



## **RUSSELL INDEX FUTURES SPREADS:**

### **Trading the Large Cap Market Segment in U.S. Equities Against the Small Cap Segment**

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**March 2010**

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Institutional investors think in terms of indices, as they must for the purposes of assembling a team of managers across a large number of styles and measuring their performance. As a result, the very largest investors gravitate toward a passive style of investing; they strive to match the risk and return characteristics of a given index and then hope to add alpha, or outperformance, via issue selection and some degree of trading skill. More often than not, these investors are held not to an absolute standard of performance, or how much they made over a period, but rather to a relative standard of performance —how they performed vis-à-vis an index.

This creates trading opportunities for anyone not held to matching a given index or to trading in any one given style. A hedge fund, proprietary trading shop, commodity trading advisor or individual investor can take advantage of the market conditions created by the actions of the large institutions. These traders generally are measured on absolute return.

One of the very best ways to take advantage of the opportunities created by index-oriented investors is to trade the spread between index futures, as we shall see below.

## **THE RUSSELL INDICES**

The Russell indices for the U.S. stock market are an excellent place to start an index futures spread-trading program. The Russell 3000® index is designed to be the broadest measure of tradable stocks in the U.S. market; it is divided into the Russell 1000® and Russell 2000® indices of large- and small-capitalization firms, respectively. The Russell 1000 includes approximately 1,000 of the largest U.S. firms by market capitalization and represents about 90% of the U.S. market; if an issue disappears because of bankruptcy, merger or other corporate action, it is not replaced. The index is reconstituted annually on June 30.

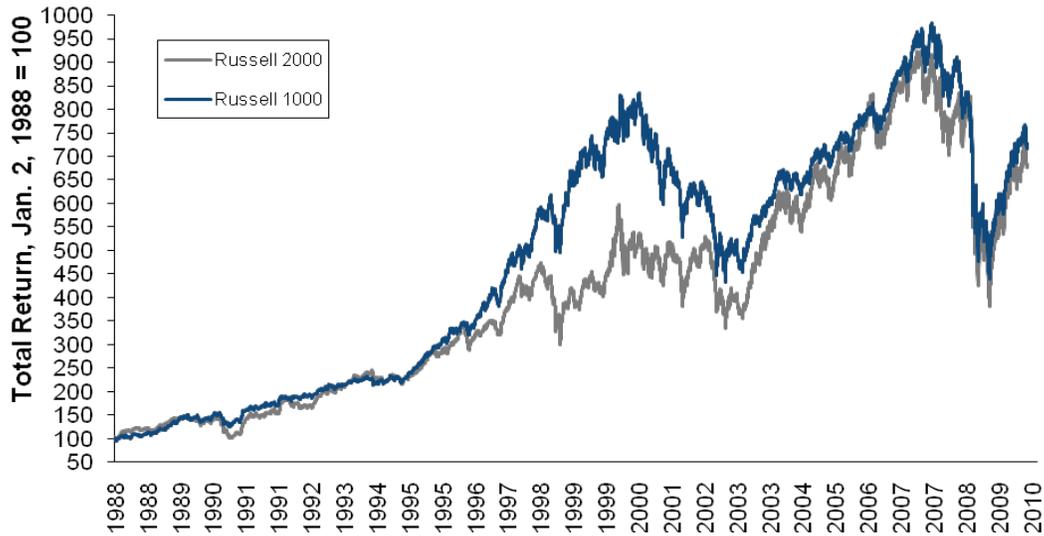
The Russell 2000 includes the next 2,000 or fewer issues and accounts for approximately 8% of the U.S. market's capitalization. It, too, is assembled mechanically and reconstituted on the June 30 annual cycle.

Both the Russell 1000 and Russell 2000 indices are accessible via popular exchange-traded funds, the best-known of which are the iShares IWB and IWM, respectively, in addition to the index futures traded on ICE Futures U.S.

## **THE RUSSELL 1000 – RUSSELL 2000 SPREAD**

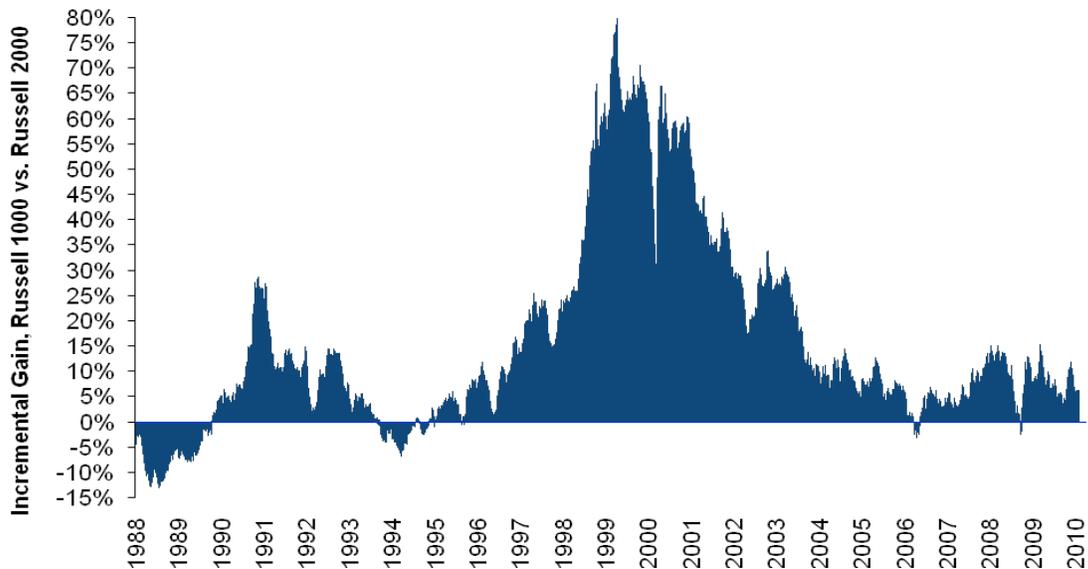
Because the membership of the Russell 1000 and Russell 2000 indices does not overlap by definition (compare this to index spreads such as those between the S&P 500 and either the NASDAQ 100 or Dow Jones Industrial Average), we should not expect their return paths to be similar, and they most certainly are not.

### Comparative Total Return Paths For Russell Indices



We can break out the difference between the two return paths to get an idea of how the spread moves over time. The most prominent feature in its history was the massive rise and fall of the Russell 1000 index relative to the Russell 2000 index during the late 1990s tech bubble and subsequent bust. The spread at that time approached 80% of the value of the Russell 2000 itself; recall the earlier comment about indexation forcing investors to buy ever-greater quantities of the big issues at ever-greater prices.

### Comparative Returns, Russell 1000 Vs. Russell 2000



## WHY FUTURES AND NOT ETFS?

While the spread between the Russell 1000 and Russell 2000 indices could be executed via the IWB and IWM ETFs, there is no compelling reason to do so. An index futures spread on ICE Futures U.S. receives an 80% margin offset. In contrast, ETFs do not receive any margin offset; the long side has to post the appropriate Regulation T margin of 50% (or, if eligible, a 15% joint back office margin), while the short side has to post up to 150% of the short value.

Futures have a tax advantage as well. Under §1256 of the Internal Revenue Code, an index future is taxed at a blended rate of 60% long-term / 40% short-term capital gains. At the rates prevailing in early 2010, this works out to an effective rate of  $[\.60 * .15 + .40 * .35]$ , or 23%. A long ETF must be held for a year to receive long-term capital gains treatment, and a short ETF always is taxed at the short-term capital gains rate.

In addition, ETFs often have capital gains distributions to reflect transactions made during index reconstitution; futures never have this effect, because the futures contract is priced at the fair value basis relative to the index. That fair value is the index, plus the short-term interest rate cost of holding the future to maturity, minus the future value of expected dividends to be paid on the index. An ETF pays out dividends discretely, on a quarterly basis, and they are taxed at the dividends tax rate provided for in the Jobs and Growth Tax Relief Reconciliation Act of 2003. Dividends are embedded in the futures basis and are not taxed as separate events.

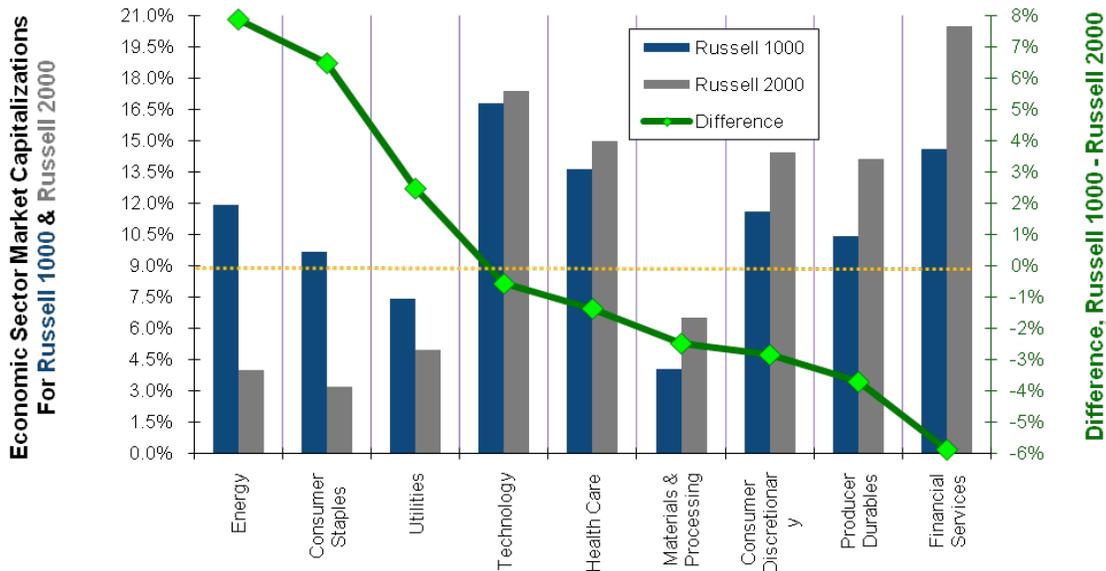
Finally, index futures are much easier and simpler to trade than are ETFs. The futures spread is a single order with no problems in locating shares to borrow for the short side, no risk of recall and no relationship to any uptick rule.

## SECTOR DIFFERENTIAL

Many stock index trading opportunities arise from differing industry exposures. Over the past three decades, for example, we have witnessed two major bull markets in energy, one spectacular one in technology and a boom and bust in financial shares, just to name a few.

The Russell 1000 has a greater weight in the Energy, Consumer Staples and Utility sectors; the Russell 2000 has a greater exposure in all other sectors, including Financial Services. These different weights are the primary drivers of the spread as they fall into and out of investor favor.

### Sectors Drive The Spread

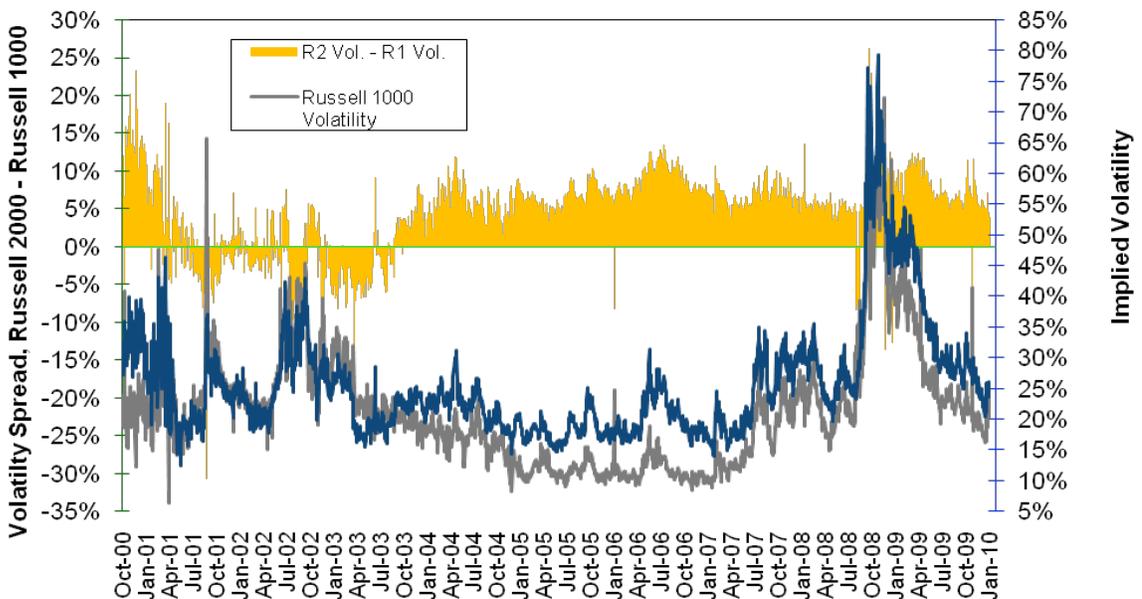


### COMPARATIVE VOLATILITY AND THE HEDGE RATIO

A second driver of any spread is the relative volatility between the two legs. As a rule, a persistent volatility relationship characterizes a trending spread while the mean-reverting spreads are characterized by unstable volatility relationships. Each type of spread can be traded successfully; the trending spread is the better behaved of the two types.

Over time, the Russell 2000's implied volatility has been higher than that of the Russell 1000. This has been true almost continuously since September 2003. It persisted this way during the 2003-2007 bull market and, interestingly, during both the 2008-2009 bear market and subsequent retracement in 2009.

### Russell 2000 Volatility Tends To Be Higher

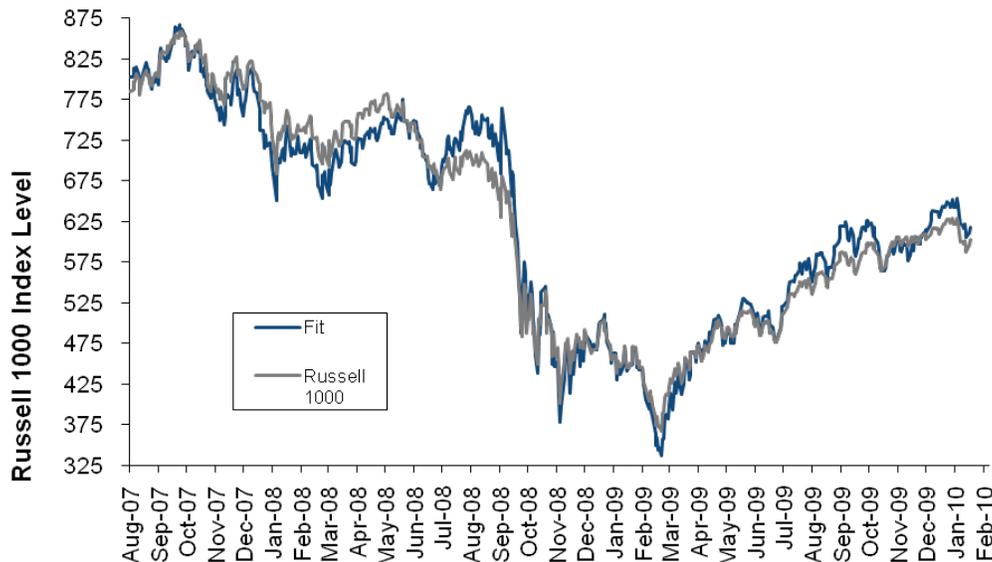


Relative historic volatility goes into the calculation of the appropriate hedge ratio. Just because ICE Futures U.S. provides an 80% margin offset for the spread in a 1:1 ratio does not mean it is correct mathematically. Fortunately, it is correct mathematically and works out to a hedge ratio of 1.04:1. Since August 2007, the following calculation had applied:

$$\text{Russell 1000} = -19.20 + 1.04 * \text{Russell 2000}, r^2 = .07.$$

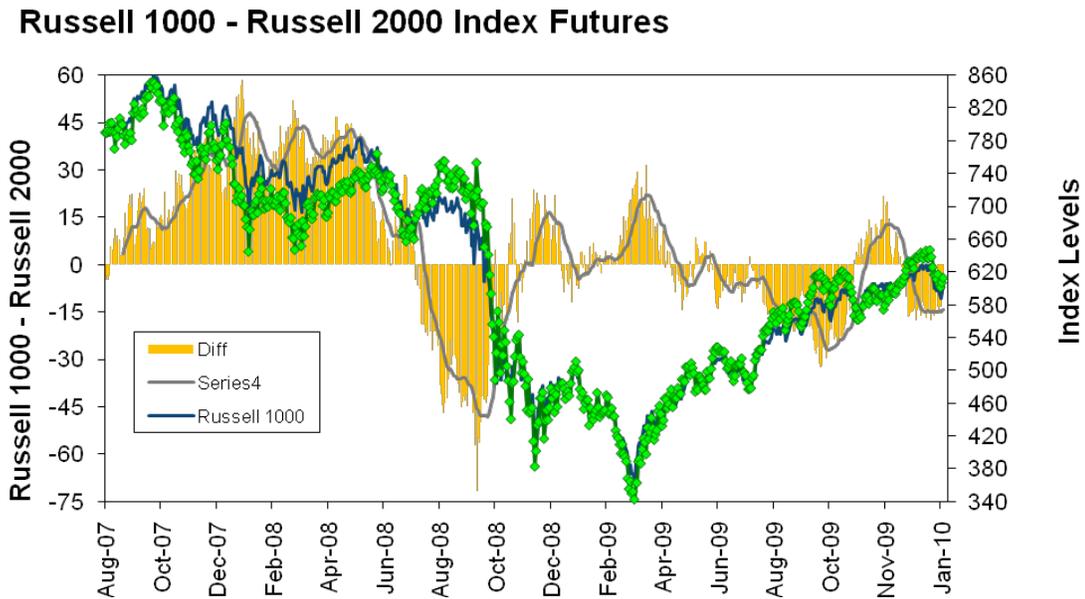
The residuals of this simple model are serially correlated (Durbin-Watson statistic of 0.06), something we should expect from a trending spread. We can trade the index futures spread confidently.

**The Results Of A 1 : 1 Hedge Ratio**



### THE SPREAD AND ITS TREND

The easiest way to confirm the trending nature of any spread remains visual inspection: If it looks like a trend, it probably is. (Millions of man-hours and dollars of computational resources could have been saved by this simplicity. Alas). If we map the spread since the advent of the two index futures on ICE Futures U.S. in August 2007 (pink columns) and run a simple 14-day moving average through it (dark red line), we see just how straightforward the Russell 1000 – Russell 2000 spread-trading exercise should be.

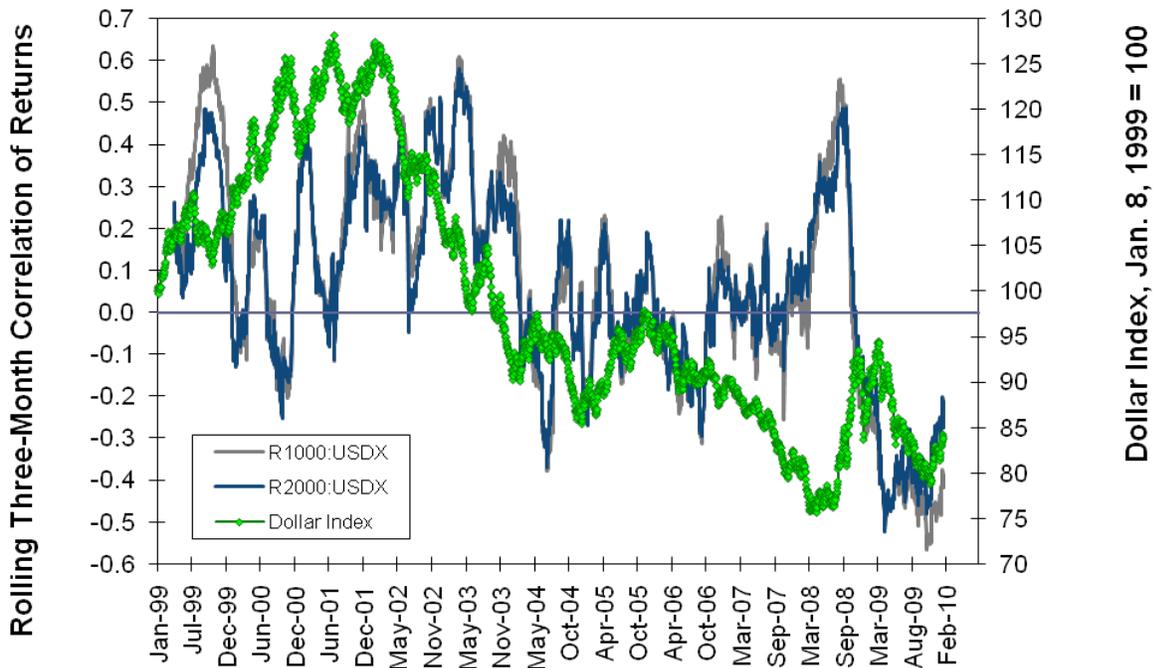


### KEY EXTERNAL DRIVERS

The different capitalizations, business structures and exposures to different market factors affecting each component sector should make the Russell 1000 – Russell 2000 spread amenable to modeling with other price variables. Let's look at two of them: The U.S. Dollar Index® (USDIX®) and crude oil.

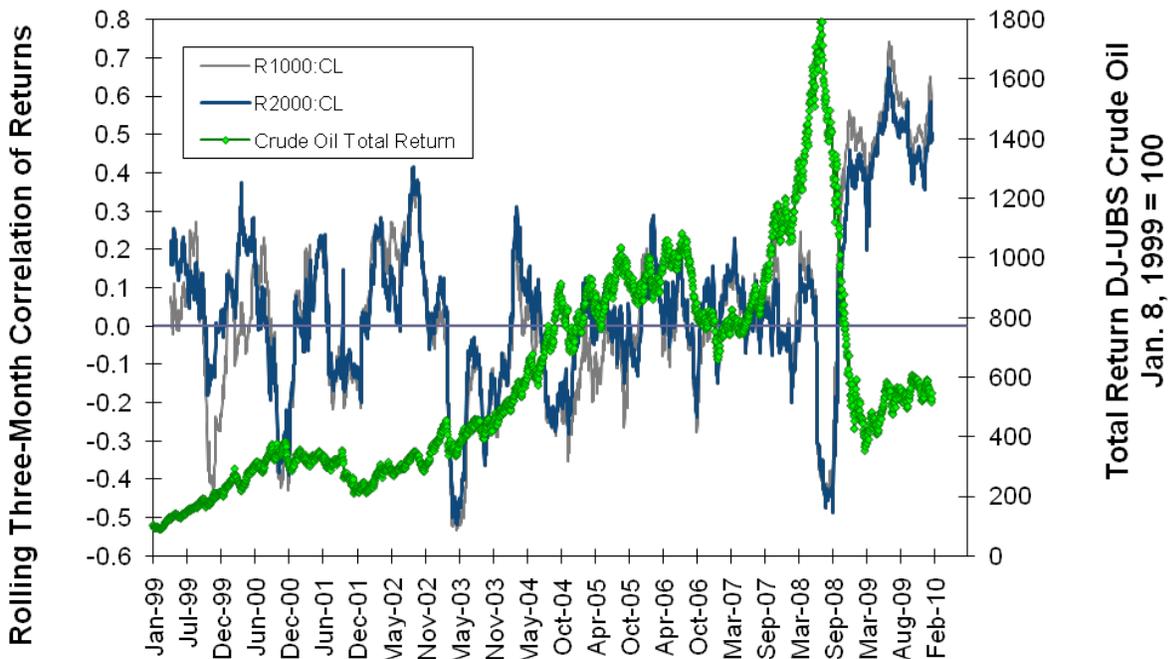
It is important to remember there are never any hard-and-fast rules for one market leading another. Fashions change in intermarket analysis. We certainly can see this in the case of the rolling three-month correlation of returns for the USDIX against both the Russell 1000 and Russell 2000 indices. Those correlations rose from near-zero in 2007 toward 0.50 during the 2008 financial crisis and swung down below -0.50 in late 2009. The Russell 1000's exposure has been consistently more extreme over time; this makes good fundamental sense in light of the multinational firms populating the Russell 1000.

### Correlation Of Returns, U.S. Equities Vs. Dollar Index



The story for crude oil is even more interesting. Here the correlation of returns has been increasingly positive in recent years, regardless of whether crude oil futures' total returns were rising or falling. Once again, the Russell 1000 with its overweighting in the energy sector has a more extreme correlation pattern.

### Correlation Of Returns, U.S. Equities Vs. Crude Oil



## CONCLUSION

The hardest thing for most traders and analysts to do is accept simplicity, but the Russell 1000 – Russell 2000 spread virtually demands it. The effects of different sector weighting, exposure to external market factors and behavior of fund managers who have mandates to invest in either large- or small-capitalization issues combine to create a highly trendy, technically well-behaved spread whose characteristics are highly similar across timeframes.

A combination of straightforward fundamental analysis, interday trends and intraday liquidity invite traders to exploit this market with a set of familiar tools. The spread is accessed with the greatest ease of execution and with the greatest tax and margin advantages via index futures.

This paper serves as an overview of the Russell Index futures and options markets of ICE Futures U.S. Examples and descriptions are designed to foster a better understanding of the Russell Index futures and options market. The examples and descriptions are not intended to serve as investment advice and cannot be the basis for any claim. While every effort has been made to ensure accuracy of the content, ICE Futures U.S. does not guarantee its accuracy, or completeness or that any particular trading result can be achieved. ICE Futures U.S. cannot be held liable for errors or omissions in the content of the paper. Futures and options trading involves risk and is not suitable for everyone. Trading on ICE Futures U.S. is governed by specific rules and regulations set forth by the Exchange. These rules are subject to change. For more detailed information and specifications on any of the products traded on ICE Futures U.S., contact ICE Futures U.S. or a licensed broker.

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