

Research Brief:

Return Correlation and Dispersion - Tough Times for Active Managers

Author

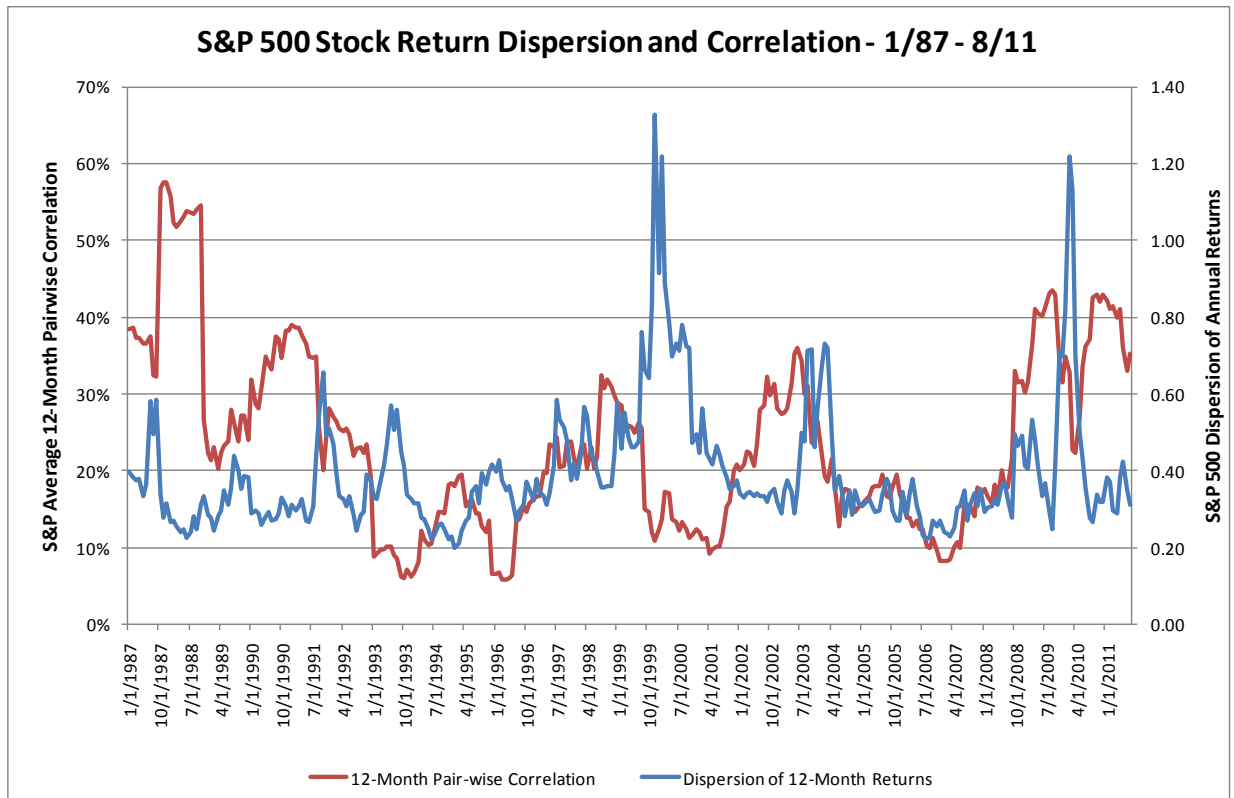
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The financial market preoccupation with the European sovereign debt crises creates a challenging environment for the active equity manager that has traditionally made their living on stock selection. When investors become singularly preoccupied with common factor risk, the correlation between stocks tend to rise. During periods of high correlations, coupled with low return dispersion, the manager is challenged with increased difficulty in correctly identifying the winners, while at the same time, the margin of outperformance of those winners is tighter than normal.

The financial market fixation on macro risks has led to a correlation of stocks returns within the S&P500 of .35. The correlation over the recent period has risen to levels not seen since the 2008 financial crises. A correlation of 35% places the current relationship in the 83rd percentile historically. Simultaneously, the dispersion of returns is tight, currently measuring in the 32nd percentile. Gorman, Sapra and Weigand suggest that the absolute return investor might use cross sectional dispersion and the VIX to provide timing signals of alpha strategies.

Periods of higher return correlations typically coincide with higher market volatility. We measure a 45% correlation between pair-wise correlations and the VIX. Chordia, Goyal and Tong measured a 27% increase in correlation when stock returns are negative. They suggest that the correlation spike is driven by coordinated selling by retail investors. The popularization of ETF's can only serve to further strengthen this effect. High correlations accompanied by high volatility creates an additional challenge as there are reduced benefits to diversification at the very time that diversification is needed.

The following chart shows the average 12-month pair-wise correlation of stock returns in the S&P500 overlaid with the 12-month return dispersion. The historical inverse correlation between pair-wise correlation and dispersion has been -12%.



1 Strategy Performance in Difficult Times

We examine 8 general classes of strategies and observe their performance using AlphaWork's custom regime monitor in periods of High Correlation and Low Dispersion (HCLD). We begin by examining strategies that purchase the top quintile in each strategy and sell the bottom quintile for that same strategy. We then observe the return to each strategy within a HCLD period. The resulting equal weighted returns for HCLD periods are then observed for the S&P500. The 8 strategies we measure are: Valuation, Price Momentum, Growth, Earnings Quality, Analyst Estimates, Capital Efficiency, Size and Volatility.

From the 1987 to present we identify 38 months (of 296 months) that represent top third of correlation and bottom third of dispersion. This is our definition of HCLD.

The analysis below shows that the losing strategies during an HCLD period include those strategies that focus on idiosyncratic attributes, namely: Growth, Capital Efficiency and Quality. These three strategies produce significant results in the rest of the 258 months.

Valuation and Price Momentum are winning strategies in both HCLD and non-HCLD periods. ***While Analyst expectations is a successful strategy in both regimes, it is 3 times more profitable in HCLD periods and thus, may be a place investors now focus to identify winners with greater return dispersion.***

Alphaworks Custom Regime Monitor – SP500 1/87 – 8/2011 1 Month Return for HCLD Periods

Summary		Current v. Hist										
Display:	Style Composites	Order:	Top	Sector:	Sector Neutral	Portfolio:	Absolute Return					
HCLD												
Style	Factor	Q1	Q5	Sprd% ▼	Ann Sprd%	Q1 Hit	Q5 Hit	Avg IC	Best IC	Worst IC	IC T-Stat	%Pos IC
Val	Valuation	2.45	1.20	1.24	16.00	65.79	57.89	0.05	0.21	(0.11)	3.75	71.05
AE	Analyst Expectation	2.19	1.32	0.87	10.91	63.16	60.53	0.04	0.24	(0.24)	2.80	76.32
Vol	Volatility	2.06	1.36	0.70	8.67	60.53	65.79	0.02	0.38	(0.31)	0.60	50.00
PM	Price Momentum	2.10	1.41	0.68	8.51	65.79	60.53	0.04	0.21	(0.18)	2.73	68.42
Sz	Size	1.79	1.37	0.42	5.11	60.53	63.16	0.01	0.25	(0.17)	0.74	47.37
HG	Historical Growth	1.89	1.58	0.31	3.79	68.42	57.89	0.02	0.19	(0.12)	1.56	65.79
CE	Capital Efficiency	1.75	1.61	0.14	1.72	63.16	63.16	0.01	0.31	(0.17)	0.71	55.26
EQ	Earnings Quality	1.79	1.82	(0.03)	(0.31)	65.79	55.26	(0.00)	0.15	(0.17)	(0.06)	52.63
Rest												
Style	Factor	Q1	Q5	Sprd% ▼	Ann Sprd%	Q1 Hit	Q5 Hit	Avg IC	Best IC	Worst IC	IC T-Stat	%Pos IC
Val	Valuation	1.23	0.57	0.65	8.12	65.12	58.91	0.03	0.35	(0.22)	4.53	61.63
PM	Price Momentum	1.10	0.56	0.54	6.68	63.57	59.69	0.03	0.41	(0.28)	5.99	65.12
EQ	Earnings Quality	1.02	0.70	0.32	3.91	64.34	60.85	0.02	0.24	(0.21)	3.48	55.43
CE	Capital Efficiency	0.99	0.70	0.28	3.46	60.85	60.08	0.02	0.32	(0.26)	3.35	58.53
AE	Analyst Expectation	0.93	0.66	0.27	3.27	61.63	60.08	0.02	0.23	(0.25)	3.22	59.69
Sz	Size	0.96	0.78	0.18	2.19	61.63	63.18	(0.00)	0.29	(0.30)	(0.69)	47.29
HG	Historical Growth	0.99	0.84	0.15	1.81	61.63	61.24	0.01	0.21	(0.28)	2.69	56.59
Vol	Volatility	0.89	0.84	0.05	0.60	60.08	63.18	(0.01)	0.56	(0.40)	(1.21)	46.12

OUR RECENT RESEARCH**September 2011: Methods in Dynamic Weighting**

In this report, we introduce a powerful discovery tool in Alphaworks and provide a pragmatic survey covering the identification and potential dynamic techniques to handle financial regimes and security level context. With increasingly volatile factor performance, the ability to implement adaptive strategies is paramount in maximizing factor efficacy.

July 2011: Introducing Research Briefs

Investors must sort through a constant stream of information in order to identify opportunities, structural changes, and market risks. Wading through information quickly and efficiently is critical as investors must understand how their strategy and exposures are impacted. Typical classes of questions include: What strategy should I use in response to a regime shift? How do I invest in a specific industry? Do other markets behave differently than the US market?

June 2011: Our Retail Industry Strategy

Does Industry Specific Data tell a Different Story? Investors are on a constant quest for new investment insights. A more complete understanding of the dynamics that shape an industry is integral to this search. As Capital IQ's Quantitative Research begins a more thorough examination of industry specific sources of alpha, we turn our attention first to the retail industry utilizing the Compustat database. Many of the strategies validate common investor best practice when looking at the retail space. In this paper we develop several new retail specific factors and use them to construct a 6-factor retail specific model. We then blend our retail model with our Value and Growth Composite Models.

May 2011: Introducing Capital IQ's Global Fundamental Equity Risk Models

Global investors invest in assets across multiple countries. In order to characterize the overall risk they need the ability to compute the total risk of their entire holdings. Using a global risk model summarizes the risk across multiple geographies into a more easily consumed single number rather than looking at the risk characteristics in isolation for separate geographies. A single global model also captures inter-country correlations so as to not miss important contagion effects.

May 2011: Topical Papers That Caught Our Interest

Favorite Papers on a Few Favorite Topics – Regime Switching and Minimum Variance
Two current topics of significant interest and frequent discussion to investors are regime switching, or a strategy's sensitivity to the current environment, and minimum variance portfolios.

April 2011 – Can Dividend Policy Changes Yield Alpha?

Investors are acutely sensitive to changes in dividend policy. Literature suggests that dividend change announcements provide information about management's assessment of companies' prospects, and therefore are predictive of future stock returns. The implication for investors is worth noting. In the first quarter of 2011 alone, 105 of the 384 dividend paying S&P 500 companies (27.3%) increased their dividends, while only 1 (0.26%) decreased dividends.

In this paper, we analyze the market reaction to different types of dividend policy changes, specifically initiation, increase, decrease and suspension of dividends.

April 2011: CQA Spring 2011 Conference Notes

Several of our team's members attended the Chicago Quantitative Alliance (CQA) Spring Seminar in Las Vegas. We present our collective notes from the conference in this report.

March 2011: How Much Alpha is in Preliminary Data?

Companies often report financials twice: first, through a preliminary press release and again in their official, i.e., final, SEC filings. In theory, there should be no difference between the numbers reported in a company's preliminary financial filings and their final

filings with the SEC. In practice, often significant difference can occur between the preliminary and final filings. In this month's research report, we focus on these observed differences within the Capital IQ Point-In-Time database in order to ascertain the nature and exploitability of these differences.

February 2011: Industry Insights – Biotechnology: FDA Approval Catalyst Strategy

Biotechnology is a challenging sector for investors due to the binary nature of the product cycle. Indeed many biotechnology firms' futures rest upon the success of a single product. A critical stage in the product life-cycle is the FDA approval process. In this report we look at the exploitability of a strategy centered on FDA filings.

January 2011: US Stock Selection Models Introduction

In this report, we launch our four US Stock Selection models -- Value, Growth, Quality, and Price Momentum. Built using Capital IQ's robust data and analytics, these four models are the culmination of over two years of research and development. Each model is intended to be employed as the basis for a stand-alone stock selection strategy or integrated into an existing systematic process as an overlay or new component.

January 2011: Variations on Minimum Variance

Various explanations for why risk is mispriced have been offered; the most common one is that leverage restrictions incite some investors to chase volatility at the individual issue level. In this paper, we explore various methodologies for construction of minimum variance portfolios of US listed equities and analyze the features of these portfolios.

January 2011: Interesting and Influential Papers We Read in 2010

As researchers, we spend a large amount of time trying to generate new ideas. In order to discover and refine these ideas, we find ourselves in a continuous quest for innovative and interesting articles and papers from academics, analysts, and other researchers. There is such a large body of information out there that it can be difficult to wade through all the material to find what is truly of value and interest to us. To assist in sifting through all this information, our group recently took the time to find and discuss articles that recently struck us.

November 2010: Is your Bank Under Stress? Introducing our Dynamic Bank Model

October 2010: Getting the Most from Point-in-Time Data

October 2010: Another Brick in the Wall: The Historic Failure of Price Momentum

July 2010: Introducing Capital IQ's Fundamental US Equity Risk Model

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