726 |
| AN | AUTONATION INC | 55.36 | 1 | 3 | 3 | 1 | 4 | 1 | 14.0 | 13.8 | 5,051 |
| **LUV** | **SOUTHWEST AIRLINES** | **58.88** | **2** | **1** | **4** | **2** | **4** | **2** | **14.1** | **18.9** | **34,939** |
| VFC | VF CORP | 74.13 | 4 | 1 | 1 | 2 | 2 | 1 | 22.3 | 42.1 | 29,292 |
| DLPH | DELPHI AUTOMOTIVE PLC | 102.05 | 3 | 3 | 2 | 2 | 3 | 2 | 14.3 | 53.6 | 27,129 |
| **AAL** | **AMERICAN AIRLINES GROUP INC** | **49.25** | **1** | **1** | **5** | **2** | **5** | **2** | **10.1** | **6.4** | **23,640** |
| MGM | MGM RESORTS INTERNATIONAL | 33.65 | 4 | 2 | 1 | 2 | 5 | 2 | 25.6 | 18.0 | 19,051 |
| **UAL** | **UNITED CONTINENTAL HLDGS INC** | **62.09** | **1** | **2** | **5** | **2** | **5** | **3** | **9.6** | **(14.8)** | **18,394** |
| WYNN | WYNN RESORTS LTD | 156.07 | 4 | 1 | 1 | 2 | 4 | 1 | 26.1 | 83.4 | 16,041 |
| NVR | NVR INC | 3,468.40 | 4 | 3 | 1 | 2 | 1 | 1 | 21.2 | 107.8 | 12,972 |
| HAS | HASBRO INC | 92.84 | 3 | 2 | 1 | 2 | 1 | 3 | 17.9 | 22.2 | 11,564 |
| TIF | TIFFANY & CO | 92.55 | 4 | 1 | 1 | 2 | 1 | 2 | 20.9 | 21.4 | 11,502 |
| WYN | WYNDHAM WORLDWIDE CORP | 112.27 | 2 | 1 | 4 | 2 | 2 | 1 | 17.3 | 50.6 | 11,376 |
| TSCO | TRACTOR SUPPLY CO | 69.36 | 2 | 2 | 1 | 2 | 2 | 2 | 20.1 | (6.9) | 8,729 |
| CMG | CHIPOTLE MEXICAN GRILL INC | 301.99 | 4 | 3 | 1 | 2 | 4 | 4 | 35.6 | (20.0) | 8,542 |
| **ALK** | **ALASKA AIR GROUP INC** | **69.11** | **1** | **3** | **5** | **2** | **5** | **3** | **10.6** | **(20.9)** | **8,527** |
| THO | THOR INDUSTRIES INC | 155.25 | 2 | 5 | 1 | 2 | 4 | 1 | 15.6 | 56.6 | 8,181 |
| PII | POLARIS INDUSTRIES INC | 129.06 | 2 | 2 | 2 | 2 | 1 | 1 | 24.0 | 59.8 | 8,072 |
| DPZ | DOMINO'S PIZZA INC | 179.17 | 5 | 1 | 2 | 2 | 3 | 3 | 27.4 | 13.3 | 7,836 |
| AAP | ADVANCE AUTO PARTS INC | 99.95 | 1 | 3 | 3 | 2 | 1 | 4 | 17.5 | (40.8) | 7,386 |
| GIL | GILDAN ACTIVEWEAR INC | 31.77 | 3 | 1 | 4 | 2 | 1 | 1 | 17.3 | 26.9 | 7,009 |
| SCI | SERVICE CORP INTERNATIONAL | 36.81 | 4 | 2 | 1 | 2 | 2 | 2 | 23.7 | 31.3 | 6,911 |
| **JBLU** | **JETBLUE AIRWAYS CORP** | **20.96** | **1** | **4** | **4** | **2** | **5** | **3** | **11.7** | **(6.5)** | **6,721** |
| SERV | SERVICEMASTER GLOBAL HLDGS | 48.51 | 4 | 3 | 1 | 2 | 1 | 2 | 22.0 | 28.8 | 6,550 |
| SIX | SIX FLAGS ENTERTAINMENT CORP | 64.16 | 3 | 2 | 2 | 2 | 3 | 2 | 28.5 | 11.8 | 5,376 |
| DNKN | DUNKIN' BRANDS GROUP INC | 58.40 | 4 | 1 | 1 | 2 | 1 | 2 | 22.7 | 14.0 | 5,275 |
| CRI | CARTER'S INC | 110.29 | 3 | 1 | 3 | 2 | 2 | 1 | 18.3 | 29.8 | 5,230 |
| **Bottom Two Quintiles** | | | | | | | | | | | |
| TSLA | TESLA INC | $307.54 | 5 | 5 | 5 | 5 | 5 | 5 | NM | 43.9 % | $51,687 |
| YUM | YUM BRANDS INC | 81.81 | 5 | 5 | 1 | 5 | 5 | 5 | 26.7 x | 31.4 | 27,734 |
| MHK | MOHAWK INDUSTRIES INC | 279.10 | 4 | 5 | 4 | 5 | 5 | 5 | 19.4 | 39.8 | 20,748 |
| DHI | D R HORTON INC | 50.66 | 4 | 4 | 4 | 5 | 4 | 3 | 14.0 | 87.1 | 18,999 |
| LKQ | LKQ CORP | 39.50 | 3 | 5 | 5 | 5 | 3 | 4 | 19.2 | 28.9 | 12,207 |
| GRMN | GARMIN LTD | 62.40 | 4 | 5 | 4 | 5 | 3 | 4 | 21.2 | 32.5 | 11,736 |
| MTN | VAIL RESORTS INC | 223.83 | 5 | 4 | 5 | 5 | 3 | 4 | 31.5 | 40.9 | 9,056 |
| MAT | MATTEL INC | 18.24 | 4 | 5 | 3 | 5 | 5 | 5 | 49.9 | (31.0) | 6,270 |
| UAA | UNDER ARMOUR INC | 13.57 | 4 | 5 | 4 | 5 | 4 | 5 | 63.6 | (53.3) | 5,993 |
| BFAM | BRIGHT HORIZONS FAMILY SOLTN | 88.68 | 5 | 5 | 2 | 5 | 3 | 4 | 30.7 | 26.6 | 5,615 |
| POOL | POOL CORP | 124.92 | 5 | 4 | 3 | 5 | 3 | 4 | 27.5 | 21.2 | 5,018 |
| MCD | MCDONALD'S CORP | 170.43 | 5 | 3 | 2 | 4 | 3 | 3 | 24.8 | 42.8 | 135,864 |
| NKE | NIKE INC | 60.36 | 5 | 3 | 4 | 4 | 3 | 4 | 22.6 | 19.9 | 99,168 |
| RACE | FERRARI NV | 108.40 | 5 | 3 | 1 | 4 | 4 | 3 | 32.6 | 88.2 | 27,007 |
| HLT | HILTON WORLDWIDE HOLDINGS | 76.56 | 5 | 4 | 1 | 4 | 2 | 3 | 35.4 | 38.5 | 24,574 |
| LEN | LENNAR CORP | 62.18 | 3 | 4 | 4 | 4 | 1 | 4 | 13.4 | 47.8 | 14,629 |
| ULTA | ULTA BEAUTY INC | 223.10 | 4 | 5 | 2 | 4 | 4 | 5 | 20.6 | (12.5) | 13,753 |
| GPC | GENUINE PARTS CO | 91.50 | 2 | 5 | 4 | 4 | 3 | 5 | 17.9 | (2.0) | 13,415 |
| TPR | TAPESTRY INC | 41.51 | 2 | 4 | 5 | 4 | 2 | 3 | 15.3 | 21.4 | 11,804 |
| ALV | AUTOLIV INC | 126.82 | 3 | 3 | 4 | 4 | 4 | 4 | 18.5 | 14.5 | 11,027 |
| PVH | PVH CORP | 137.14 | 2 | 4 | 5 | 4 | 3 | 2 | 14.7 | 52.2 | 10,638 |
| LEG | LEGGETT & PLATT INC | 48.10 | 3 | 4 | 4 | 4 | 3 | 5 | 18.0 | 0.6 | 6,340 |
| CAA | CALATLANTIC GROUP INC | 55.43 | 3 | 2 | 5 | 4 | 5 | 3 | 14.4 | 63.5 | 6,116 |
| IGT | INTL GAME TECHNOLOGY PLC | 27.53 | 2 | 5 | 2 | 4 | 5 | 4 | 19.8 | 11.9 | 5,573 |

Source: Empirical Research Partners Analysis.