

What's New at Arrowstreet?

We hope that spring is in full swing wherever you happen to be. Arrowstreet recently held its 2008 Client Conference in Boston. This gave us the chance to share our latest research with clients who visited us from around the world. Thanks again to all those who attended and made the conference a big success.

Two examples of new Arrowstreet research are highlighted in this edition of the *Journal*. First, Peter Rathjens addresses the topic of value/growth cycles and how the effectiveness of valuation ratios and other excess return signals can vary over these cycles. Then, Yijie Zhang of Arrowstreet's research team explores the consistency of the value premium across developed and emerging markets as well as large and small cap stocks.

Q1 2008 Review:

Investment Performance:

The equity markets remained extremely turbulent during the first quarter of 2008. A rebound in value signals helped Arrowstreet's strategies in January, while both momentum and earnings signals contributed positively during February. Despite a difficult March, most of Arrowstreet's strategies started off the year with positive relative performance in the first quarter.

Business Growth:

The first quarter saw firmwide assets under management at Arrowstreet decrease to \$22.6 billion due to the equity market downturn. Seven new accounts funded and four new clients joined Arrowstreet.

Team Members:

The Arrowstreet team continues to expand. During the first quarter, the firm added seven new employees, including Boris Kovtunenکو, the newest member of Arrowstreet's research team. You'll find a profile of Boris on page 3 of the *Journal*.

As always, we are interested in your views and encourage your feedback. Please email your thoughts to us at:

info@arrowstreetcapital.com

Variation in Signal Effectiveness: Sources of Return, Sources of Risk
Peter Rathjens, Ph.D. Arrowstreet Capital, L.P

In this paper, Peter Rathjens will examine how consistently effective valuation ratios are in forecasting excess returns, with special attention paid to the unusual and extreme events since the summer of 2007. He'll also explore approaches that attempt to minimize this risk by identifying timing mechanisms to turn off or even reverse valuation ratios and other excess return signals. Finally, he'll highlight the potential benefits and pitfalls of these approaches.

Consistency of the Value Premium across Asset Classes
Yijie Zhang, Ph.D. Arrowstreet Capital, L.P

In this paper, Yijie Zhang investigates the consistency of the value premium across various asset classes. In particular, he explores whether there is a consistent value premium to be found in emerging markets and in small market capitalization stocks. He then examines whether these asset classes experience the same value/growth cycle and whether Arrowstreet's forecast process is able to capture the highest value premium among these asset classes. Finally he investigates whether we can reduce the risk associated with the value premium further by controlling for the exposure to the global growth/value cycle.

For a complete version of this article, please visit:
http://www.arrowstreetcapital.com/research_whitepaper.htm

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March 2008 Investment Outlook Global/International Equity Strategy

Developed Markets Overview: 1st Quarter 2008

The slowing economic trend in the last quarter of 2007 continued in the first quarter of 2008. Markets contracted as many financial companies experienced write-offs due to subprime losses on their balance sheets. Concerns over further deterioration of real estate markets, the increased probability of a recession in the U.S., and fears of a broad global economic slowdown hurt global equity markets. The global economy further suffered from inflationary pressure as energy prices soared while the U.S. Federal Reserve cut interest rates in order to spur investment activity. As U.S. interest rates declined, the U.S. Dollar fell to all-time lows versus the Euro and to multi-year lows versus the Japanese Yen.

Volatility levels climbed to their highest levels since the first quarter of 2003. Banks and hedge funds were forced to reduce leverage amid uncertain markets and rising borrowing costs. Investment bank Bear Stearns lost 88% of its value in the quarter as investors and prime brokerage clients feared the bank would not be able to meet its obligations. This resulted in the Federal Reserve taking unprecedented steps to ensure the stability of financial markets by lending to non-commercial banks. Further, the Fed helped to facilitate rival bank J.P. Morgan's acquisition of Bear Stearns to ensure that the firm's many derivative obligations would be met.

At the country level, Hong Kong stocks experienced a 20% quarterly decline during the first quarter of 2008. Chinese companies listed in Hong Kong faced headwinds of slowing demand for exports as a result of U.S. economic troubles. Performance in German markets was also negative during the first quarter. Continued concerns over inflationary pressures of rising food and energy costs meant that the European central bank was unable to cut interest rates. In particular, German industrial companies suffered from a strengthening Euro and increased risk of a global economic slowdown.

Among global sectors, Materials performed best during Q1 2008. Poor performance in the months of January and March was offset by strong gains in February. These gains came on the back of an extended rally in industrial and precious metals that took the price of gold to new all time highs. Prices for metals reversed sharply in March, however, giving back much of February's gains. On the other hand, the Information Technology and Telecommunications sectors both suffered large losses during the first quarter of 2008. The decline was concentrated in January when concerns over the U.S. housing market and the widening scope of financial company write-downs fueled investors' still lingering recession fears. In turn, those sectors most sensitive to slowdown in economic growth and investment were hardest hit.

Developed Markets Performance Attribution

Three country/sector baskets that impacted the performance of Arrowstreet's developed markets portfolios during the quarter are described here:

German Consumer Discretionary – Arrowstreet's overweight positioning in the German Consumer Discretionary basket made a positive impact on performance in the first quarter of the year. Our positioning in this basket was motivated mainly by positive value and earnings terms. Volkswagen, Germany's largest automaker, saw its stock price rise over 20% in the first quarter. Positive stock performance was partially due to a 33% rise in sales in China, where a new version of the Santana model has become the nation's best selling vehicle.

US Consumer Discretionary – Arrowstreet's stock selection in the US Consumer Discretionary basket was a positive contributor to performance. While we were underweight the basket as a whole, our overweight to home-builder Lennar Corp showed strong outperformance. The stock rose on speculation that the company may be targeted for purchase by an investment group for the United Arab Emirates.

US Financials – Underweight positioning in the US Financials basket had a negative impact on performance during the first quarter of 2008. Negative price momentum and deteriorating value signals throughout the quarter were the main motivations behind our underweight position. Instability in financial markets stemming from problems in the credit markets and the real estate slowdown continue to make US Financials a very volatile sector.

Specific opportunities that we believe will offer attractive return potential include:

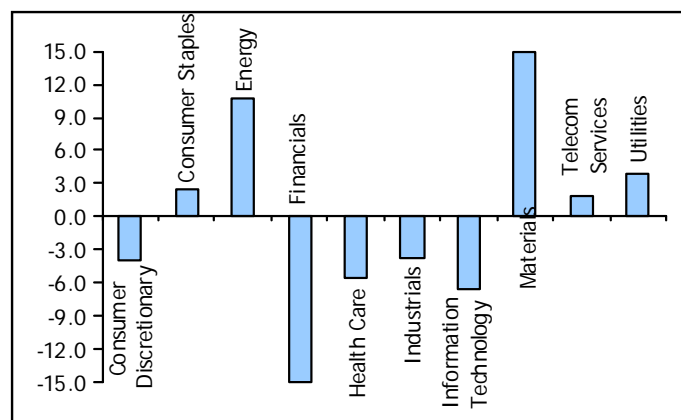
EnCana (Canadian Energy) – We expect the Canadian Energy basket to outperform the broad market going forward based on a number of factors. Basket level price momentum was the primary factor to our positive forecast, with earnings terms also contributing. Canadian natural gas and oil producer EnCana is a stock we expect to do well going forward. Favorable long term growth forecasts drive our view that the stock will outperform. Energy prices have continued to rise to new records during recent months, boosting the earnings outlook for energy producers.

Altana (German Consumer Materials) – The German Materials basket is identified by our model as offering opportunities for outperformance. The basket has strong value signals as well as attractive price momentum. Altana AG, a specialty manufacturer of chemical products and plastic parts in Germany, is a name we expect to further outperform its basket. The stock's favorable book-to-price and cash-flow measures drive our forecast. The company has contended with a weakening dollar but has expanded into emerging economies such as Indian and Brazil to help sustain its growth.

April 2008 Active Country Weights (%)
(Citigroup PMI World)



April 2008 Active Sector Weights (%)
(Citigroup PMI World)



March 2008 Investment Outlook Emerging Markets Equity Strategy

Emerging Markets Overview: 1st Quarter 2008

Emerging equities started 2008 with a decline, posting a total return of -10.92% in USD terms during the first quarter. Market volatility at an overall index level was high due to continuing turmoil from the global liquidity and credit crisis. The 100-day annualised daily volatility on the MSCI Emerging Market Index measured at 26.75% as of March 31, 2008.

At the country level, Chinese stocks experienced a large quarterly decline during the first quarter of 2008, dropping over 20%. In addition to the headwinds of a slowing demand for exports, the Chinese central bank took steps to combat inflation by raising interest rates and raising banks' reserve requirements. In contrast, Chilean stocks rallied during the first quarter, greatly outperforming the broad emerging markets benchmark. Copper prices rose by more than 25%, providing support to Chile's resource dependent economy. In addition, Copper stockpiles fell sharply during the quarter.

Despite falling this quarter, the Materials sector was the best performing group during Q1 2008. Poor performance in the months of January and March was offset by strong gains in February.

The Industrials and Financials sectors both suffered large losses. The decline was concentrated in January when concerns over the U.S. housing market and the widening scope of financial company write-downs fueled investors' global recession fears. Similar to developed markets, the sectors in emerging markets most sensitive to a slowdown in economic growth and investment were hardest hit.

Emerging Markets Performance Attribution

Three country/sector baskets that impacted the performance of Arrowstreet's emerging markets portfolios during the quarter are described here:

Taiwanese Materials – Overweight positions in the Taiwanese Materials basket were a positive contributor to performance in the first quarter. Taiwan's largest steelmaker, China Steel Corp, benefitted from rising domestic steel prices as Chinese exports to Taiwan fell due to continued strong demand in China. Strong global demand also allowed the company to boost its export prices for the second quarter of 2008, making up for

rising raw material costs. This increase is the ninth consecutive quarterly price increase.

Brazilian Utilities – Arrowstreet's overweight to Electrobras added value in the first quarter. The Brazilian government passed legislation allowing the company, which is largely controlled by the state, to make investments outside of Brazil and to be able to buy controlling stakes in other Brazilian utilities. The plan is meant to help increase Brazil's electricity generation capacity. The position was motivated by value terms, particularly book yield.

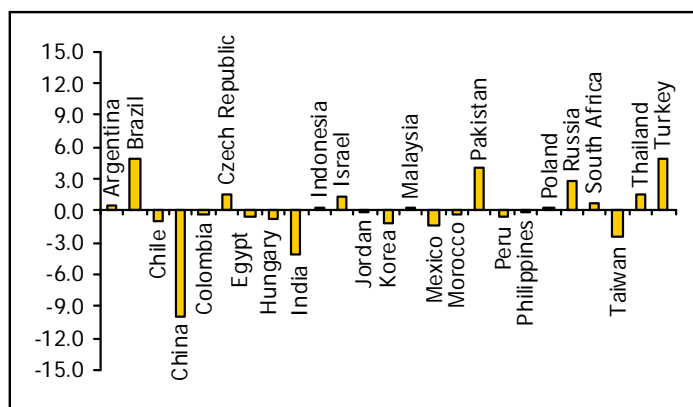
Turkish Industrials – Overweight positions in the Turkish Industrials basket had a negative contribution to performance during the first quarter of 2008. This position was primarily motivated by improving valuation signals such as book to price. Our largest overweight in the sector was Dogan Sirketler Grubu Holding, Turkey's largest media group. This stock fell as the company decided to halt investment projects because of uncertainty in the capital markets.

Specific opportunities that we believe will offer attractive return potential include:

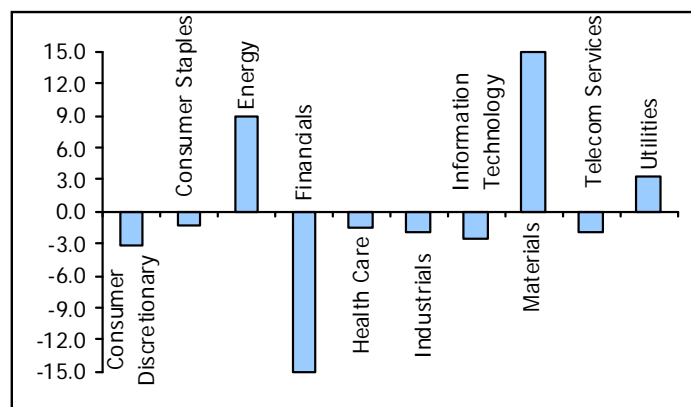
Sasol (South Africa Energy) - South African Energy stocks are demonstrating positive momentum going into the second quarter of 2008. We find oil and gas producer Sasol attractive based on positive earnings valuations. Rising energy prices worldwide coupled with a weaker Rand is helping to bolster the company's profits, which are expected to rise 40% to 50% per share.

Usiminas Siderurgicas de Mina Gerais (Brazil Materials) - Strong price momentum and earnings signals make the Brazil Materials basket a highly attractive investment opportunity. Usiminas Siderurgicas, Brazil's third-largest steel maker, is positioned to benefit from rising steel prices, which are being supported by high demand. We favor this stock based on strong momentum and value signals.

**April 2008 Active Country Weights (%)
(MSCI EM Index)**



**April 2008 Active Sector Weights (%)
(MSCI EM Index)**



Employee Profiles — Boris Kovtunenکو, Ph.D. – Manager, Research

Boris Kovtunenکو is involved with the implementation of Arrowstreet's research agenda. In particular, he works on developing and enhancing the firm's forecasting and risk models. Prior to joining Arrowstreet, Boris was a Managing Director at SDS Capital Group where he managed a market-neutral long-short US equity portfolio from 2004 to 2008. Boris also was a teaching assistant for undergraduate courses on Capital Markets, Corporate Finance and Behavioral Finance at Harvard University and graduate courses in Contract Theory and Public Economics at the New Economics School.

Boris graduated from Harvard University with a Ph.D. in Economics in 2004. He received a M.A. in Economics from the New Economics School in 1999 and a M.S. in Physics from the Moscow State University in 1997.

