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Analysis of the 2005 Russell Reconstitution

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As a result, the annual Russell equity index reconstitution which takes place on the last Friday of every June is a major market event because it typically

Market Prepares for Annual Index Change

The Frank Russell Company equity indexes are among the most popular in the world, with nearly \$1.4 trillion in equity assets indexed or benchmarked to them. This includes \$485 billion in indexed assets that closely track the Russell benchmarks, and \$900 billion in enhanced index and active assets that are benchmarked to Russell indexes, according to year-end Russell data. (Figure 1.)

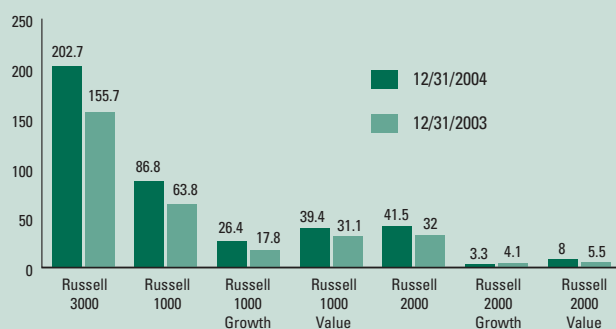
results in significant changes to both the capitalization and style indexes.

This year's reconstitution process brings a few key changes that may serve to reduce turnover slightly, including:

- A significant methodology change that was initiated in 2004 which incorporates IPOs throughout the year rather than annually.
- Russell's publication of provisional and legacy index returns before and after the reconstitution day.

Despite these changes, the potential impact of transitioning to the revised indexes from non-index market participants and the level of volatility in the market will, as always, require a great deal of care and focus to avoid experiencing unnecessary costs associated with rebalancing portfolios. While some market participants — hedge funds and proprietary trading desks in particular — view this annual event as an opportunity to profit from the action of passive managers, our objective remains the same; we seek to rebalance portfolios in a way that minimizes the impact of the wealth erosions associated with this event while tightly controlling both market and operational risk.

Figure 1.
Assets Indexed or Benchmarked to Primary Russell Indexes
(\$ Billions)



Source: NTGI, Frank Russell Company, Citigroup

The following analysis of the anticipated changes is based on preliminary data and is subject to change as the date for the reconstitution approaches. The general themes, however, should prevail. All data is presented as of March 31 and updates are available from your investment relationship manager upon request.

Index Construction Methodology

The Russell equity indexes are capitalization-weighted, covering approximately 98% of the investable market capitalization in the United States. On September 30, 2004, the Russell indexes began including IPOs at the end of each calendar quarter in order to limit the volatility surrounding the annual reconstitution. Other minor changes take place during the year, such as changes in shares outstanding and stock deletions arising from corporate actions.

But the majority of changes to the Russell indexes take place once a year, on the last Friday in June through a process that is both objective and transparent.

The timeline for this process follows:

Timeline

Tuesday, May 31	US stocks ranked by market capitalization.
Friday, June 10	Publication of preliminary list of index constituents and weightings.
Friday, June 17 & 24	Updated preliminary lists published.
Friday, June 24	Reconstitution effective at the close.
Friday, July 1	Final lists published.

Market Capitalization Rankings. At the time of the annual reconstitution, all the stocks in the Russell universe are ranked by market capitalization using the May 30 cutoff date. The largest 1000 companies become the Russell 1000 while the next 2000 companies comprise the Russell 2000. The combined list makes up the Russell 3000 Index.

Style Indexes

The Russell style indexes are also reconstituted at the end of June each year. Each capitalization index is divided into a growth and value style index, using a proprietary methodology. At the time of the reconstitution, approximately 50% of the capitalization weight of each index is assigned to a style index. Approximately 30% of the companies in each capitalization index are represented in both style indexes, while the remaining 70% are represented in one or the other style index, but not both. Companies are deemed to be either “growth” or “value” based on their adjusted price-to-book ratio and their long-term earnings growth rate as determined by I/B/E/S. This process contrasts with the

methodology used by Standard & Poor’s which bases its style determination strictly on price-to-book and uses a mutually exclusive policy which places a company in one or the other index, but not both.

New Microcap Index. A new index being launched this year, the Russell Microcap Index, uses a methodology that is consistent with the other U.S. indexes and will include stocks ranked 2001 to 4000. According to Russell, the market capitalization for the Microcap Index will range from approximately \$55 million to \$500 million. The Microcap Index is more representative of the opportunity set in this segment of the market and will be a better benchmark to evaluate managers who buy names smaller than the Russell 2000.

Provisional Index and Legacy Returns.

Last year, Russell made provisional returns available for the first time.

Again this year, it will calculate official

“provisional” index returns corresponding to the reconstituted indexes, and make them available from June 10 until June 24. In addition, beginning this year, Russell will provide legacy returns for pre-reconstitution indexes from June 27 until the end of July. This will provide market participants with more flexibility to switch to the new indexes before or after June 24. The publication of these returns will also provide better information for managers to analyze trading performance around the day the indexes are reconstituted. This approach is consistent with evolving “best practices” in index construction and maintenance, and will shift some of the uncertainty and risk of index changes away from index-based investors and back toward market participants who might have previously attempted to profit from a potential “index effect.”

Risk and Turnover Analysis

One way to gauge the level of risk that an investor may experience in transitioning between the current and reconstituted indexes is a measure known as “predicted tracking error.” A higher number indicates that the reconstituted index is significantly different than the current one. This year, the differences as depicted by the predicted tracking errors in the chart below are fairly small for the primary components of the Russell 3000. (Figure 2.)

Figure 2.
Russell Index Predicted Tracking Error

	2005 (Est.)
Russell 1000	20 bps
Russell 2000	145 bps

Source: NTGI, CSFB, Barra

The availability of provisional and legacy returns shifts some of the uncertainty away from index-based investors and back toward market participants seeking to profit from a potential “index effect.”

Based on estimates currently available, we expect the turnover to be in line with, or lower than, last year for most of the Russell indexes. (Figure 3.) The slightly higher turnover for the Russell 1000 Index is caused by a single very large addition, News Corporation with a weight of approximately of 0.47%. This year's reduced turnover for the major indexes is mostly due to the relatively low and comparable returns for the Russell 1000 and Russell 2000 Indexes, up 5.76% and 4.92% respectively, through March 31. (Figure 4.) A higher return dispersion would force names to move from one index to another as their market capitalization changes. Accordingly, the higher turnover for the Russell 1000 Growth and Value Indexes (Figure 3) is caused by a large performance disparity, almost 13%, between these two indexes since June 30, 2004.

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Figure 3.
Russell Index Turnover
(Percentage of Market Capitalization)

	2005 (Est.)	2004
Russell 3000	1.2	1.5
Russell 1000	2.0	1.8
Russell 1000 Growth	19.6	12.9
Russell 1000 Value	18.0	11.4
Russell 2000	14.7	17.3
Russell 2000 Growth	29.9	30.9
Russell 2000 Value	28.5	26.0

Source: Frank Russell & Co, NTGI, Goldman Sachs estimates

Figure 4.
Russell Index Performance

	Full Year 2004	June 30 thru March 31
Russell 1000	11.40%	5.76%
Russell 1000 Growth	6.30	-0.76
Russell 1000 Value	16.49	12.18
Russell 2000	18.33	4.92
Russell 2000 Growth	14.31	0.78
Russell 2000 Value	22.25	8.86

Source: Frank Russell & Co, Goldman Sachs estimates, NTGI

Another reason for the lower turnover in the major indexes is the change in methodology regarding the inclusion of IPOs. Since the last reconstitution in June 2004 and on a quarterly basis, a total of 131 such names were added to the Russell 3000 Index. As a result, we expect only 54 IPOs, six in the Russell 1000 and 48 in the Russell 2000, to be added on June 24. Last June, 100 IPOs were added, as compared to only 28 IPO additions in June, 2003. (Figure 5.)

Figure 5.
Number of IPOs added to Russell Indexes

	Russell 1000 Index	Russell 2000 Index	Russell 3000 Index
3rd Quarter 2004	5	43	48
4th Quarter 2004	3	37	40
1st Quarter 2005	4	39	43
Estimate for June 2005	6	48	54
Total	18	167	185

Source: Frank Russell & Co, CSFB, NTGI

Due in part to the inclusion of IPOs during the year, we also expect lower turnover based on the number of names added to/deleted from the Russell 1000 and 2000 Indexes. The large-cap benchmark should receive four new names and the small-cap index 160, well below recent levels. Again, this is mostly due to IPOs being

added throughout the year instead of once a year. Deletions for both benchmarks are in line with previous years and migrations between the Russell 1000 and Russell 2000 are slightly higher than last year, but still relatively low compared to previous years. (Figure 6.)

Figure 6.
Projected Changes to the Russell 1000 & Russell 2000 Indexes

	2005 (Est.)	2004	2003	2002
New Additions to R1000	4	16	7	21
Deletions from R1000	0	0	0	4
New Additions to R2000	160	310	280	379
Deletions from R2000	194	205	186	225
R1000 to R2000	73	67	82	105
R2000 to R1000	78	67	92	136

Source: NTGI, CSFB

As mentioned above, the largest stock added to the Russell indexes and the highlight for this year's reconstitution is News Corporation, joining the Russell 1000 Index with an approximate weight of 0.47%. This company completed its reincorporation from Australia to the United States on November 12, 2004, hence becoming eligible for inclusion in the Russell indexes. It was also added to the S&P 500 in December, 2004. The second largest addition to the Russell 1000 Index is MCI Inc., with a weight of 0.06%.

Due to the single digit performance of the stock market since June, 2004, we do not expect the cutoff for inclusion into the Russell Indexes to rise nearly as much as last year. The market capitalization of the 3000th stock will be approximately \$186 million, or 5.1% higher than last year. In 2004, the market capitalization for the same cutoff point jumped 51%. The market capitalization of the 1001st stock, the demarcation between the Russell 1000 and the Russell 2000, is expected to increase to \$1.7 billion, or 6.1% above last year. (Figure 7.)

Figure 7.**Total Market Capitalization Cutoff Points (in millions)**

Rank	2005	2004	2003	2002	2001
201	\$13,680	\$12,222	\$10,089	\$10,902	\$11,884
501	4,450	3,940	3,146	3,564	3,911
1001	1,721	1,622	1,214	1,369	1,443
3000	186	177	117	134	151

Source: NTGI, CSFB

Sector Review for the Russell 1000 and Russell 2000 Indexes

Russell 1000. Sector analysis of the Russell 1000 rebalance indicates no major shifts in the current relative weights of key industrial sectors. The Russell 1000 Index will continue to be dominated by the combination of the Financial Services and Health Care sectors, totaling 34.37% of the index. The largest increase will be found in the Consumer Discretionary sector, with a projected increase of 0.34% as a result of the addition of News Corporation, after its change in domicile. The Technology sector will have the largest decline in the Russell 1000 Index, with a projected decrease of 0.40%. (Figure 8.)

Russell 2000. The Russell 2000 Index is projected to experience a greater change in sector weightings than the Russell 1000. The largest increase will be seen in the Technology sector which is expected to increase 3.16% to an overall weight of 14.43%. The Financial Services sector will continue to be the largest sector weight in the index, with an anticipated weight of 23.49%, representing a slight increase in its current weight of 22.70%. The Consumer Discretionary sector will continue to hold the second largest position, with a projected weight of 18.88%, an increase of 0.53% from 18.35%. The Other Energy sector is projected to decrease its weight 2.03%, as a number of the energy stocks migrate to the Russell 1000 Index. (Figure 9.)

Figure 8.**Russell 1000 Sector Changes**

Sector	Projected	Current	Change
Auto & Transportation	2.30%	2.24%	0.06%
Consumer Discretionary	14.44	14.11	0.34
Consumer Staples	6.85	7.07	-0.22
Financial Services	21.42	21.56	-0.14
Health Care	12.95	13.16	-0.21
Integrated Oils	5.77	5.82	-0.05
Materials & Processing	4.11	3.95	0.15
Other	4.65	4.62	0.03
Other Energy	2.85	2.66	0.19
Producer Durables	4.42	4.37	0.06
Technology	12.83	13.23	-0.40
Utilities	7.42	7.22	0.19

Source: CSFB, NTGI

Figure 9.**Russell 2000 Sector Changes**

Sector	Projected	Current	Change
Auto & Transportation	3.85%	4.22%	-0.37%
Consumer Discretionary	18.88	18.35	0.53
Consumer Staples	1.87	1.63	0.24
Financial Services	23.49	22.70	0.79
Health Care	11.94	10.51	1.43
Integrated Oils	0.47	0.16	0.32
Materials & Processing	9.41	10.53	-1.12
Other	0.68	0.46	0.21
Other Energy	4.11	6.14	-2.03
Producer Durables	6.94	7.66	-0.72
Technology	14.43	11.27	3.16
Utilities	3.99	4.59	-0.60

Source: CSFB, NTGI

Growth and Value Style Indexes

The Russell 1000 and Russell 2000 style indexes are expected to have a greater shift in sector weightings in 2005 than the composite indexes. As explained above, the assignment of growth and value factors are applied annually in conjunction with reconstitution. At the time of reconstitution, the capitalization of each style index is split approximately 50% to growth and 50% to value. This is accomplished either by changing the definition of “growth” and “value” for the 70% of the capitalization that falls into one style index or the other, or by shifting the percentage of capitalization for those companies represented in each index. Since the Russell 1000 Value Index outpaced its growth counterpart by nearly 13% from June 30, 2004 through March 31, 2005, a significant amount of turnover will be required to evenly balance the weights between growth and value.

Russell 1000 Value. The Russell 1000 Value Index is expected to experience large changes in both the Health Care and Financial Services sectors. The Financial Services sector will remain the largest weighted sector as the projected weight increases 4.84% to 36.07%. The Health Care sector is expected to increase to 6.89% from 3.44%, an increase of 3.46%. The expected reclassification of Pfizer Inc. is the primary contributor to this change, as it is currently classified as “pure growth” and is expected to be reclassified as “pure value”. The Other category, which is made up of unclassified stocks, is expected to experience a significant decline in weight of 4.81% to a new weight of 1.75%. (Figure 9.)

Russell 1000 Growth. The opposite effect will take place in the Russell 1000 Growth Index. The Other segment will post the largest increase, rising 4.96%, while Health Care will have the largest decrease, declining 5.65%. The anticipated change in the Health Care sector will bring the Technology sector to the largest weight of the rebalanced index

to 20.91%, while the Health Care and the Consumer Discretionary sectors become closer in weight at 18.62% and 18.43%, respectively. (Figure 10.)

Figure 9.
Russell 1000 Value Sector Changes

Sector	Projected	Current	Change
Auto & Transportation	2.26%	2.35%	-0.09%
Consumer Discretionary	10.19	9.11	1.08
Consumer Staples	5.25	5.50	-0.25
Financial Services	36.07	31.23	4.84
Health Care	6.89	3.44	3.45
Integrated Oils	10.19	10.90	-0.71
Materials & Processing	4.32	5.88	-1.56
Other	1.75	6.56	-4.81
Other Energy	3.32	3.39	-0.07
Producer Durables	2.08	3.72	-1.64
Technology	4.21	5.49	-1.28
Utilities	13.47	12.43	1.04

Source: CSFB, NTGI

Figure 10.
Russell 1000 Growth Sector Changes

Sector	Projected	Current	Change
Auto & Transportation	2.33%	2.10%	0.22%
Consumer Discretionary	18.43	19.82	-1.39
Consumer Staples	8.35	8.86	-0.51
Financial Services	7.70	10.51	-2.81
Health Care	18.62	24.26	-5.64
Integrated Oils	1.62	0.00	1.62
Materials & Processing	3.91	1.76	2.15
Other	7.36	2.40	4.96
Other Energy	2.41	1.82	0.59
Producer Durables	6.62	5.11	1.51
Technology	20.91	22.08	-1.17
Utilities	1.74	1.27	0.47

Source: CSFB, NTGI

Russell 2000 Value. For the Russell 2000 Value Index, we anticipate increases of 3.25% in Technology and 1.26% in Financial Services. The Financial Services sector will continue to dominate the index, and will account for 34.33% of the reconstituted index, over twice as much as Consumer Discretionary, the next largest sector weighting. (Figure 11.)

The Russell 2000 Growth Index will also see some large sector weighting shifts. The Technology sector is expected to post the largest increase, up 2.42%, with a projected weight of 20.05%. The Consumer Discretionary sector will continue to be the largest sector in the Russell 2000 Growth Index with an anticipated weight of 22.10%, despite a 1.19% decrease from its current weight. (Figure 12.)

Figure 11.
Russell 2000 Value Sector Changes

Sector	Projected	Current	Change
Auto & Transportation	4.19%	5.05%	0.86%
Consumer Discretionary	15.70	13.96	1.74
Consumer Staples	3.11	2.42	0.69
Financial Services	34.33	33.07	1.26
Health Care	4.93	3.86	1.07
Integrated Oils	0.19	0.05	0.14
Materials & Processing	11.42	13.45	-2.03
Other	0.66	0.80	-0.14
Other Energy	4.25	6.49	-2.24
Producer Durables	6.03	6.40	-0.37
Technology	8.86	5.61	3.25
Utilities	6.46	7.74	-1.28

Source: CSFB, NTGI

Figure 12.
Russell 2000 Growth Sector Changes

Sector	Projected	Current	Change
Auto & Transportation	3.51%	3.29%	0.22%
Consumer Discretionary	22.10	23.29	-1.19
Consumer Staples	0.59	0.73	-0.14
Financial Services	12.35	11.03	1.32
Health Care	19.15	17.97	1.18
Integrated Oils	0.77	0.27	0.50
Materials & Processing	7.35	7.24	0.11
Other	0.70	0.09	0.61
Other Energy	3.97	5.75	-1.78
Producer Durables	7.88	9.07	-1.19
Technology	20.05	17.63	2.42
Utilities	1.45	1.04	0.41

Source: CSFB, NTGI

Portfolio Rebalancing Considerations

In order to effectively rebalance client portfolios in light of the annual Russell reconstitution, we use an approach that considers the specific characteristics, factors and exogenous risks associated with the transition to the reconstituted benchmarks. Despite a recent reduction in overall turnover, the risk of underperformance resulting from the index changes requires continued vigilance, especially among the style indexes where high turnover persists.

Once again, we expect non-index manager market participants, such as hedge funds and proprietary trading desks, to attempt to anticipate index manager trading activity and seek to profit from it. If they are successful, this could have a noticeable negative wealth impact on other participants. However, recent experience suggests that, in fact, such strategies are rarely successful. Oftentimes, these participants employ a simplistic strategy of buying stocks being added to the indexes and selling stocks being deleted from the indexes ahead of expected index manager activity. Absent other information

which could affect the stock price, this can cause investors in passively managed funds to sell the stocks being deleted and buy stocks being added at adverse prices.

Intelligent Indexing[®]. For this reason, a trade related to the annual Russell Index reconstitution needs to be managed in a thoughtful manner, using the best available trading and portfolio management techniques. While the most effective strategy is the one that maximizes wealth rather than just minimizes commissions, there are other considerations that must be taken into account.

For example, investors in a Russell 2000 fund would want to sell stocks that are migrating to the Russell 1000 Index at the highest possible price, while at the same time, investors in a Russell 1000 fund would want to buy those same stocks at the lowest possible price. If cross trading is maximized, both investors receive the price at which the stocks are either deleted or added to their respective index, which would be sub-optimal to one or both of the investors.

Our approach, which we call **Intelligent Indexing**[®], is about being thoughtful and developing an appropriate solution that will minimize the potential for wealth erosion in information based trades, such as the Russell reconstitution.

Developing the appropriate implementation strategy begins with a thorough review of the supply and demand dynamics surrounding the reconstitution. At Northern Trust, this process begins well before the date of the reconstitution and will continue up to the effective date. All facets of this very large trade must be reviewed and constantly monitored.

These considerations go beyond just the investment implications and include a review of potential trade settlement problems, credit exposure and contingency systems. All of these issues are important contributors to the success or failure of this very important transition.

In addition to executing the Russell rebalance trade in a risk and cost minimizing manner for our funds, we can also provide our clients with customized analysis and investment strategies to manage this transition. This year, the availability of provisional and legacy indexes provides a better opportunity for implementation of such strategies, as investors interested in trading before or after the reconstitution day will now have the appropriate “official” Russell benchmarks.

All of us at Northern Trust Global Investments look forward to working with you to effectively manage the Russell event. If you have any questions about the Russell reconstitution or an interest in discussing related index trading strategies, please contact your investment relationship manager.

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