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PENSERRA

AFTER HOURS QUARTERLY

INSIDE THIS ISSUE:

Transition Management: Leaving a Manager? Let a Transition Manager Bridge the Gap

A considerable amount of time, money and effort is usually spent during the selection process of a new investment manager, yet not nearly enough resources are committed to when it is time to terminate one. In fact, it is not uncommon for terminations to take place at a moment's notice with little done in the way of an established plan to transition the investment into a suitable alternative.

Of all investment themes in play right now, the most publicized is the ongoing move from active to passive management. While the trend is nothing new, there does seem to be a shift in how quickly asset owners are to remove a manager either on "watch" or who is simply mediocre and yet continues to charge higher fees.

The decision for an abrupt firing becomes easier when the under-performing manager also shows signs of rapid asset losses, makes sudden investment team/leadership changes or announces plans to shutter its business. But once a manager has been fired, what then? What happens to the terminated investment portfolio? Who assumes managing underlying assets until the plan sponsor decides on its deployment?

As part of their fiduciary responsibility to plan assets, it is up to plan sponsors to have a prudent process in place that carefully identifies and evaluates all options prior to a termination. This should include partnering with specialists like transition managers who can offer various short- to mid-term exit strategy solutions with notable cost reduction and risk management benefits. These solutions can be applied whether the end goal is to raise cash or reallocate the investment to another manager.

Often considered as the "easy" way out, clients will simply direct a terminated manager to liquidate the current investment in to cash and either leave the proceeds in the account or have it delivered to them. While this strategy can be a modestly time-saving and relatively hassle free way of moving on, it can also be costly as the underlying investment exposure may be sub-optimally managed towards the end of the relationship.

Terminated Managers may unload the portfolio quickly creating undue adverse impact (that is, the prices of securities falling precipitously) in the market and inevitably reduce the net proceeds raised. While the manager is still considered to "act" as a fiduciary, interests may not be aligned with little incentive to 'maximize' cost savings for the plan. To line up the liquidation of the terminated investment (security sells) to match up with intended target investment (security buys). This leaves clients vulnerable to out-of-market exposure, or exposure risk, as an investment shifts from one manager to another. From a performance standpoint, risk can be significant if markets trade higher during the period.

TM: Leaving a Manager? Let a Transition Manager Bridge the Gap (cont.)

Depending on the extent of the outflows relative to the overall strategy size, the approach a terminated manager takes to quickly unload assets in the marketplace may end up being the same regardless of the number or size of loss mandates. By having the manager employ a combined sell program, with no regards to impartiality or consideration of the relative risk profiles, the overall cost of trading could be borne equally across all involved plan assets as they compete for liquidity and best available price with the same assets. For this very reason, cashing out at the same time as those plans with a larger percentage ownership of the strategy may not be advantageous for all plan sponsors. By consulting with a transition manager, the areas of risk and costs surrounding the liquidation can be identified and a cost-effective solution devised to fit the clients' specific needs. Utilizing their cost models and risk datasets, a transition manager can create a quantitative framework to show the trade-off between slow, lower-cost, higher-risk strategies and fast, higher-cost, lower-risk strategies. From there, an informed tactical recommendation can be made regarding how, when, and where to trade with capital preservation in mind.

For clients needing someone to temporarily manage terminated portfolios until a new 'like' manager is found, a transition manager can offer an exposure based solution incorporating some or all of the current terminated portfolio holdings. The thought behind this solution is to minimize the cost of moving into an eventual target while also managing risk relative to a benchmark. To create an interim solution, the legacy portfolio is evaluated versus a given benchmark. The current tracking error is measured as well as the cost to fully transition from the current legacy portfolio into the benchmark. These two data points become the end points to form a range of possible solutions. One extreme is a zero-cost solution where the client bears the full risk of tracking error with the existing portfolio to the benchmark. The other end of the spectrum is a low-risk solution of holding the benchmark but bearing all the trading costs associated with transitioning into that benchmark. With those end points, a transition manager can create multiple solutions along that continuum allowing the client to choose the most appropriate combination of cost to trade and risk to the benchmark.

In discussions with clients, the appropriate target portfolio solution is determined based on preferences in the trade-off between costs of trading and risk versus the benchmark (the same systematic approach as discussed in the previous section). The transition manager is able to create and hold that target portfolio for a negotiated period of time. Depending upon the duration of the mandate, reports are provided on a monthly basis evaluating the ongoing active risk relative to the benchmark allowing for a periodic rebalance of holdings to a target risk level. This solution allows clients the time to make a more informed decision on whom to hire while also preserving the cost savings of potential in-kinds in the event the physical assets are going to a target manager within the same asset class.

The advantages of using a transition manager are the same as when they are hired for manager rebalances and/or asset allocation shifts for a plan—to efficiently 'bridge the gap' with an expert and remove any undue risk. The ability to assess and manage various investment and trading risks, reduce any related transaction costs, execute the necessary trades and report on performance during a period of uncertainty can be an appealing proposition to a plan sponsor seeking to put in place a termination protocol. All this by teaming up with a provider who has the best interest of the plan assets.

For additional information please contact transitions@penserra.com or 1-855-736-7377.

Equity Trading: MiFID II

While there has been some push back on the new rules from all sides, there is no indication that MiFID II will be delayed or changed before the Jan 3, 2018 implementation and this is no doubt going to change how European equities will be traded. Part of the stated goals of MiFID II is to create more transparent, organized trading venues. This means leveling the playing field for execution venues, collecting a large degree of pre trade and post trade data and bringing the dark pools to the light – or try to. And as it relates to dark pools, this is one of our main focuses and will be watching to see how this plays out.

One of the biggest and most talked about changes is the volume caps of dark pools. Due to heightened focus on limiting high frequency trading and favoring the investor, dark pool trading will be capped. The caps are across a rolling 12 month period, if eight percent of the total volume trades in the dark or if a single dark venue handles four percent of the volume, then there potentially could be a six month blackout of dark pools (either a single venue or all venues) in that respective stock. For larger trades, there are exemptions based on trading volume in that name and the size of the single trade. The second biggest change will come from brokers and market venues trying to adapt to new regulations and gain market share through exemptions.

The largest gain in market share will come through Systematic Internalisers. Currently broker crossing networks (BCNs) match buyers and sellers as a dark pool and are classified as an "over-the-counter" market; however, due to their opaque nature, they are hard to regulate. When MiFID II goes into effect, BCNs will have to fall under three categories: an exchange, a multilateral trading facility (equivalent to an ATS in the US market) or a Systematic Internaliser (SI). An SI is required to put up their own capital to match buyers and sellers rather than connect buyers and sellers. While they have to adhere to most of the requirements of similar venues, they are not subject to the same tick size requirements, dark pool caps and their post trade reporting is one minute rather than instantaneous. These three exemptions are the most controversial, especially when the goal of MiFID II is to level the playing field and heighten transparency.

Critics – mostly exchanges - argue that these exemptions are completely against the spirit of MiFID. SIs can offer "meaningless" price improvement (could be an improvement .0001 to the stated market) without increasing efficiency of the marketplace, only looking to increase market share. Given that SIs are exempt from the dark pool cap, more flow could potentially go to them to avoid caps; thereby weakening the playing field. They argue that this will continue to fracture markets, lower efficiency and drive volume lower in the exchanges where there will be heightened transparency.

Another way brokers are working around the dark volume trading cap is using volatility auctions. Brokers who choose to go the volatility auction route would stockpile orders from buyers and sellers until enough volume accumulates to create a volatility auction. This could allow participants to trade size, but couldn't guarantee price at the time the order is sent, the broker would have to wait until enough volume piles up, all in while the market could move. While volatility auctions have always been a part of market structure in Europe, these auctions will act as a way to trade size without tipping the market until the auction trades.

Equity Trading: MiFID II (cont.)

Regulators already have stated they don't plan for any delays or changes, so market participants will need to adapt to the new landscape. As time goes on, there is no doubt trading will continue to evolve given the unprecedented data driven look MiFID II creates. While there is some pressure to adopt similar changes, there is no doubt the data collected will affect how regulation goes forward in the future in Europe and potentially all over the world.

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Russell Index Alternatives

Russell 1000 Standard Index Alternatives

Retirement systems often choose specific benchmarks in their asset allocation policies. One popular benchmark for U.S. equities is the Russell 1000 Index which is a subset of the Russell 3000 Index and captures the largest 1000 securities by market capitalization, which includes both large cap and mid cap stocks. We took a look at two potential substitutes for the Russell 1000 Index series; Russell Comprehensive Factor and the Pure Style Index Series which both use the Russell 1000 Index as their parent index or starting point for construction methodology.

The Russell 1000 represents approximately 92% of the U.S. market. It is constructed to provide a comprehensive and unbiased barometer for the large-cap and mid-cap segment of the market and is completely reconstituted annually to ensure new and growing equities are reflected. Though there are a few criticisms of market cap weighted indexes, when buying the index, you are mostly exposed to the largest weighted stocks in an index. For example, the largest 200 stocks in the Russell 1000 Index comprises 68% of its weight. We also observe a more general criticism that as the market rises market cap weighted indexes become more expensive for no other reason than investors are buying the market and not individual stocks. As a result, index constituents receive a free ride upward in price with the market rise without any fundamental reasons for an increased valuation in the companies and vice versa when the market sells off and constituents are unfairly penalized with a price decrease without any specific decrease in the company valuation.

One clear alternative to market cap weighted indexes is to use actively managed strategies. However, some 66 percent of large-cap active managers failed to top the S&P 500 in 2016 and more than 90 percent missing their benchmarks over a 15-year period. (*Data provided by S&P Dow Jones Indices LLC.)*

A compelling alternative to the Russell 1000 Index is the Russell 1000 Comprehensive Factor Index ("R1000CFI"), which is not a market cap weighted index. The R1000CFI is a benchmark designed to capture exposure to specific factors. A factor is a stock characteristic that is important in explaining a security's risk and return. The foundation behind a factor approach is to construct an index whose constituents have deliberate and larger exposure (i.e. weight) to specific factors that have empirically been shown to and are expected to earn a positive premium in the future (i.e. factor exposures which are compensated).

Russell Alternative Index (cont.)

On the surface, most would agree that this factor based investing approach seems to be a more robust stock selection framework than a pure market cap weighted index.

The R1000CFI is constructed using five factors including: Quality, Value, Momentum, Low Volatility and Size:

1. Quality: Higher quality companies tend to demonstrate higher performance than lower quality companies.
2. Value: Stocks that appear cheap tend to perform better than stocks that appear expensive.
3. Size: Smaller companies tend to demonstrate higher performance than larger companies.
4. Low Volatility: Stocks that exhibit low volatility tend to perform better than stocks with higher volatility.
5. Momentum: Stock performance tends to persist, either continuing to rise or fall.

What we found to be most compelling is that the performance of this R1000CFI has resulted in positive tracking error versus the Russell 1000 Index every year since 2002 except for YTD 2017 (as of July 31, 2017) and lower volatility of returns in most years. It is noteworthy to point out the Cumulative Returns of 430.56% for the R1000CFI versus the 175.66% for the R1000 Index. In addition, the standard deviation of returns for the R1000CFI is 17.2% versus 18.6% for the R1000 Index.

	2009	2010	2011	2012	2013	2014	2015	2016	Cumulative Return	St. Dev
Comp. Factor	32.20%	23.60%	6.30%	16.50%	38.20%	14.90%	2.00%	13.10%	430.56%	0.172
Russell 1000 Index	28.40%	16.10%	1.50%	16.40%	33.10%	13.20%	0.90%	12.10%	175.66%	0.186
Tracking Error	3.80%	7.50%	4.80%	0.10%	5.10%	1.70%	1.10%	1.00%	254.89%	

	2002	2003	2004	2005	2006	2007	2008
Comp. Factor	-7.50%	31.40%	21.30%	15.30%	15.90%	5.90%	-31.40%
Russell 1000 Index	-21.70%	29.90%	11.40%	6.30%	15.50%	5.80%	-37.60%
Tracking Error	14.20%	1.50%	9.90%	9.00%	0.40%	0.10%	6.20%

Source: FTSE Russell

Russell 1000 Growth and Value Index Alternatives

Style indexes have mainly been used in two ways. First, they serve as benchmarks for two types of active managers. Roughly speaking, value oriented active manager search for "bargain" stocks, where perceived potential value is most often defined by low price-to-book or price-to-earnings ratios. In general, growth oriented active manager looks for stocks with high expected earnings growth and sales trends. For the standard FTSE Russell style index series, they use these three variables as follows: book-to-price (B/P) ratio, I/B/E/S forecast medium-term growth (2-year) and sales per share historical growth (5-year). Second, style indexes are used to support strategic asset allocation processes. After a pension plan sponsor, for example, decides on an overall percentage allocation to equities, there is usually another step: deciding on the segmentation of the equity allocation into "core" investments, and then into value, growth, small-cap, mid-cap and large-cap investments. Indexes are used as proxies for the market segments in asset allocation analysis. In that context, value and growth indexes are typically constructed to be modular and to split the overall market into complementary components that neatly roll up to the overall broad market index.

Russell Alternative Index (cont.)

In general, the Russell style index methodology evaluates the stocks of the parent index, like the Russell 1000, based on their exposure to the three variables mentioned above. These securities are then sorted based on a conversion score from zero to 1. A score or probability of zero indicates membership wholly in the growth index, while a probability of 1 indicates membership wholly in the value index. The function is calibrated so that roughly 35% of the market value of the parent index is wholly in the growth index, 35% is wholly in the value index, and about 30% is divided between the growth and value indexes. This middle 30% tranche of securities exhibits neither growth nor value styles. The result is that both the growth and value styles are diluted.

For investors looking to invest more completely in either style while holding the constituents of the Russell parent index, the Russell Pure Style Index is an interesting alternative. The Pure Style Indexes eliminate the style dilution by excluding the middle 30% tranche which are securities that do no strongly lend themselves to either value or growth style. In addition, the Pure Style Index methodology also includes a liquidity screen that removes the bottom 10% of the securities based on a 4-week average daily dollar trading value. The stock universe is narrowed further to the top 50% of these remaining stocks (based on composite value scores). Stocks are then weighted in accordance with their composite value scores. Lastly, sector weights are capped at 10% above those of the parent indexes' respective benchmark style index.

In reviewing the performance of the growth style, we compared the Russell 1000 Growth, the Russell 1000 Growth Pure Style Index, and the performance of an active Russell 1000 Growth manager (sourced from eVestment) as shown below. We observe that over the past 9 years, the Pure Growth index underperformed the Russell 1000 Growth Index for five out of the last nine years. Further, the cumulative return for the 9-year period of the Pure Growth Index lagged the Russell 1000 by approximately 5%. Interestingly, the sample growth active manager not only outperformed the benchmark, but also showed slightly less variability of returns. The active manager performance returns are not net of fees. The Pure Growth Index showed the most variability of returns.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	Cumulative Return	St. Dev
R1000 Pure Growth	-48.80%	52.30%	30.50%	-0.50%	18.80%	36.30%	11.30%	3.30%	3.00%	94%	0.288
Active Manager	-33.54%	40.61%	15.77%	4.61%	13.52%	33.05%	7.91%	7.61%	3.00%	104%	0.209
R1000 Growth	-38.44%	37.21%	16.71%	2.64%	15.26%	33.48%	13.05%	5.67%	7.08%	99%	0.218
Tracking Error	-10.36%	15.09%	13.79%	-3.14%	3.54%	2.82%	-1.75%	-2.37%	-4.08%		

Source: FTSE Russell

Conclusion of Index Alternatives

Given our review of the Russell 1000 Comprehensive Growth Index, we believe that given a certain tolerance for tracking error, the R1000CFI is a worthwhile strategy to be benchmarked to the Russell 1000 (Standard) Index. We agree that maximizing exposure to factors that drive performance, while applying the constraints that allow the index to be investable, can result in a superior index framework. Further, we observe that the R1000CFI has outperformed the Russell 1000 Index each year from 2002- 2016 and has only underperformed year to date through July 31, 2017.

Russell Alternative Index (cont.)

In addition, the volatility of returns for the R1000CFI is somewhat less than the R1000 Index. Our review of the Russell 1000 Pure Style Growth Index led to a very different conclusion. We believe that the Pure Style Index series does in fact give investors more concentrated exposure to either growth or value stocks. However, what worries us is the actual performance and variability of returns for the Russell 1000 Pure Style Growth Index versus the Russell 1000 Index. Further net of fees performance analysis should be conducted to compare the Russell 1000 Pure Style Growth Index to other active managers. Until then, we believe that the Russell 1000 Pure Style Growth Index is not a suitable investment to be benchmarked to the Russell 1000 Growth Index.

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Capital Markets: Investment Grade Debt

As the 3rd quarter came to a close, volume surpassed $350 billion in Investment Grade issuance, marking it the second busiest 3rd quarter on record. In terms of overall volume (ex-SSA), year to date issuance is still approximately 1% ahead of last year's volume pace ($1.07bn versus $1.053bln). Looking at sector related issuance, industrials are around 3% behind a year ago and utility issuance down 8%. However, FIG issuance is up 22% vs. same period last year. Meanwhile, Yankee Industrial issuance is down 13% from last year and Yankee Financial issuance is approximately 11% behind last year.

The largest transactions for the quarter were AT&T's (Baa1/BBB+/A) $22.75bn 7-part senior notes, followed by B.A.T. Capital's (Baa2/BBB+) $17.25bn 8-part senior notes, Amazon's $16bn 7-part senior notes, Morgan Stanley's (A3/BBB+/A) $7bn 3-part and Bank of America's (Baa1/BBB+/A) $7bn 4-part senior notes. The AT&T, B.A.T. Capital and Amazon transactions were executed to finance their pending mergers, while the FIG transactions were more focused towards banks receiving the Federal Reserve Board's approval to the firm's capital plan under June's conclusion of the 2017 Comprehensive Capital Analysis and Review. The approvals validated the banks decision to increase their quarterly dividends and share repurchase programs. Penserra participated as a co-manager on three transactions in the quarter, two utilities (Exelon's Baltimore Gas & Electric $300mm 30yr & Dominion Energy's Virginia Electric and Power Company $750mm 2-part 7yr & 30yr) and Citi's $3.25bn 3-part transaction. BG&E and VEPCO were Penserra's first and second co-managed roles in the utility sector.

Looking at the 4th quarter, will issuers look to drive ahead before a potential year-end rate hike and the beginning of the Fed's balance sheet unwind? The market has been resilient to practically any headline, so a meaningful sell-off would be surprising. The current rate environment continues to remain positive for issuance and with investors flooded with cash and needing to put it to work as most do not have the luxury of waiting for the right time. We anticipate the quarter to start out calm as earning's blackouts keep many corporations on the sidelines until after they report. It wouldn't surprise us if investment grade issuance had another robust quarter.

Capital Markets: Investment Grade Debt (cont.)

3Q 2017 NUMBERS (excluding SSA):

VOLUME: $350.7 billion

NUMBER OF DEALS: 240

NUMBER OF TRANCHES: 428

AVERAGE DEAL SIZE: $1.5bn

AVERAGE IPT / PRICING DIFFERENTIAL: -18bps

AVERAGE TIMES COVERED: 3.13x

AVERAGE NEW ISSUE CONCESSION: 1.84bps

VERSUS PREVIOUS QUARTER (Q2 2017 $326.6bn): UP 7%

TOTAL DOMESTIC: $231.7bn (66%) / 162 deals

TOTAL YANKEE: $119bn (34%) / 78 deals

TOTAL INDUSTRIAL: $173.3bn (49%) / 97 deals

TOTAL FIG: $162.8bn (47%) / 113 deals

TOTAL UTILITY: $14.5bn (4%) / 30 deals

FIXED: $231.7bn (90%) / 162 tranches

FLOATING RATE NOTE: $35.6bn (10%) / 65 tranches

SHORT (<5): $57.8bn (16%)

INTERMEDIATE (5-20): $209.3bn (60%)

LONG (20+yrs): $81.8bn (23%)

PERPETUAL: $1.75bn (1%)

Source: Informa Global Markets

For additional information please contact John Pascente at John.Pascente@penserra.com

From the Desk of Our CEO : What's New at Penserra

First and foremost, I wanted to mention that the Cheevers merger became official on May 1st. It seems like so long ago now, but thanks to some great employees this has been a relatively painless merger. We are, however, still working through the last phase of our integration plan. We currently expect to fully complete our technology upgrades and network integration by the middle of November ahead of our December 31st internal deadline. I would like to thank our new Cheevers colleagues for being patient through all these changes. In addition, we are pleased to announce that we have opened our fifth office location in Greenwich, CT, being used for institutional sales.

Please join me in welcoming our new employees. John Pascente joined the investment banking team as a Managing Director in April of 2017 bringing with him over 19 years of industry experience. Prior to joining the firm, John spent 7 years at Blaylock Beal Van. John graduated from the University of Illinois with a Bachelor of Science in Finance and he also received his Chartered Financial Analyst designation in 2003.

Matthew Tobin joined in May of 2017 and brings with him over 12 years of experience in the industry. In his current position as a Vice President, Senior Legal Counsel and Compliance Officer, Matt will be responsible for compliance and legal matters. Matt began his career as an investigator with the Chicago Board Options Exchange and prior to joining the firm was an Associate Attorney at both The Duffy Law Firm and Ziliak Law, LLC. Matt graduated from Loyola University School of Law with his Juris Doctor and received his BA in Political Science with a minor in Business and Western European Studies from Indiana University.

Jason Parks joined the firm in August of 2017 as a Senior Vice President in Institutional Sales. Jason came to Penserra from Loop Capital Markets, where he served as a Vice President in their Transition Management Division. Jason obtained his BA in Economics with a Business & Liberal Arts concentration from Valparaiso University and his MBA from Keller Graduate School of Management.

I also want to mention that the firm has been pushing forward with its organic growth strategy focused on fixed income sales and trading. Our 4th Quarter Newsletter will have a section dedicated to our fixed income expansion led by our Head of Fixed Income, Jeff Boyd. In the meantime, please join us in welcoming Jeff's new team members including James (Jaime) Smiles, James Rescigno, James Batteast, Stephanie O'Neill, Nancy LaBossiere, Paul Woldar, Richard Kennedy, and Brian Fader.

George Madrigal

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ABOUT PENSERRA

Founded in 2007, Penserra is an institutional financial services firm with offices located in the New York, Chicago, and San Francisco Bay Area. Our services include global equity trading, fixed income trading, equity research, transition management, and index asset management. As a full service broker-dealer, our trading desk is staffed with experienced trading veterans that cover global equity markets around the clock 24 hours a day/6 days a week. Our transition management services are supported by an exceptional team coming from firms like BlackRock, BNY Mellon, and Russell Investments. The index asset management service has created an entire investment process built with risk controls at its foundation while producing consistent and replicable benchmark tracking. Penserra leverages the experience of our people with state of the art technology to deliver solutions that address the global market challenges facing our customers. Penserra is a certified Minority-Owned Business Enterprise (MBE).

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