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“It took the RAFI methodology to illustrate the power of rebalancing within equity markets.”

KEY POINTS

1. The introduction of fundamentally weighted indexing expanded investors' choices beyond the “either/or” of active and passive management.
2. Critical thinkers asked valid questions, but what was new with fundamental weighting was putting a dynamic value-oriented approach on a transparent, rules-based index chassis.
3. With nearly 10 years of actual returns, the Fundamental Index™ strategy has added value over a complete market cycle.
4. Providers should design smart beta strategies that are easy to understand; investors should consider whether a contrarian approach that requires fortitude and patience is right for them.

Flying High: RAFI™ at 10 Years

Nearly 10 years ago, what we now call the promise of smart beta¹ began for me at 35,000 feet over the Kansas-Missouri border. In April 2005, well before smart beta or its cousin, factor investing, had become everyday expressions, I found myself on a transcontinental flight, completely and utterly...bored. At the time, I was director of research at an investment consulting firm and, feeling totally prepped for my client meeting, I had next to nothing to occupy the last two hours of my flight (the SkyMall catalog was never good for more than two or three minutes of perusing). So I dug into my briefcase and found the one piece of reading left, the March/April edition of the *Financial Analysts Journal*.

Considering that two of my current partners were associated with the journal in 2005—Rob Arnott was editor and Katy Sherrerd was a managing director of CFA Institute responsible for the *FAJ*—you’d think I would tell you (and *them*) that I anticipate its delivery like an 11-year-old boy waits by the mailbox for the latest issue of *MAD* magazine. But I’d be lying. Aside from Rob’s “Editor’s Corner” columns, the *FAJ* would normally get a skim at best. Not this time. The skimming stopped at an article called “Fundamental Indexation” (Arnott, Hsu, and Moore, 2005). I read, pondered, and re-read. The notion of a better index was mind-blowing, a real game changer for institutional investors staring at low long-term returns. So, upon returning

from my trip, I called the Research Affiliates main line (then in Pasadena). It was the only reverse inquiry I made in a decade of investment consulting. Less than a year later, I left my comfortable and enjoyable consulting career, lengthened my commute by 35 miles (right through downtown LA...in rush hour), and joined Research Affiliates.

So how has it turned out? Well, I’m loving things here at Research...oh, you meant with the RAFI Fundamental Index™ strategy and its investors, didn’t you? I’m pleased to report quite well. Join me as I explain how it went and where we are headed.

The Choices Then

In 2005, an investor allocating any amount of assets to equities faced a binary choice: invest actively or passively? Active managers pointed out, quite correctly, that prices (see TMT Bubble)² deviate wildly from fair value, and a capitalization-weighted index will structurally allocate more to overpriced stocks. The indexers countered with the indisputable Cost Matters Hypothesis (CMH), the obvious fact that for every winning active manager there must be a losing active manager taking the other side of the winner’s trades, as well as overwhelming empirical evidence on the superior performance of cap-weighted index funds.³ There was no viable low-cost solution that fixed the return drag from cap weighting while retaining many of the

benefits associated with indexing, such as capacity, economic representation, and ease of governance.⁴

The experience of the late 1990s and the bursting of the tech bubble vividly illustrate this paradox. **Figure 1**, an exhibit we've used before, outlines the rise and fall of Cisco Systems during this stretch of time. In all honesty, we could have chosen almost any tech company in virtually any country. As they all crested, proponents of active management hollered that the index was taking people on a dangerous ride. And they were right. To this day, most people don't realize that the average stock in the S&P 500 Index⁵ didn't begin to lose money until April 2002, a full 20 months after the bear market had started for its cap-weighted cousin. Did active managers take advantage of the opportunity? Nope. Over the preposterous Cisco mispricing cycle, the S&P 500 still managed to outperform the majority of mutual funds.⁶ Massive

pricing errors and the associated return drag from cap weighting, but no excess returns? For shame.

“Whether you call it an index or not, the portfolio construction methodology has critical implications.”

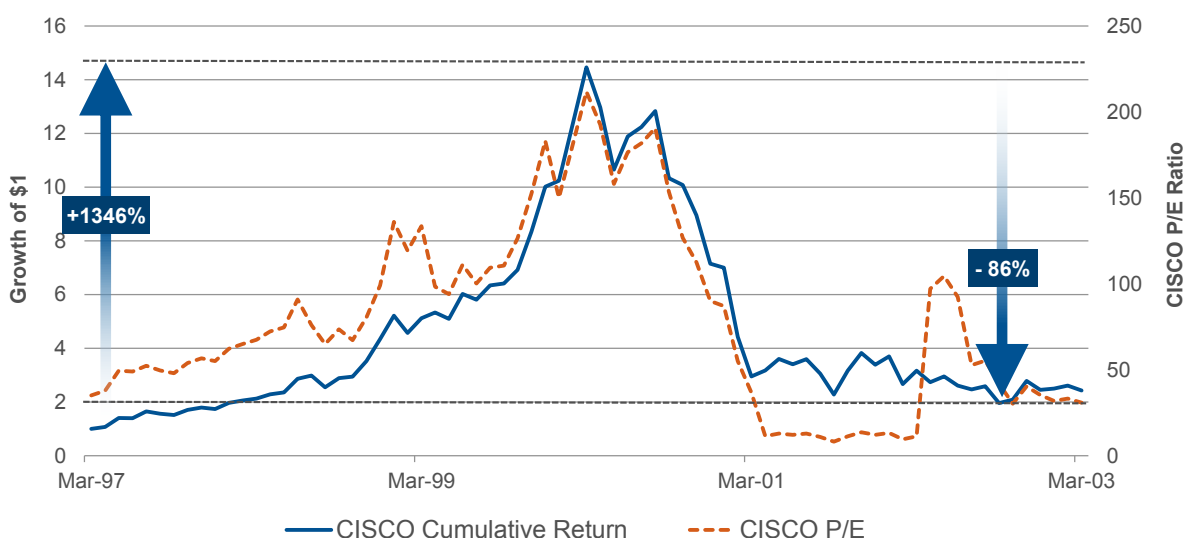
The RAFI Fundamental Index approach sought to solve this conundrum in a shockingly simple and intuitive manner. Suppose we weighted our index by some other gauge than price. We would no longer be forced to ride up with the most popular and beloved stocks, and the exorbitant expectations that come with them. Arnott, Hsu, and Moore (2005) proposed using other measures of economic size, like sales, cash flow, book value, and dividends paid, and then rebalancing once per year. They showed

how this and other non-cap-weighted indices plugged the “2% leak” in the cap-weighted boat, by breaking the link between price and portfolio weight. But unlike other measures—crude ones like equal-weighting back then and the opaque and overly complicated “quant in drag” techniques today—the use of economically meaningful measures preserves virtually all the desirable attributes of cap-weighted indices, including broad economic representation, large capacity, low turnover, and ease of governance.

Learning from Valid Critiques?

Hmm...an index that stands to deliver 2% in long-term outperformance while preserving nearly all of the implementation advantages of cap weighting? Sounding too good to be true, fundamentally weighted indexing attracted immediate skepticism from Jack Bogle, Burt Malkiel, Cliff Asness...and John West. Remember, I was a consultant at the time! My clients expected me to

Figure 1. The Rise and Fall of Cisco Systems (March 1997–March 2003)



Source: Research Affiliates, based on data from FactSet.

poke holes in money managers' latest snake oil remedies. And I cared deeply about my clients' success.

Frankly, many of my concerns were similar to those expressed by Messrs. Bogle, Malkiel, and Asness, unsurprising given the deep respect I held and continue to hold for all three. Jack Bogle correctly and fairly pointed out "these are hypothetical returns for the underlying indexes that don't take into account fees, costs, and taxes" (Lim, 2007). The operative word in my mind at the time was *hypothetical*. We consultants had an old joke: There is no such thing as a bad backtest. They never see the light of day. I relied on my intuition. Avoiding the big bubbles like Cisco circa 2000 (or the small bubbles like Krispy Kreme Donuts circa 2003) that beset a price-weighted approach seemed promising even without simulated results. As for transaction costs, "Fundamental Indexation" demonstrated that turnover was likely to be low. Furthermore, the stocks of big companies tend to be traded in volume. As a company grows in economic importance, its target weight naturally rises, and so does its liquidity.

I was more interested in the tie-in with value. Burt Malkiel stated, "fundamental indices have done very well over the past six years because value stocks and small cap stocks have done well. Will they do well over the next six years? I'm not so sure" (Floyd, 2007). I ran the numbers, and throughout 2005 I explored the value and size issue with Research Affiliates. Jason Hsu walked me through the time-varying nature of the RAFI Fundamental Index style tilts. I became more and more aware that noisy stock prices create opportunities to rebalance. The benefits of rebalancing *across* asset classes are universally acknowledged, but it took the RAFI methodology to

illustrate the power of rebalancing *within* equity markets. Rebalancing entails selling what has done well lately and buying what has done poorly. So when value stocks do particularly well relative to their fundamental size, the RAFI Fundamental Index method trims value and adds to recently lagging growth stocks.

“The value added should overwhelmingly accrue to the client.”

It is precisely due to this dynamic exposure that the RAFI Fundamental Index strategy tends to win more in value markets than it gives back in growth markets. I concluded this was the driving force behind the strategy's 1.5% annualized premium over the Russell 1000 Value Index. I also concluded that the size bias of the RAFI Fundamental Index portfolio was overstated. True, the RAFI portfolio had about half the weighted average market capitalization of the S&P 500 at the peak of the TMT bubble. But that was less of a bet against large *companies* and more of a bet against high-priced tech stocks.

Much of the rest of the debate in 2005 and 2006 centered on semantics. Was it an index? Personally, I didn't much care what people called it. In most industries, customers celebrate innovations that deliver some combination of better performance and lower costs, rather than getting tripped up in arguments over nomenclature. Recall the two implementation choices at the time—active management and cap-weighted index funds. I concluded it was a better investment portfolio

than cap weighting and it was clearly cheaper than top-quartile active managers (for those with the chutzpah to claim they can pick them).

Was it new or, as Cliff Asness (2006) suggested, just a cleverly repackaged form of value investing? Well, rebalancing—the driver of the RAFI Fundamental Index dynamic value and other tilts—is by definition a value-oriented activity, and it was identified well before Fama and French. Ben Graham (2005, p. 42) in 1949 intimated this in *The Intelligent Investor* by explaining, "Basically, price fluctuations have only one significant meaning for the true investor. They provide him with an opportunity to buy wisely when prices fall sharply and to sell wisely when they advance a great deal."

So what was new? Putting this kind of a value-oriented approach on a rules-based index chassis—that's what. Whether you call it an index or not, the portfolio construction methodology has critical implications. It places downward pressure on fees and upward pressure on transparency. How can that be bad?! My questions were answered. I believed this strategy was something every institutional client should examine. I figured the best way to make that happen was to join Research Affiliates as a "RAFI missionary."

The Numbahs Please

"You need a full market cycle to evaluate an investment strategy." How many times have you heard a manager or consultant intone this dictum? Well, it would be hard to argue that we haven't seen a full cycle since my revelation at 35,000 feet. We've seen a bull market from 2005 through October 2007, the sharpest bear market since the Great

Depression, and a six-year bull market. Large and small companies alike have rotated leaders. As we'll explore in greater depth shortly, value won early, but growth stocks have had a nearly continuous run since mid-2007. We've also seen sector leadership shift across the economy. Seven different sectors, from health care to utilities to financials, have been calendar-year winners.

So how has the RAFI Fundamental Index methodology done in its first 10 years? What have we learned as we've migrated from the Lake Wobegon world of backtesting?

First, we have cumulative annualized performance of 9.4% from December 1, 2005, to December 31, 2014.⁷ How does this compare to the two implementation options of the time? Active management has had a rough go of it with a return of 7.1% for the median Lipper Large-Cap Core mutual fund, compared with 7.9% for the S&P 500.

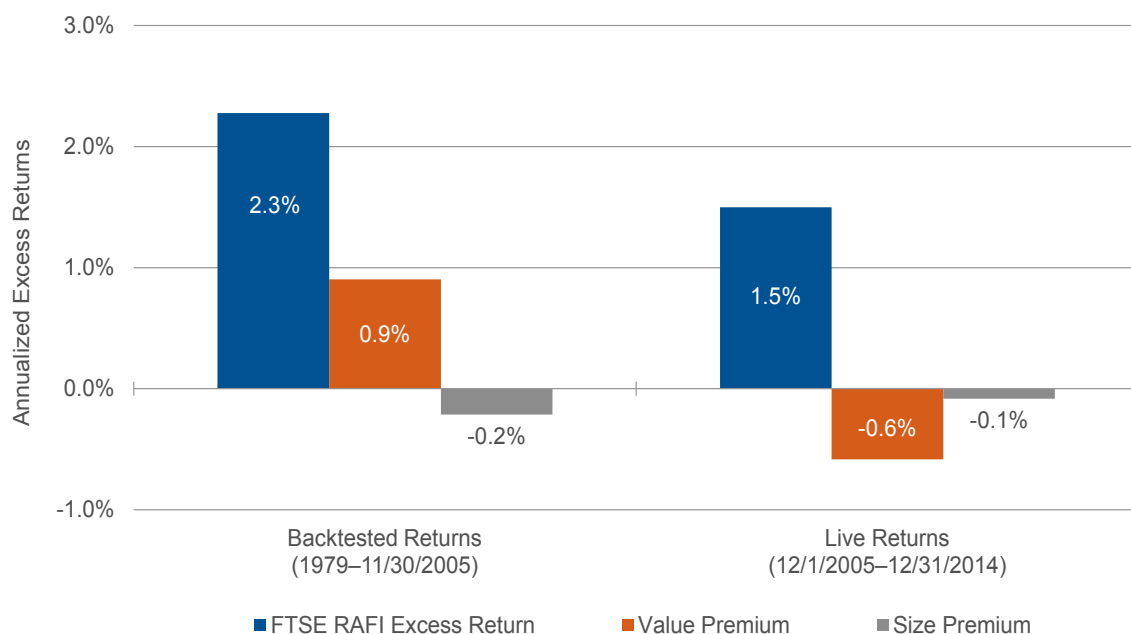
So that's an annualized excess return of 2.3% and 1.5% above the median active manager and the cap-weighted index, respectively, for our first 10 years. If you had invested \$10,000 in the FTSE RAFI US 1000 Index in December 2005, your balance would have grown to approximately \$22,640. This is \$2,660 more than if you had invested in a fund that tracks the S&P 500 and \$3,960 more than if you had invested with the median active manager. To be sure, the two index results are before costs, but the costs in both cases would have been modest.

Nonetheless, the value-added returns did fall short of the hypothetical excess returns found in the original research. Why? This brings us to the value criticism. Burt Malkiel was right. Value stocks had done very well prior to the publication of "Fundamental Indexation," whether one used the previous five years' returns (dominated by the unwind

of the tech bubble) or the longer stretch of 35 years (as far back as the Russell 1000 Value data were available). And the RAFI Fundamental Index strategy had a near universally acknowledged value tilt, sometimes big and sometimes small.

In **Figure 2**, I show the excess returns of the RAFI portfolio over the S&P 500 along with the approximate value and size premiums that were commercially available. The first set of bars on the left shows the results that this former consultant would have looked at in 2005. The backtested RAFI portfolio produced a 2.3% excess return from 1979 to November 30, 2005. Meanwhile, value stocks, as represented by the Russell 1000 Value, produced an excess return of 0.9%. The size premium, as measured by the S&P 500 minus the Russell 2000 Index, was negative, confirming that the RAFI Fundamental Index small-cap bias was a red herring.

Figure 2. Simulated and Live Returns



Source: Research Affiliates, based on data from FactSet.

Since the launch of the RAFI Fundamental Index strategy in late 2005, value has registered a 0.6% *shortfall* as measured by the spread between the Russell 1000 Value and the Russell 1000 Index. The sign flipped! Yet the RAFI portfolio *still* produced meaningful excess returns. How did it do that? Precisely by means of its dynamic value exposure. As shown in **Figure 3**, the RAFI strategy entered the 2007 period with a very mild value tilt: Using the price-to-book ratio, it traded at only a 14% discount to the broad market. It had used the value rally of 2000–2006 to rebalance *out* of the outperforming value stocks. By the beginning of 2008, the FTSE RAFI US 1000 had half the value tilt (15% discount to the market) of the Russell 1000 Value (27% discount). It began to rebalance into value stocks in March 2008, and in March 2009 it reached a nearly 50% discount to a broad market that increasingly favored growth at any price. In a little over two years, the RAFI Fundamental Index portfolio had gone from *half* to *twice* the value tilt of the Russell 1000 Value. And it paid off.

“Mean reversion is *unreliably reliable.*”

With nearly 10 years of actual returns, the RAFI Fundamental Index strategy has added value across a most interesting and complete market cycle. True, not as large as the original work suggested, but certainly in line with expectations, given the prevailing headwind value-tilted strategies have encountered over the past decade. Critically it’s been able to deliver more to the end investor as a result of having a natural lower fee than active approaches. *We can’t wait to see how it does in a decade when value wins!*

What excited me then, and still excites me today, is the benefit for investors. Suppose you recognized the issues with cap weighting back in 2005 and decided to go active. Further suppose you had the skill to pick—and the sangfroid to stick with!—a top-quartile mutual fund (West and Ko, 2014). You would have enjoyed a reasonable excess return of 1.01% before the manager took their

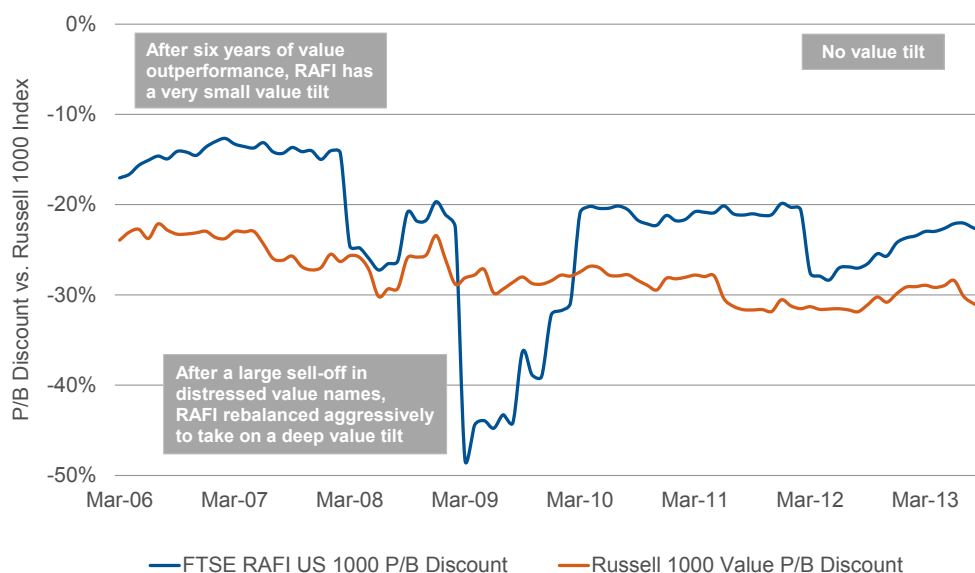
cut for investment management fees. Not bad. About how much of that 101 bps did a top-quartile manager take? Half? Three quarters? Shockingly, the 101 bps gross alpha shrinks to a scant 6 bps after deducting the expense ratio. Only 6% of the benefit of hiring a top-quartile mutual fund accrued to the end investor.

Meanwhile, on average the two RAFI Fundamental Index products launched in 2005 delivered nearly 80% of excess returns to the end client. Isn’t that the way our industry is supposed to work? Sure the manager should win a little, but the value added should overwhelmingly accrue to the client.⁸

Looking Forward

What about the next 10 years? Well, my second decade with the RAFI strategy is beginning like the first—35,000 feet in the air, this time over Columbia, Missouri. No *FAJ* in the briefcase. Instead, I have the February 2, 2015, edition of *Financial Advisor* magazine where, in a piece on indexing, they estimate the broad smart beta category has \$400 billion in assets.

Figure 3. Dynamic Value Tilt



Source: Research Affiliates, based on data from FactSet.

(As of January 31, 2015, RAFI-related strategies alone have \$137 billion in assets.) That's a lot, and it's growing by the month. With real money at stake, it is my sincere hope that we spend comparably little time on *whether* these strategies work and more on *how* we make them work *fully* for investors.

From Morningstar's Russ Kinnel to Vanguard's Jack Bogle, countless articles chronicle how the returns of mutual fund investors trail the self-same mutual funds. Typically, the shortfall estimates cluster around 2%.⁹ Investors' poor timing—chasing recently strong returns and fleeing from recently bleak results—substantially erodes winning strategies to the point where they become losers. Squandering 2% would eliminate the entire excess return from the RAFI Fundamental Index approach, failing end investors and, like so much of our industry, enriching everybody but the client. If we truly care about our clients and their financial aspirations, that would be a devastating disaster.

So how do we make sure that doesn't happen? What sort of conversations should we be having with current and prospective clients so they can fully benefit from these sorts of products? I'll leave you with a few ideas:

- **Keep Products as Simple as Possible**—Simplicity is critical for smart beta approaches. If clients understand the investment philosophy, construction process, and return drivers, they'll be more likely to understand why it's not working over a shorter stretch. In contrast, the complexity embedded in a 57-factor approach is easy to buy into when the numbers are good and easy to give up on when they're bad.
- **Understand Contrarian Investing**—The RAFI strategy, like all non-price-weighted strategies, rebalances. Rebalancing by definition is selling winners and buying losers, a most contrarian exercise. All of my early work on the RAFI Fundamental Index was designed to appease my mind. RAFI investors, or investors buying into any non-price-weighted approach, need to be honest in their intestinal fortitude to be a contrarian (Lawton, 2013). In my "live" nine years with Research Affiliates, we've made some scary and uncomfortable trades. Clients need to understand this connection between assured

discomfort (*i.e.*, no second guessing) and presumed profit. Those failing the gut check might be better off with pure cap-weighted passive investing, and that's OK.

- **Be Patient**—Rebalancing pays off with mean reversion. But mean reversion is unreliably reliable. What do I mean? It happens, but on its own schedule. Sometimes prices revert faster and sometimes painfully slower; sometimes markets trend ever further away from past norms, before they violently mean revert. Sometimes they head back to their historical mean, sometimes to a different level, and sometimes they overshoot. If you're going to commit to a smart beta strategy, do so with a 10-year horizon, and memorialize your rationale for future decision makers.

It's been a pleasure to be part of the growth of the RAFI Fundamental Index and to see the alternative index space, once so very lonely, grow into the increasingly ubiquitous concept of smart beta. I sincerely hope and believe the next 10 years will bring continued success if we concentrate on what's important and have honest dialogues with our clients.

Endnotes

1. Hsu (2014).
2. The technology, media, and telecoms (TMT) bubble burst in March 2000.
3. How do I reconcile the CMH with the RAFI Fundamental Index outperformance? After all, the RAFI strategy does have to "take" returns from someone. Who's the loser? The end investors of mutual funds and other active strategies routinely chase recent performance, trading long-term profits for short-term comfort (see West and Larson, 2014, and Hsu and Viswanathan, 2015).
4. Ease of governance should not be underestimated. The time spent by investment committees interviewing managers is mindboggling. Trust me, as a former consultant, I know (see West, 2011).
5. As measured by the S&P 500 Equal Weight Index.
6. For the period March 1997–March 2003, the S&P 500 outperformed 55% of active managers in a database that is not free of survivorship bias. Source: eVestment Alliance, using Lipper's universe of U.S. large-cap equities.
7. I quote the FTSE RAFI Index series here and throughout the article. It was launched November 28, 2005, based on the "composite" methodology outlined in "Fundamental Indexation" earlier in the year.
8. Research Affiliates based on data from eVestment Alliance and FactSet. Active managers' excess returns calculated by using the 75th percentile gross return of Lipper U.S. Large-Cap Core, U.S. Large-Cap Growth, and U.S. Large-Cap Value database minus the return of the S&P 500 for the period 1/1/2006 to 12/31/2014. Fees are represented by the average fee charged by active managers in the 20th–30th percentile ranking for the period 1/1/2006 to 12/31/2014 using the Lipper database for U.S. Large-Cap Core, U.S. Large-Cap Growth, and U.S. Large-Cap Value. The RAFI Fundamental Index strategy represents the average excess returns, before fees, of the PowerShares FTSE RAFI US 1000 (PRF) ETF minus the S&P 500 and the PIMCO Fundamental Index PLUS AR mutual fund (PXTIX) minus the S&P 500 for the period 1/1/2006 to 12/31/2014.
9. Russ Kinnel's 2015 update of his "Mind the Gap" classic shows this gap closing to 0.5% in the most recent decade, but for a reason that's likely to be temporary. We've had a rip-roaring bull market, with momentum drawing in equity investors, so that the dollar-weighted return has improved with recent allocations earning handsome returns. Of course, dollar weighted returns always look better under these scenarios and downright awful after big reversals.

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