

October 2010

# Correlation and Dispersion in the Current Market Environment

For over a year, we have been discussing our belief that differentiation will be a defining characteristic of the next investment cycle. What do we mean by differentiation? Simply put, we expect relative outperformance of individual companies to be driven by the following characteristics:

- High levels of sustainable free cash flow
- Conservative balance sheets with low levels of debt
- Management teams with the ability to balance reinvestment with sensible, shareholder-friendly capital deployment

Whereas we believe that deleveraging, of both consumer and corporate balance sheets, will be a defining characteristic in the next investment cycle, access to credit was undifferentiated over the last decade. Consumers and corporations had easy access to financial leverage almost regardless of their credit profile. With the winds of global economic growth at their back, companies with more financial leverage outperformed during the last decade. This trend is visible in Exhibit 1, which divides the returns of 800 of the largest-cap stocks over different decades based on their net debt-to-common equity ratio, a measure of a company's financial leverage. As one can see, from 2000 to 2009, companies with the best (least) amount of leverage underperformed those with the worst (most) leverage by 8.1%. This underperformance was a headwind not experienced during any of the previous four decades.

## Exhibit 1

Relative Returns of Large-capitalization Stocks by Quintile of Net Debt-to-Common Equity Ratio (%)

	Entire Period	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009
Best	0.3	3.1	-0.1	-1.0	6.8	-5.8
Second	0.1	1.2	0.7	1.7	-1.6	-1.2
Third	0.6	0.0	2.2	1.0	-3.4	2.9
Fourth	-0.3	-4.5	1.4	0.2	-4.7	4.0
Worst	-1.1	-4.2	-0.9	-1.0	-3.2	2.3
Best - Worst	1.4	7.3	0.7	0.0	10.0	-8.1

As of 16 December 2009

Source: Empirical Research Partners Analysis.

Includes the largest 750 U.S. companies by market capitalization plus those companies in the S&P 500 Index that are not among the largest 750, for a total of approximately 800 companies.

While we have yet to see the large differentiation in performance between the “winners” and the “losers” that we had anticipated, we are seeing clear divergence among companies from an operating performance perspective. We continue to expect operational differentiation to drive share prices over time, especially as the financing-driven recovery of 2009 and 2010 fades, and core profitability from business operations moves to the front of investors' minds.

## Correlation

In the current environment, most stocks in the market have been moving in unison to every new macroeconomic data point. Correlation among all stocks is near all-time highs. Correlation is a term that is easily misunderstood. To clarify, it is a statistical measure of how the prices of two securities move in relation to each other, and it ranges from -1 (a perfect negative correlation) to +1 (a perfect positive correlation). It is important to note that correlation only indicates the direction of the movement, nothing else. Therefore, if stock prices of several companies within a certain benchmark index are all increasing—and the index is also rising—but they do so to significantly varying degrees, correlation could still be high, and should be positive, but it would not necessarily provide any information about the actual performance of each stock. A basic example will help to illustrate this concept. Exhibit 2 displays the relationship between the share prices of two companies. When Stock A rises 40%, Stock B also rises 40%. When Stock A rises 50%, Stock B rises 50%. Although the final series movement shows Stock B gaining 100% when Stock A increases 60% (a gap of 40%) the correlation of the price series is 0.93, which is very high although the final endpoints in the data series are far apart.

### Exhibit 2

Example of Correlation Between the Share Price Returns of Two Companies

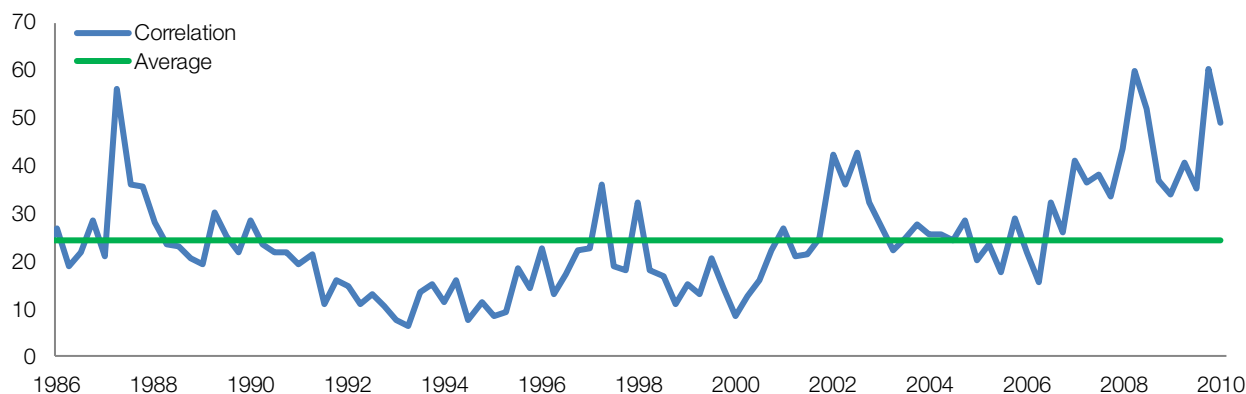
	Stock A	Stock B
Share Price Return 1	40%	40%
Share Price Return 2	50%	50%
Share Price Return 3	60%	100%
Correlation		0.93

Shown for illustrative purposes only.

How does this relate to investing in the current environment? Historically, stocks have had an average correlation of approximately 24%. Currently, correlation is nearly double that amount (see Exhibit 3), a level only reached a handful of times in the past 25 years.

### Exhibit 3

Average Stock Correlation within the S&P 500 Index (%)



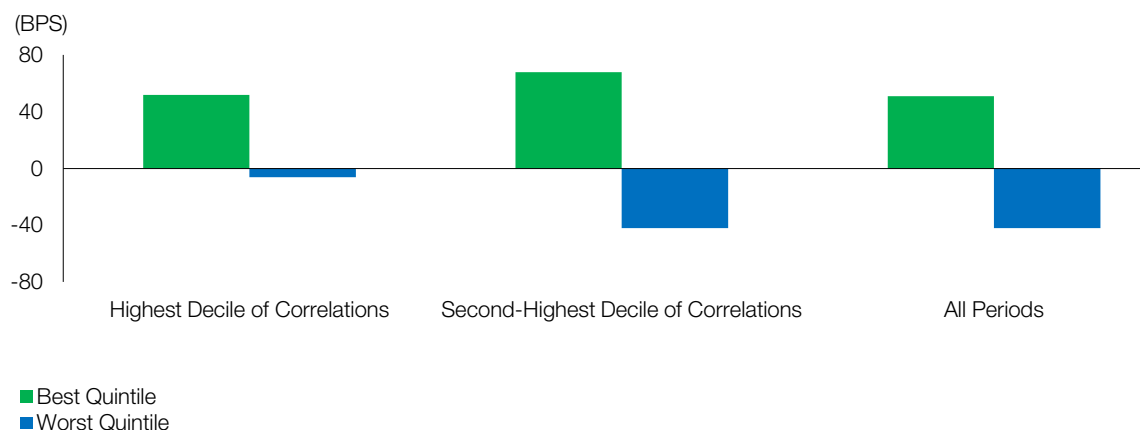
As of 30 September 2010

Source: Bank of America Merrill Lynch

Intuitively and in general, when the market environment is characterized by high correlation, there are significant macroeconomic factors creating uncertainty regarding the direction of the overall economy. In other words, a true trend has not been established. While—based on our experience—valuation generally drives stock price performance during most investment periods, currently it is not nearly as relevant. However, we expect valuation based on free cash flow to become more important as correlation decreases.

**Exhibit 4**

Relative Monthly Returns for Best/Worst Quintiles of Valuation During Periods of High Correlation – 1952 Through July 2010



As of July 2010

Source: Empirical Research Partners Analysis.

Data based on large-cap stocks relative return to Empirical valuation factor. Includes the largest 750 U.S. companies by market capitalization plus those companies in the S&P 500 Index that are not among the largest 750, for a total of approximately 800 companies.

In Exhibit 4, one can see that the returns of stocks with unattractive valuations are not as differentiated during periods of high correlation than they are during all (or the average) period. Throughout the past 25 years, there have been five distinct times when correlation spiked to high levels, and we currently are in the fifth period. Coming out of the other cycles, winning stocks were consistently characterized by high levels of free cash flow, and we believe this will be the case again once correlations subside to levels closer to the historical average. Exhibit 5 measures the returns of the past four periods after correlation spiked. By measuring the return of the cheapest (most attractive) decile of large caps based on price/free cash flow as compared to the S&P 500 Index return, we can see that the cheapest decile (based on price/free cash flow) had a higher return than the Index for each period, meaning that the price/free cash flow factor can be considered a meaningful contributor to returns during times when correlation declines.

**Exhibit 5**

Four Periods of High Correlations Over the Past 25 Years

Highest Correlation Date	Lowest Correlation Date	Returns <sup>2</sup>		
		Price/Free Cash Flow <sup>1</sup>	S&P 500 Index	Difference
12/31/1987	9/30/1989	53%	45%	8%
12/31/1997	6/30/1999	33%	27%	7%
9/30/2002	12/31/2003	65%	57%	9%
12/31/2008	6/30/2009	23%	12%	11%

As of 30 September 2010

Source: Bank of America Merrill Lynch

1 Price/free cash flow returns are based on the average return of the cheapest decile of the S&P 500 Index, as ranked by price/free cash flow.

2 Returns are equal weighted in order to eliminate market cap bias.

**Dispersion**

In the world of statistics, “dispersion” is a close relative of “correlation.” Dispersion refers to the location of a set of values relative to the average. It defines how spread apart the values in a set are. Whereas correlation identifies how tightly a series of stocks move directionally, dispersion tells us how far apart they move. For the purposes of this paper, we define dispersion as the spread between the 25th and 75th percentile of returns. The wider that spread, the higher the dispersion and the larger the spread of outcomes. Exhibit 6 shows an example in which Stock A is in the 25th percentile and Stock C is in the 75th percentile based on returns. To calculate the dispersion, one simply needs to subtract the total return of the 25th percentile stock from the 75th percentile stock. So 50%-10% equals to a 40% dispersion.

**Exhibit 6**

## Example of Dispersion of Returns

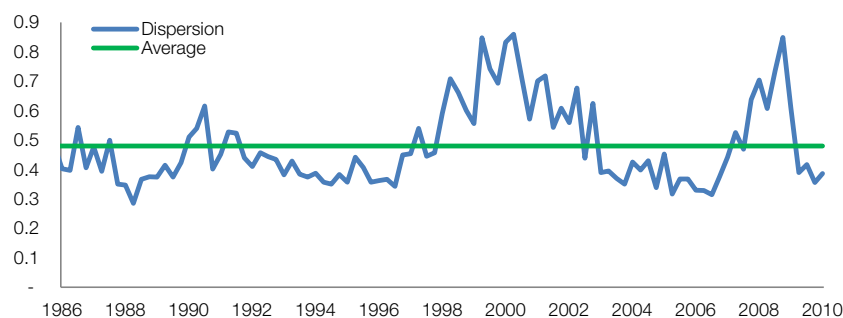
Stock	Total Return	Percentile
A	10%	25%
B	20%	50%
C	50%	75%
D	70%	100%
Dispersion (C-A)	40%	

Shown for illustrative purposes only.

Dispersion is relatively low today as compared to the levels of the past 25 years, as displayed in Exhibit 7. While dispersion among all stocks rarely stays high for very long, it can remain low for long periods of time. Periods characterized by increasing levels of dispersion are typically periods when the ranges of stock returns are wider and stock selection is paramount.

**Exhibit 7**

## Quarterly S&amp;P 500 Index Dispersion Over the Past 25 Years



As of 30 September 2010

Source: Bank of America Merrill Lynch

Historically, when dispersion has increased, companies with conservative balance sheets and more consistent profitability have outperformed, as illustrated in Exhibit 8. In this exhibit, we measure three periods where the market moved from a low-dispersion to a high-dispersion environment. In each of these environments, one can see that the companies that carried high debt/equity generally underperformed the Index. In contrast, stand-alone factors that outperformed the Index included: low debt/equity, high return of equity measured on both a one- and a five-year basis, and a high return on capital. We recognize that periods of low dispersion can last for several years. However, the market is already at low levels of dispersion, suggesting that the tailwind that has historically helped highly leveraged, less profitable companies may be reversing.

**Exhibit 8**Balance Sheet/Profitability Factors<sup>1</sup>

Lowest Dispersion Date	Highest Dispersion Date	Return of High Debt/Equity <sup>2</sup>	Return of Low Debt/Equity <sup>2</sup>	Debt-adjusted Return on Equity (ROE) <sup>3</sup>		Return on Invested Capital (ROIC) <sup>4</sup>	S&P 500 Index
				1 yr	5 yr		
12/31/1988	3/31/1991	-3%	50%	84%	81%	48%	24%
3/31/1997	12/31/1999	66%	155%	112%	126%	89%	51%
3/31/2007	6/30/2009	-63%	-31%	-26%	-25%	-31%	-37%

As of 30 September 2010

Source: Bank of America Merrill Lynch, Lazard

- All of the returns are equal weighted in order to eliminate market cap bias.
- The debt/equity categories are based on the highest and lowest deciles of debt/equity in the S&P 500 Index.
- In the debt-adjusted return on equity calculation, returns for companies with higher debt levels are considered lower than returns for companies with lower debt levels. The return calculates the performance of the S&P 500 Index's top 50 stocks each month based on the 5 year return on equity, rebalanced monthly.
- The return on invested capital calculates the performance of the S&P 500 Index's top 50 stocks each month based on the 5 year return on invested capital, rebalanced monthly.

We consistently focus on companies that generate more free cash flow, produce more profits, and have more conservative balance sheets than the market. We believe these characteristics afford management teams significant operational flexibility. In our view, companies that are good stewards of capital will generate excess shareholder returns. Although we have discussed some of these beliefs over the past several quarters, we continue to position our U.S. strategies to potentially benefit from the eventual normalization of policy and continued deleveraging of the U.S. consumer. The characteristics of our U.S. strategies clearly show our conviction, as illustrated in Exhibit 9.

### Exhibit 9

#### Investment Characteristics of Lazard's U.S. Strategies

	Price/Free Cash Flow	Debt/Equity (%)	1 yr Debt-adjusted ROE (%)	5 yr Debt-adjusted ROE (%)	ROIC (%)
U.S. Strategic Equity	14.6	41	12.4	12.8	12.2
S&P 500 Index	16.4	51	8.9	9.9	8.9
U.S. Equity Concentrated	12.3	24	13.6	12.3	13.7
S&P 500 Index	16.4	51	8.9	9.9	8.9
U.S. Equity Select	14.6	41	13.9	12.9	13.9
S&P500 Index	16.4	51	8.9	9.9	8.9
U.S. Equity Value	13.0	44	12.0	11.1	11.4
Russell 1000 Value Index	14.5	57	5.8	6.3	5.6
U.S. Mid Cap Equity	14.9	45	10.3	11.4	10.3
Russell Midcap Index	16.5	50	7.7	7.0	7.3
U.S. Small-Mid Cap Equity	17.9	43	7.7	7.0	7.1
Russell 2500 Index	16.4	23	4.7	4.8	4.5

As of 30 September 2010

Source: Bank of America Merrill Lynch, Lazard

The investment characteristics above are based upon a portfolio that represents the proposed investment for a fully discretionary account for the respective strategies.

### Important Information

Originally published on 15 October 2010. Revised and republished on 8 November 2010

Past performance is not a reliable indicator of future results.

Equity securities will fluctuate in price; the value of your investment will thus fluctuate, and this may result in a loss.

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