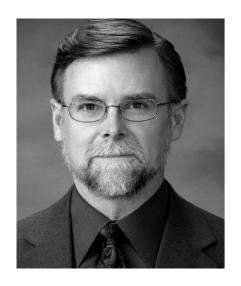
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How many years does it take?

Rob Brown, PhD, CFA

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"I think the reason why we got into such idiocy in investment management is best illustrated by a story that I tell about the guy who sold fishing tackle. I asked him, 'My God, they're purple and green. Do fish really take these lures?' And he said, 'Mister, I don't sell to fish.'"

Charlie Munger



How many years does it take?

TAA - Does it take any longer for TAA portfolios to prove themselves out than any other strategy?

ANSWER Nope !!!

Let's set the table



Let's not confuse ourselves

- What's really being asked here?
 - How long does it take to
 - Achieve my client's needs?
 - Outperform some third-party index benchmark?
 - Prove that the strategy is actually working?

Why hasn't it outperformed a passive third-party benchmark?



How long does it take to achieve my client's needs?

Time - Can be your best friend



PERSPECTIVES ON TACTICAL ASSET ALLOCATION (AKA SECTOR ROTATION)



Time - Can be your best friend

Matching a need - with an investment portfolio

I've determined how much I plan to spend (and gift) during years 10 through 15 (in the future). To support this plan, my portfolio will be invested for 12 ½ years (on average), the midpoint of this interval.

Many would suggest that an appropriate and common-sense asset mix would be 50% stocks and 50% bonds given this investment time horizon. No, not necessarily today, given current market valuations, but certainly as a normal average asset mix when one's investing for 12 % years.

Financial planning - My all-critical assumption

I've deposited sufficient funds into my new 50/50 portfolio, so that my needs/wants will be met during years 10 through 15. But, to accomplish this end, I had to assume a specific rate of return, a guess about the future. I assumed that my 50/50 portfolio would earn at least 6 %%. This seemed like a reasonable assumption to me.

But was it reasonable? To answer this question, I turned to history, examining what stocks and bonds returned during every possible 12 ½ year time period since 1919 (the last 102 years). Essentially, I'm asking the question: "If I were to draw a random 12 ½ year period out of history, what's the chance that I would have earned at least 6 ½%?"

Historical results

Let's consider three cases, each utilizing a different portfolio.

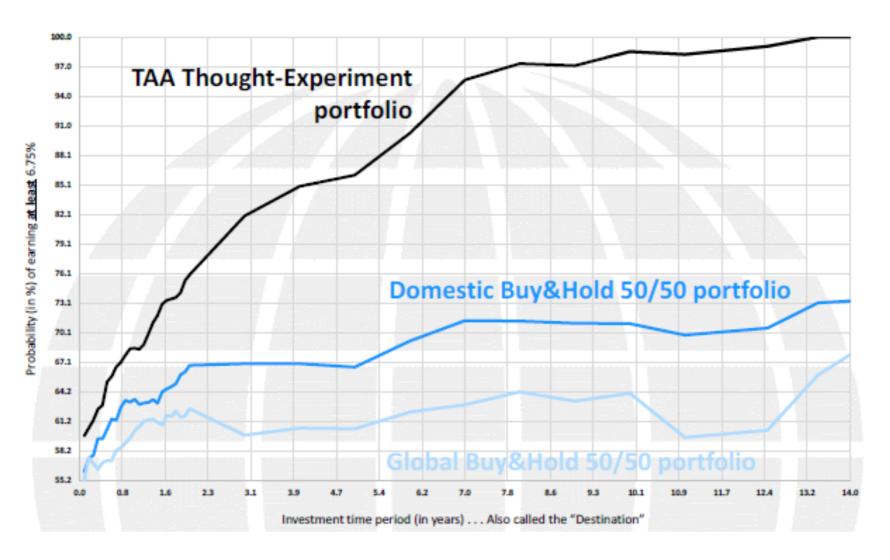
First Case - The first case is a passive portfolio allocated 50% to stocks and 50% to bonds, and is ultra-diversified across both domestic and international markets. It is a global portfolio.

Second Case - The second case is a passive portfolio allocated 50% to stocks and 50% to bonds, and is ultra-diversified across U.S. markets, it excludes all international investments. It is a domestic portfolio.

Third Case - The third case is our Thought-Experiment Tactical Asset Allocation portfolio. It starts with a passive stock/bond portfolio ultra-diversified across both domestic and international markets, but since it is a TAA portfolio, it adjusts its weightings once each month so as to over-weight recent winning asset categories and under-weight recent losing asset categories. The exact specifications for our Thought-Experiment TAA portfolio can be found in the Disclosure language at the end of this article. Over the entire time period, the portfolio delivered an average asset allocation of 24.2% U.S. stocks, 28.8% international stocks, 14.0% U.S. Treasury bonds, 27.2% investment grade highly liquid U.S. corporate bonds, 0.7% international bonds, 1.4% gold, and 3.7% other commodities.









How long does it take to <u>outperform</u> some third-party index benchmark?



PERSPECTIVES ON TACTICAL ASSET ALLOCATION (AKA SECTOR ROTATION)



Why doesn't BlackRock offer TAA?

If TAA is so good, then why doesn't everyone offer it?

First off, BlackRock, Nationwide, Invesco, and Fidelity all offer TAA products. Nevertheless, the investment industry widely appreciates that TAA is not commercially viable, i.e., it won't sell well. How do we understand this seeming contradiction? As we explore this question, keep in mind the distinction between a product selling well in a commercial setting . . . and that same product being the best possible investment solution for an individual investor. The two have little if any overlap. Let's begin.

To address this question in a substantive fashion, we must examine a specific example, one that anyone could replicate with ease and simplicity. We'll call our specific example the thought-experiment portfolio. It's a passive portfolio built from the 31 asset categories shown in the graphic below using these weighs: 33.0% US stocks, 39.4% international stocks, 8.9% US Treasury bonds, 4.2% US investment grade corporate bonds, 1.6% international bonds, 2.1% gold, and 10.8% other commodities. Over the last 102 years (ending 1/31/2021) this portfolio would have delivered 14.5% per annum. That's pretty good.

But there's a bit more to the portfolio's construction. Since it's a TAA portfolio, it overweights recent winners and underweights recent losers - that's what TAA does. Specifically, it reconstitutes itself once each month, selecting the seven asset categories (drawn from the 31 shown below) that trended most strongly over that last eleven months (with a slight bias against last month's winners). These seven are then equal-weighted. This portfolio construction technique is the very essence of quite literally all TAA portfolios.



9 International stock sectors



1 Inflation protection



4 Specialized bond sectors

















Ranging from Industrials to Energy

Ranging from the United Kingdom to Japan Ultra diversified industrial and agricultural commodities

Treasury Inflation-Protected Securities bonds Ranging from very short-term U.S. Treasury bonds to ultra long-term Ranging from liquid investment grade corporates to international bonds

Ranging from gold to palladium

The specific TAA model examined . . . is



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The short-term - in a sales setting, buyers of investment products have an unrelenting tendency to compare to the S&P 500. Worse, yet, they make this comparison over short time periods. The dysfunction of this behavior is the topic for another day. For the moment, let's just accept it as an unfortunate aspect of consumer behavior. So how does the thought-experiment portfolio perform relative to the S&P 500, in the short-run? The answer is:

Investment time period	Probability (likelihood) of outperforming the S&P 500 Index	
1 month	54%	
3 months	52%	
6 months	51%	
1 year	54%	
3 years	63%	
5 years	68%	
7 years	70%	
7.5 years	71%	

But, which would your client rather have?



Perhaps you have an investment time horizon of just 7½ years. What then? Well, the data provides an answer. If you only have 7½ years, then investing in the S&P 500 would have given you a 98% probability of earning more than -2.4% per annum. In contrast, the thought-experiment portfolio would have delivered a 98% probability of generating more than +5.3% per annum.

Which would you rather have? Which do you prefer, -2.4% or +5.3%?

Or . . . if you only have 7½ years, then investing in the S&P 500 would have provided a 95% likelihood of earning more than -0.4% per annum. In contrast, the thought-experiment portfolio would have given a 95% likelihood of generating more than +6.6% per annum.

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How long does it take to prove that the strategy is <u>actually working?</u>



How long does it take to prove that the strategy is <u>actually working?</u>

- This is a very old question
- It's been well-answered for over 50 years
- Answered by the best industry practitioners
- Answered by the best academics

Are you asking a serious question? . . . do you want a serious answer?



- Three separate issues if you truly want a serious answer
 - What is an appropriate comparative benchmark
 - How many years do you have to wait
 - Did the process stay constant during those years or did it change

• This is the basis for evaluating all investment strategies . . . not just TAA

You won't like . . . the honest answer



Benchmark

- The comparative benchmark has to essentially be doing the same thing . . . or close enough
- EXAMPLES
 - All active domestic small cap value managers within certain cap and value ranges
 - All TAA managers who restrict themselves to S&P industry sectors and cash
 - All high-tech domestic early-stage venture capital LPs of a single year's vintage
- Years
- Stability



- Benchmark
- Years
 - Looking at the last 1-, 3-, 5-, 7-years . . . Is pretty much nothing but <u>pure noise</u>
 - It takes many many years for the data to mean anything
 - Worse yet . . . The looser the comparative benchmark the more years that are required
 - Think like 20 years

Stability

Betterment article on looking at past performance don't do it



5/16/20

Look at More Than Returns When Choosing an Investment Manager | Betterment

Betterment

Why Comparing Returns Is a Bad Way to Choose an Investment Manager

Short-term or recent returns give little information about future returns, and they increase the odds you'll make a bad decision.



By Dan Egan

VP of Behavioral Finance & Investing, Betterment

Published Sep. 16, 2015 | Updated Sep. 12, 2020

5 min read









- Far too often, investors put significant weight on short-term performance, in many cases by choosing the investment with the highest recent investment return.
- ✓ This tends to actually produce future under-performance.
- The better way to choose an investment manager is to look at service, fit, and investor returns.

The greatest trick the stock market ever pulled was convincing investors that historical returns are predictive. They aren't.

In fact, historical returns not only give you very little information about future returns, but they can also increase the odds you'll make a bad decision.

Vanguard article on looking at past performance don't do it





Quantifying the impact of chasing fund performance

- Given many investors' goal of maximizing return, it's not surprising that some investors select funds based primarily on the funds' recent performance record. But is that a prudent strategy?
- This research note simulates a performance-chasing strategy among U.S. equity mutual funds for the ten years ended December 31, 2013; we then compare the results with a buy-and-hold strategy over the same period. Our analysis shows clearly that buy-and-hold has been the superior approach.
- For investors using active management, it's critical to understand that short-term performance should not be the sole reason to enter or exit a mutual fund. To improve their chances of succeeding with active funds, investors must be willing and able to avoid the "thrill of the chase."

Vanguard research note | April 2014

The lure of performance-chasing

The refrain "Don't just sit there, do something!" has become part of daily life. The phrase exhorts us to take action to bring about a change. For investors experiencing below-average mutual fund returns, this advice may seem reasonable. The resulting action plan for such investors frequently involves moving assets from one fund to another fund with a stronger performance track record over the past few years. In short, these investors end up chasing performance.

Research has shown that performance-chasing is not restricted to specific groups or subsegments of investors; rather, both retail and institutional clients have shown an inclination to chase performance (Goyal and Wahal, 2008; Bennyhoff and Kinniry, 2013). Given the intuitiveness and popularity of this behavior, we decided to take a closer look at its underlying assumptions and historical performance.

In theory, performance-chasing succeeds if past performance can predict future performance. In financial terms, performance-chasing may provide a benefit if there is persistent, that is, repeated and prolonged relative outperformance from year to year. By performance-chasing, investors implicitly or explicitly assume that performance persistence is fairly strong. In contrast, investors who follow a buy-and-hold strategy are assuming that performance persistence is fairly weak and that excess returns are not likely to be gained by

chasing performance. This research note compares performance-chasing with buy-and-hold by comparing the returns and risk-adjusted performance of each strategy to determine if taking action based on past performance is worthwhile.

Study sample and ground rules

For our primary analysis we chose the universe of active U.S. equity mutual funds available in any of the nine equity style boxes in Morningstar's database during the ten years ended December 31, 2013. After filtering the database to include only funds in existence for a minimum of three calendar years at some point during the analysis period, we arrived at a study sample of 3,568 funds.

To compare performance-chasing with buy-and-hold, it's essential to define the trading/investment rules governing each strategy through time. We settled on a set of rules (see the box on "Trading/investment rules," on page 2) as a reasonable representation of actual investor behavior related to each strategy. Using these rules as part of a quantitative historical simulation for the period 2004–2013, we examined the performance of each possible path an investor could have taken within the trading-rule guidelines. We performed the analysis separately in each of the nine equity style boxes to control for size or style influences that might affect the results. Our simulation produced a total of more than 40 million return paths.

You won't like . . . the honest answer



- Benchmark
- Years

Stability

- You've got a sufficiently close comparative benchmark
- You've got enough years
- BUT You lack the required stability
- The investment process can **NOT** have changed during those years . . . or the data means nothing

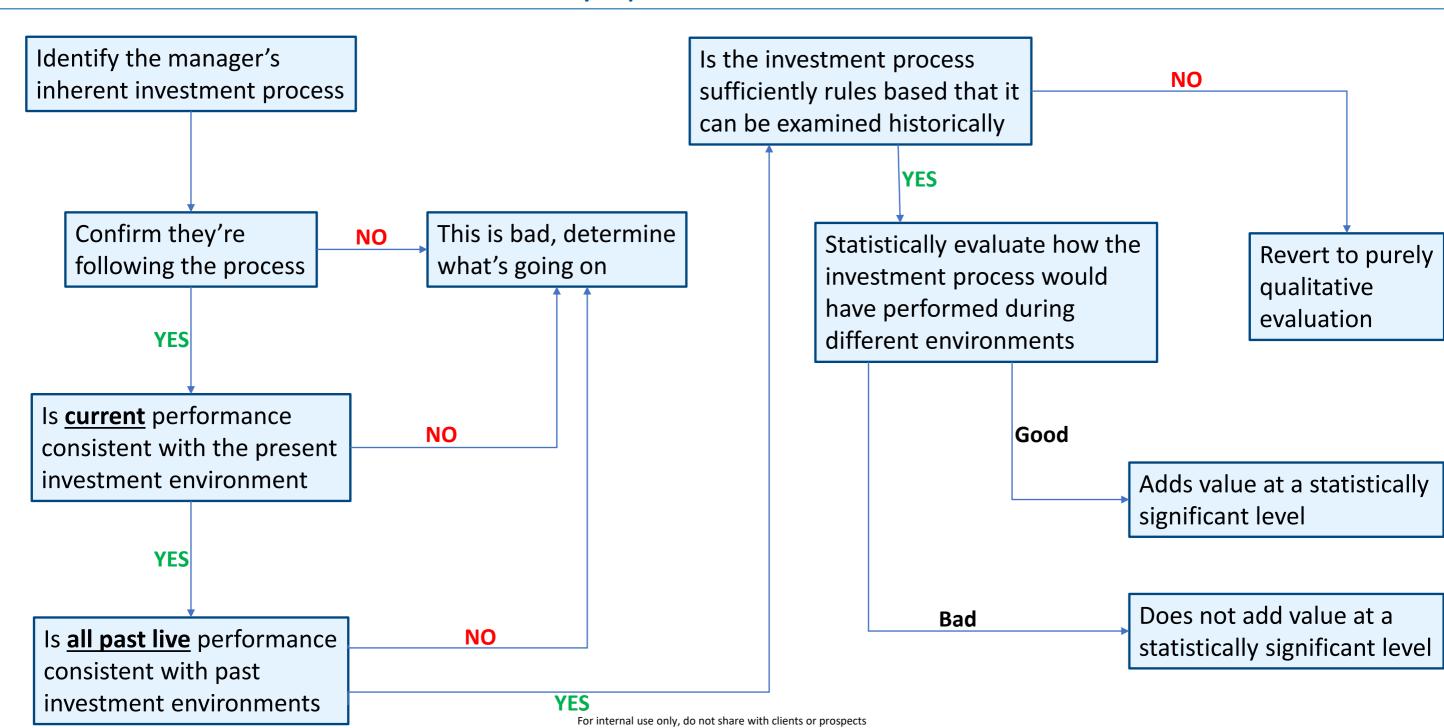


So what's an honest solution?

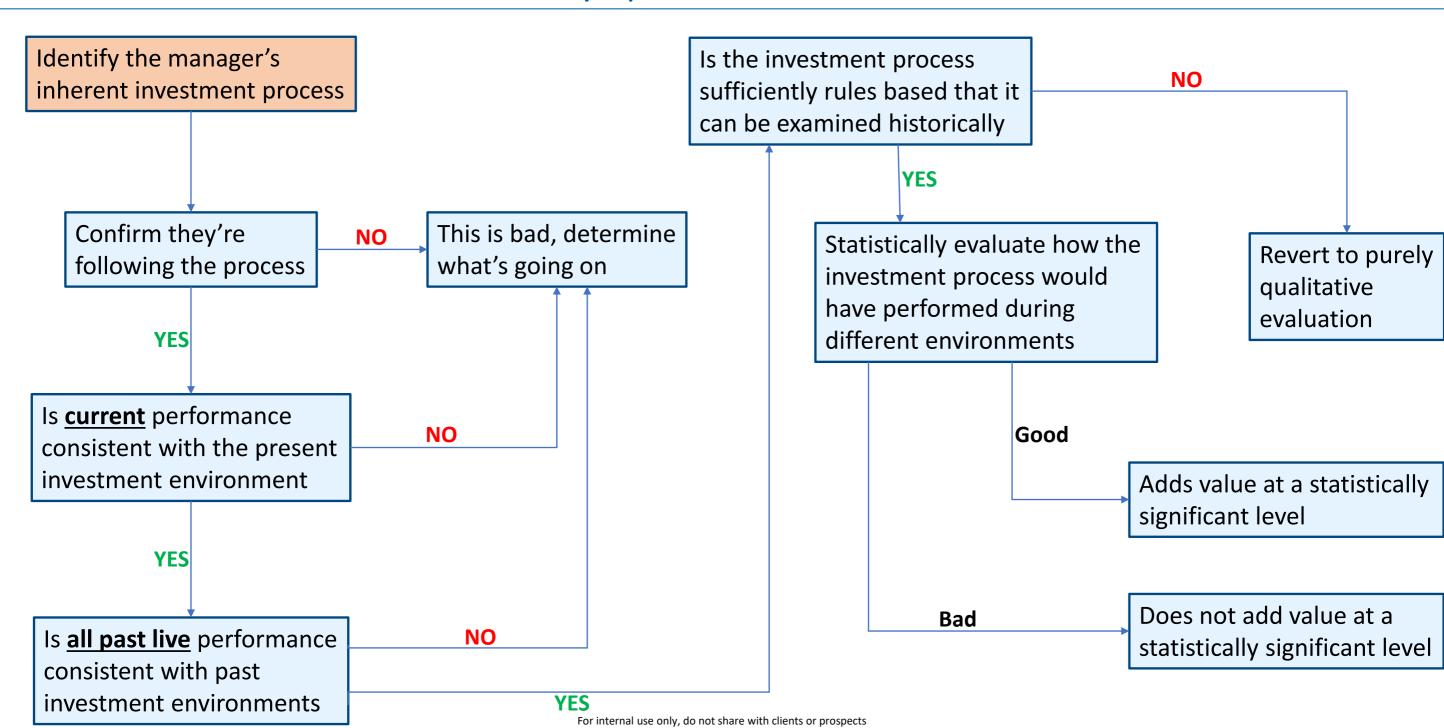
This is not a new question

Nor is it a new answer

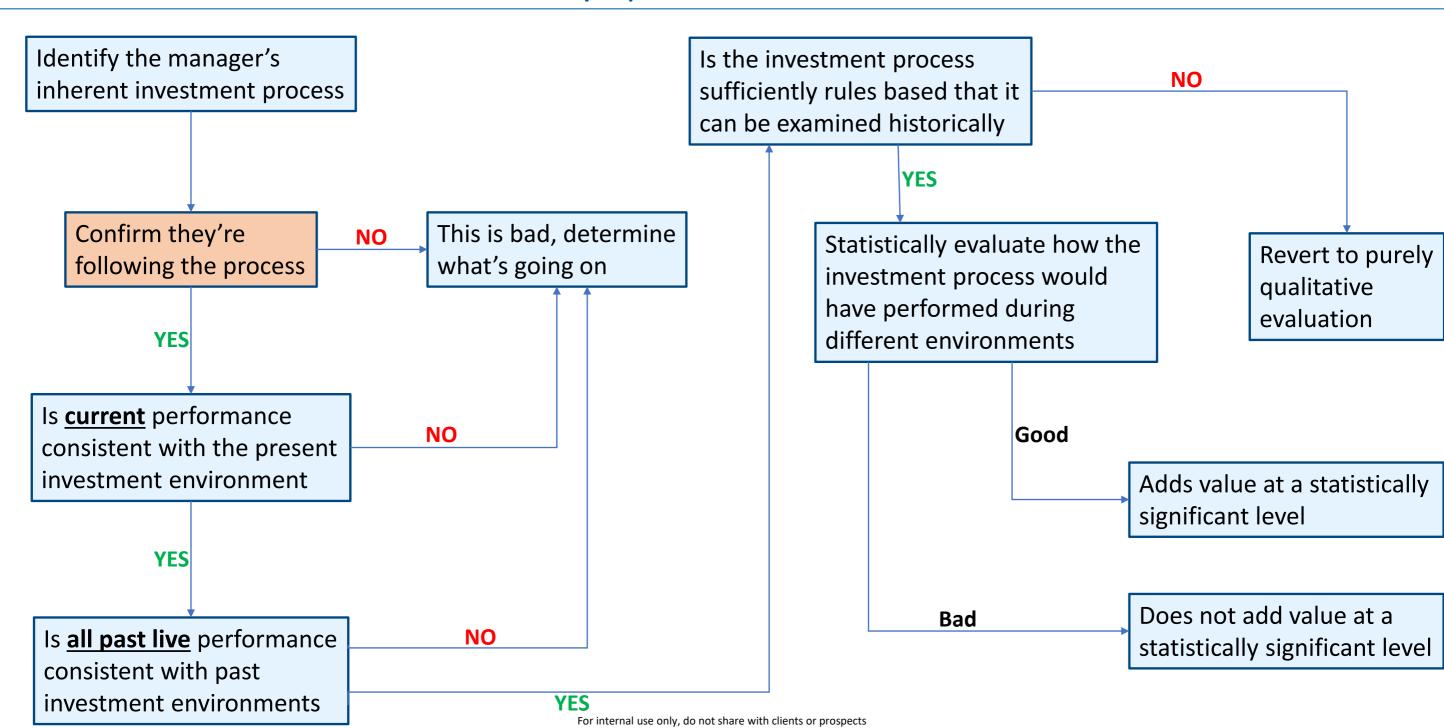




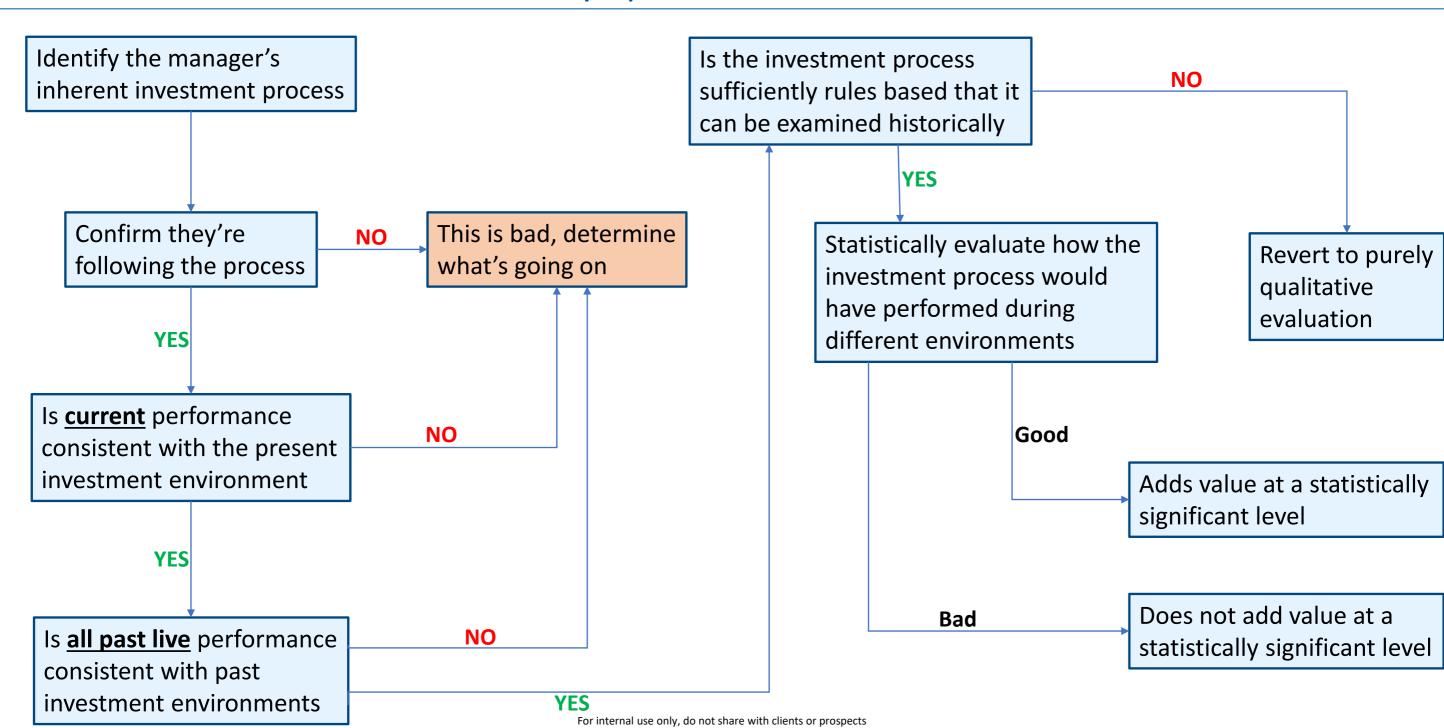




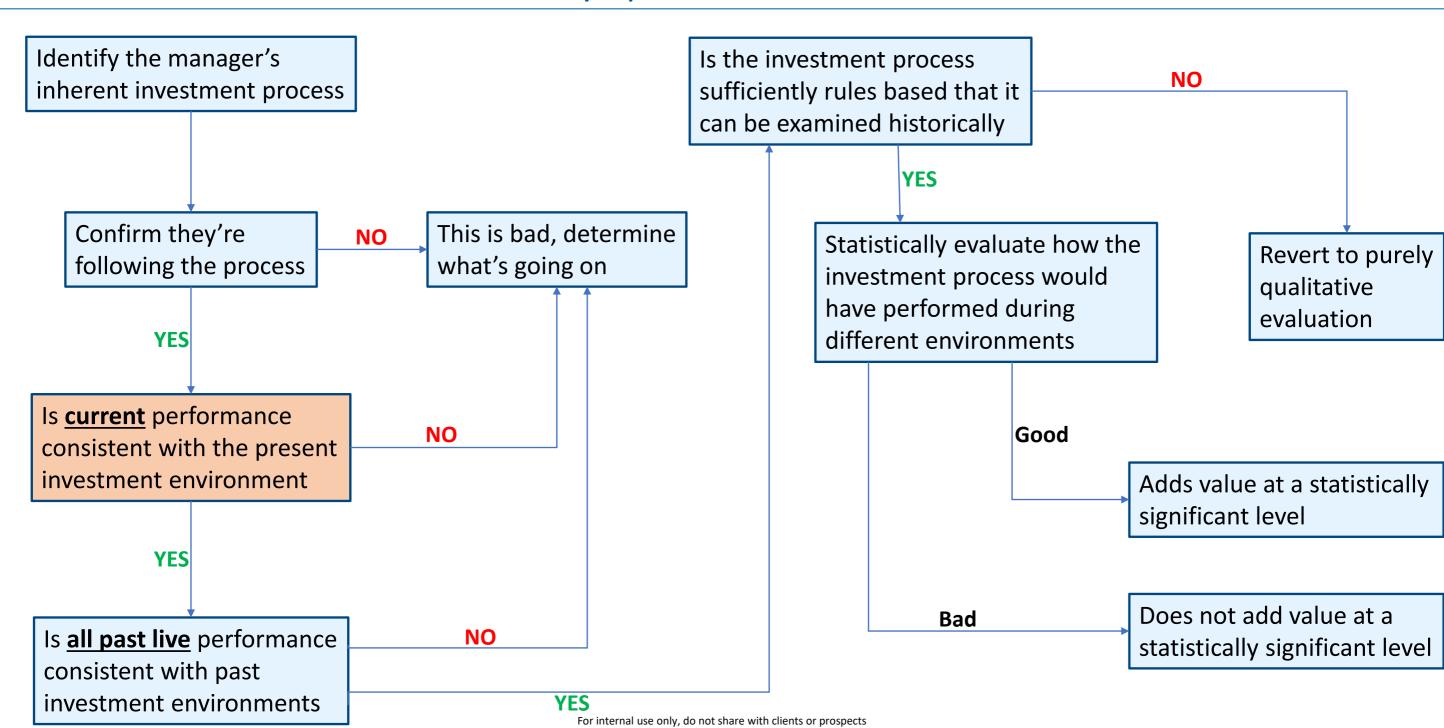




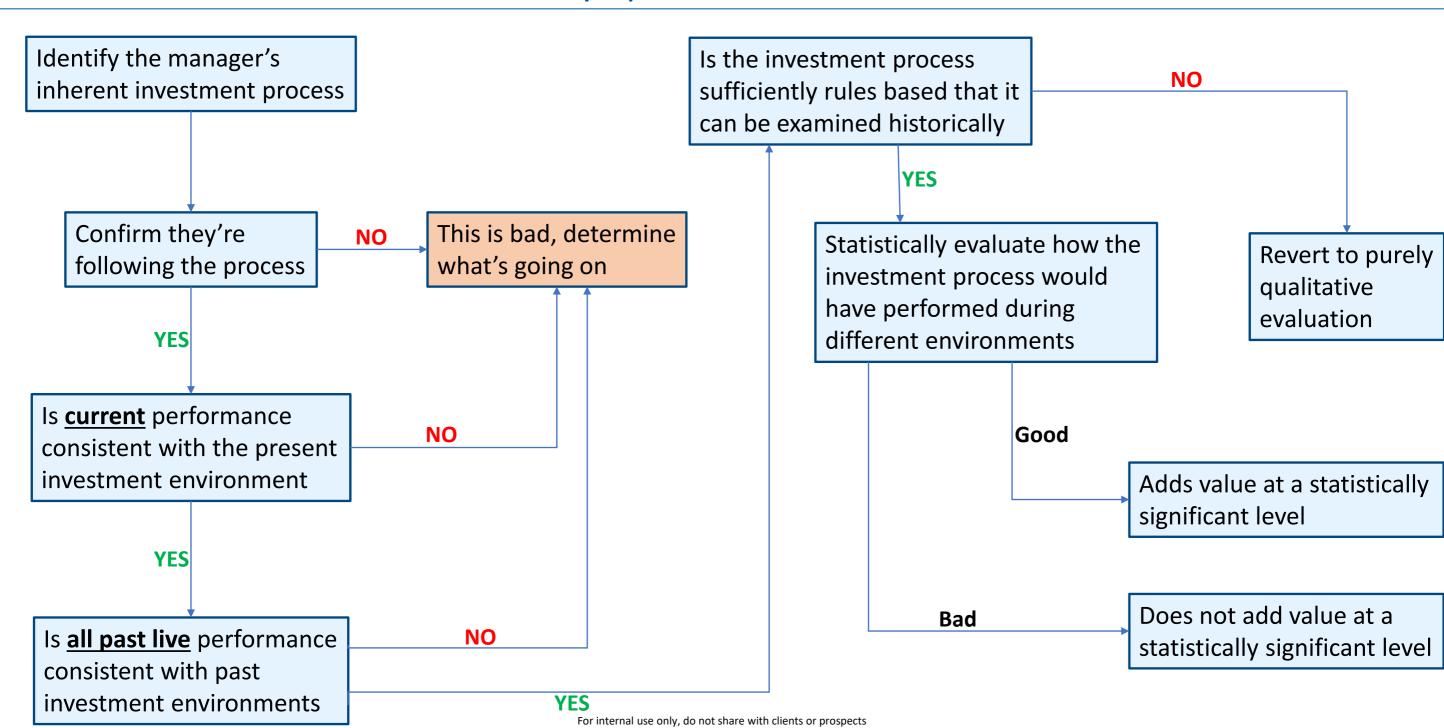




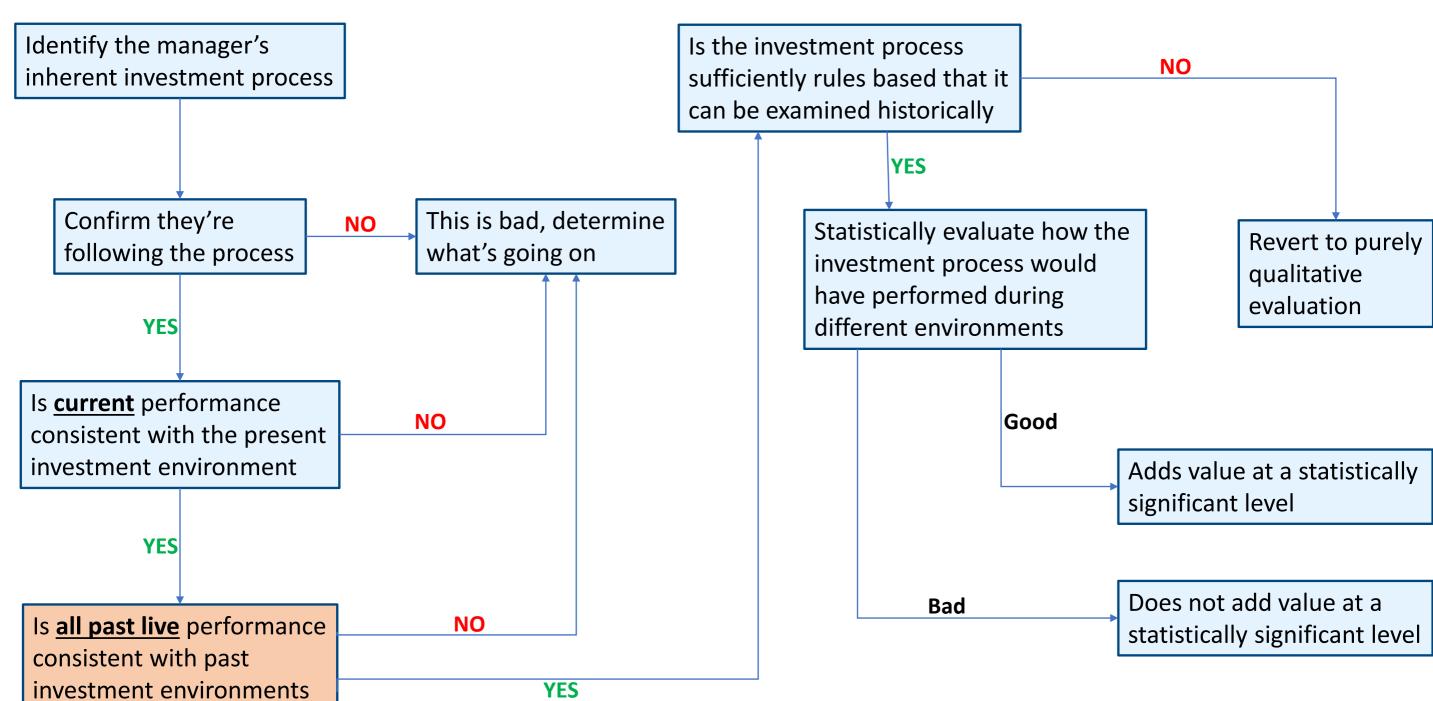




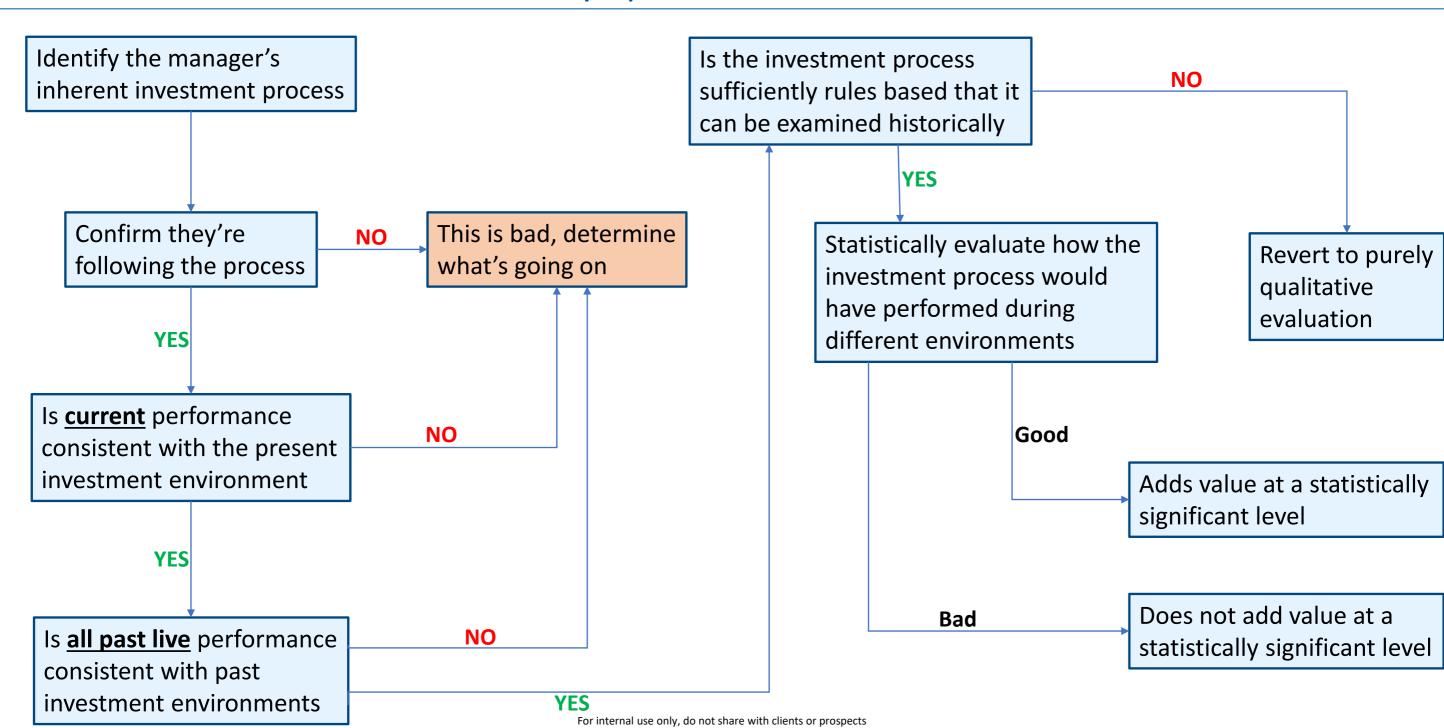




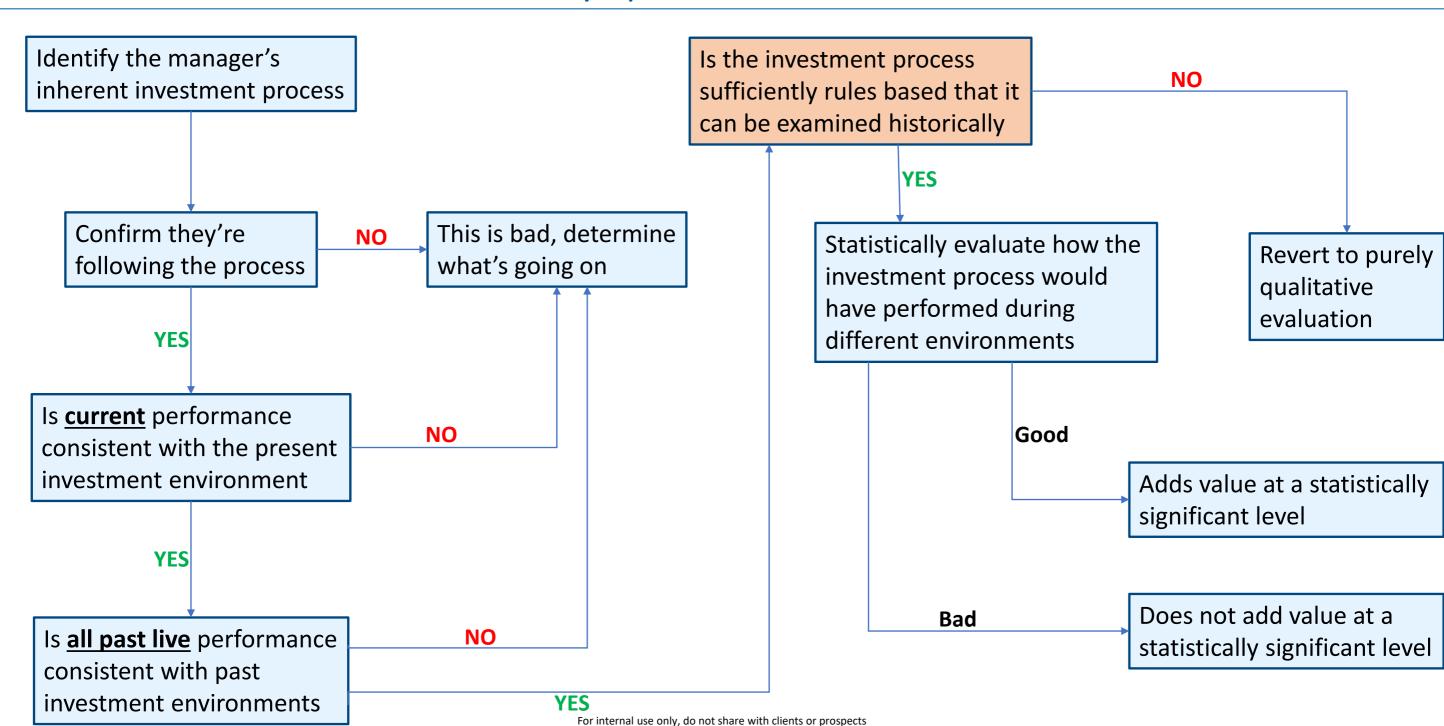




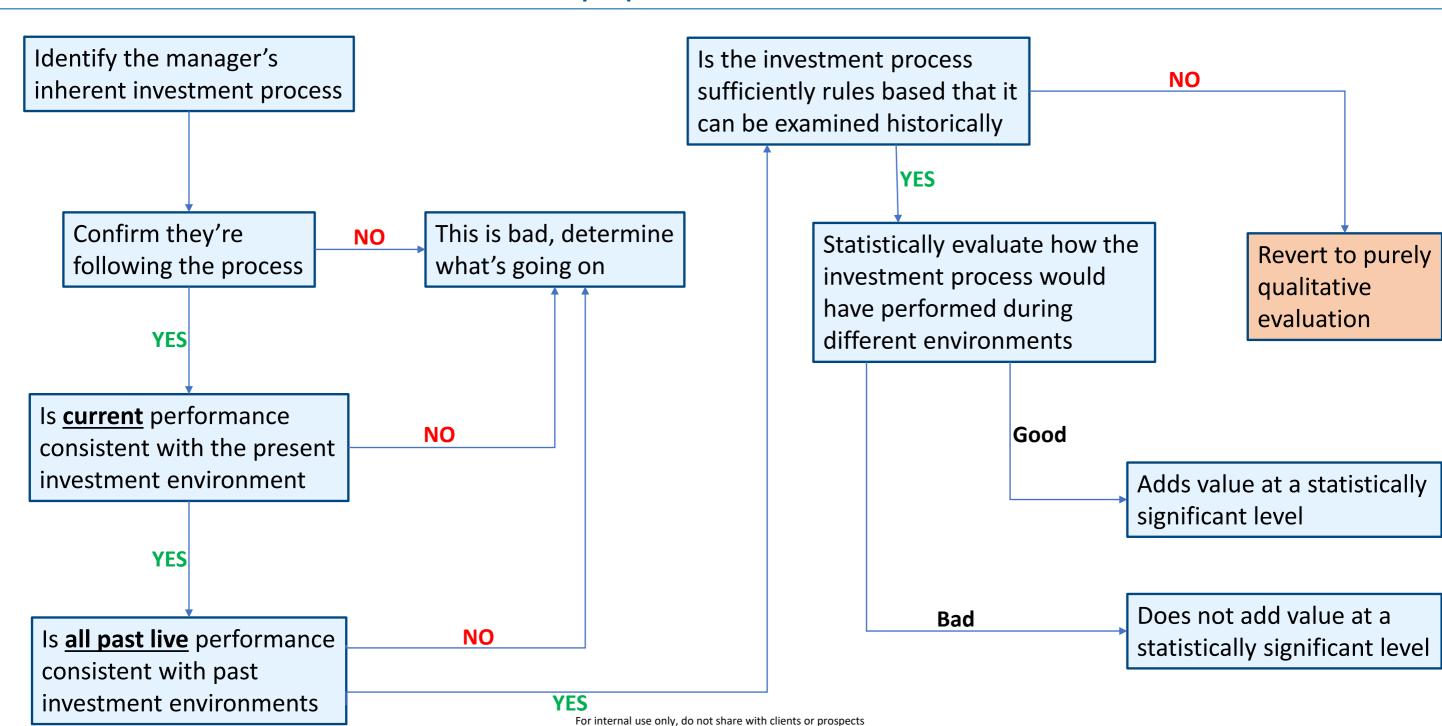




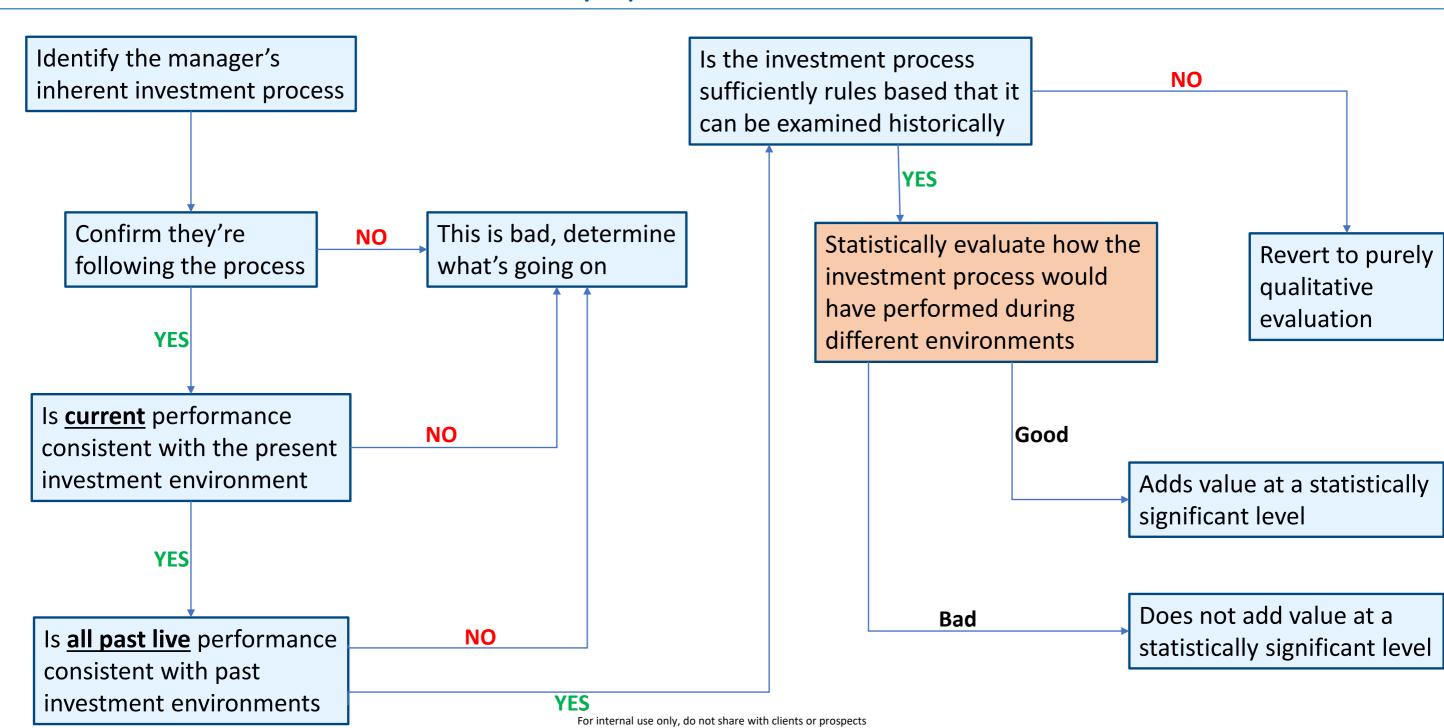




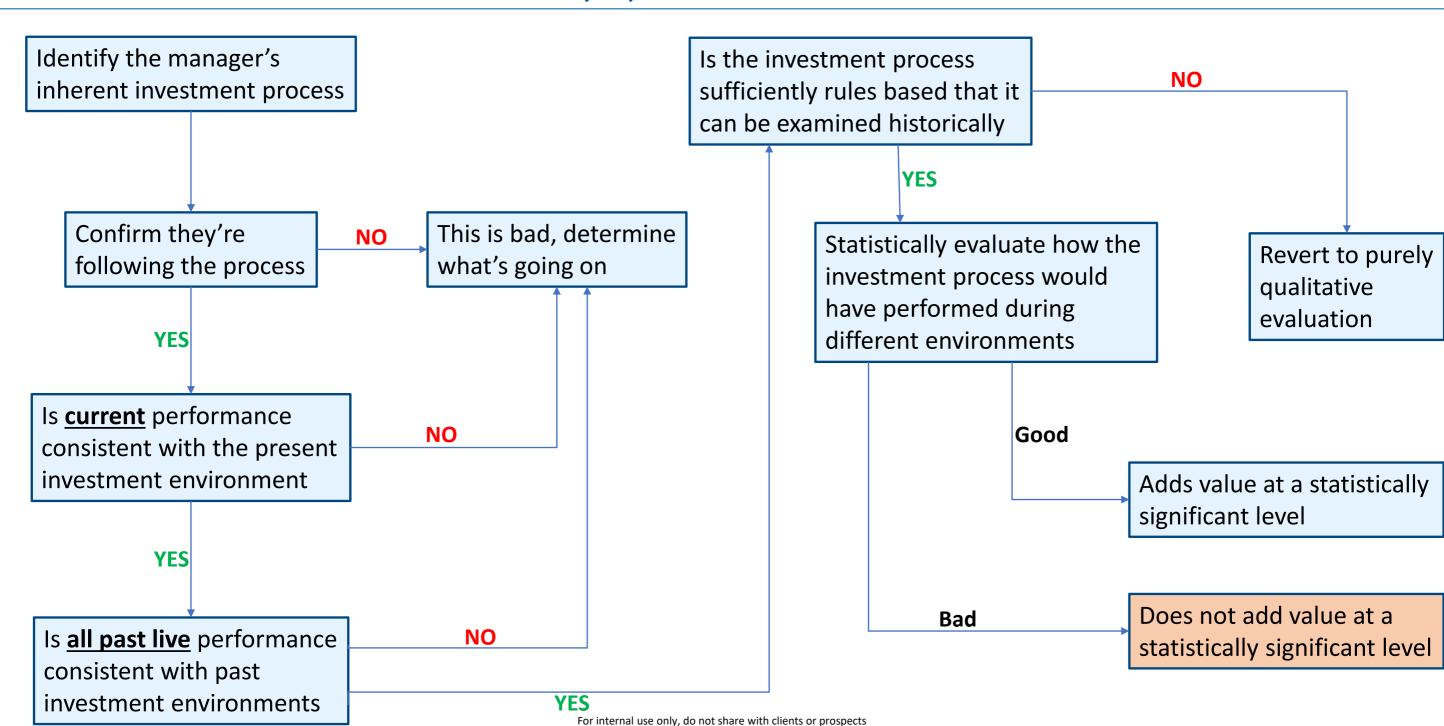




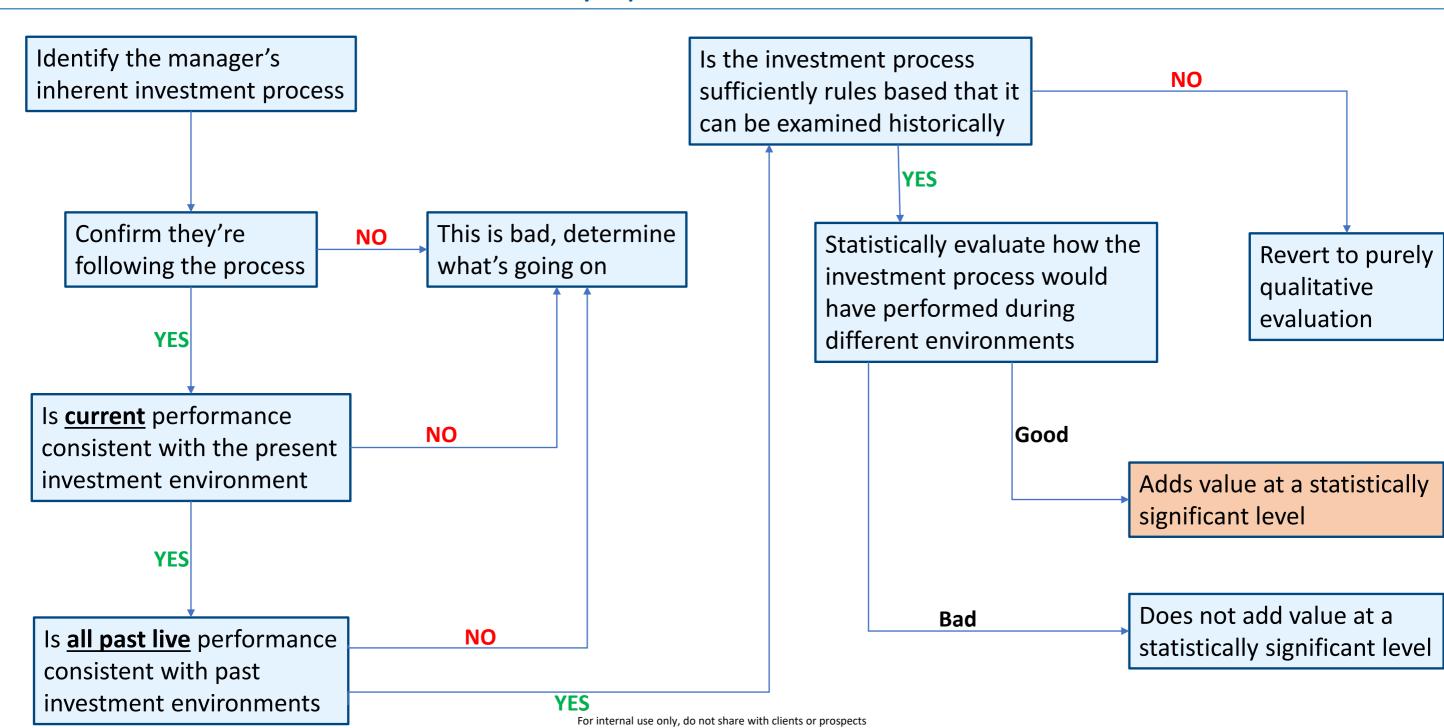














Why hasn't it outperformed a passive third-party benchmark?

TAA - Why hasn't it outperformed the "60/40 passive benchmark"?



- Was it supposed to outperform the "passive 60/40 benchmark"?
- Was that its objective?
- Does it even track the "passive 60/40 benchmark"?
- Does it have ANYTHING to do with a "passive 60/40 benchmark"?

- Sort of like asking
 - Why didn't my investment in an apartment building down the street fail to outperform the 60/40 benchmark?



Client-facing collateral





Sometimes People Just Don't Fact-Check

Some have falsely claimed that market cycles are getting shorter

Tactical Asset Allocation (TAA) relies on trending or momentum for its success. Some have falsely claimed that market cycles are getting shorter, and therefore TAA no longer has the inherent advantage that it once did. Let's fact-check this claim in order to determine its truth or falsehood.



Which Portfolio is Lower Risk?

We care most about risk when the sky is falling

When the market is going up, we don't care about risk. But when it's collapsing, we do. Since 1920, there have been nine stock bear markets. Let's compare how four hypothetical portfolios performed during these nine traumatic events.



Investment Library collateral



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PERSPECTIVES ON TACTICAL ASSET ALLOCATION (AKA SECTOR ROTATION)

First off, BlackRock, Nationwide, Invesco, and Fidelity all offer TAA products. Nevertheless, the investment industry widely appreciates that TAA is not commercially viable, i.e., it won't sell well. How do we understand this seeming contradiction? As we

explore this question, keep in mind the distinction between a product selling well in a commercial setting . . . and that same product being the best possible investment solution for an individual investor. The two have little if any overlap. Let's begin.

PERSPECTIVES ON TACTICAL ASSET ALLOCATION (AKA SECTOR ROTATION)

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What happens when interest rates rise?

How does TAA perform during rising/falling interest rate environments?

To answer this question, we must:

- Identify a time period to examine,
- Specify how we define rising and falling interest rate environments,
- · Identify a simple transparent TAA portfolio that anyone could replicate, and

PERSPECTIVES ON TACTICAL ASSET ALLOCATION (AKA SECTOR ROTATION)



Time - Can be your best friend

Matching a need - with an investment portfolio

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Many would suggest that an appropriate and common-sense asset mix would be 50% stocks and 50% bonds given this investment time horizon. No, not necessarily today, given current market valuations, but certainly as a normal average as

PECTIVES ON TACTICAL ASSET ALLOCATION (AKA SECTOR ROTATION)



If TAA is so good, then why doesn't everyone offer it?

Why doesn't BlackRock offer TAA?

PERSPECTIVES ON TACTICAL ASSET ALLOCATION (AKA SECTOR ROTATION)



But has TAA worked better than bonds?

Is TAA versus bonds the right comparison?

Probably not. But to answer this question, we must first identify the all-important investment timeframe. I'm assuming here that the investor is targeting needs arriving between 5 and 20 years in the future. Therefore, their investment holding period or time

For such an investor, a pure 100% bond portfolio won't work. It won't be able to generate the needed returns. Similarly, a pure 100% stock portfolio won't work. It'll be too volatile, exposing the investor to an undue likelihood of having to liquidate at an unfortunate point in time (when their account value is down).

A Pretty Good Outcome

Let's try a thought experiment - What if . . .

What if we build a passive portfolio from the 32 asset categories shown in the graphic below using the following weighs: 30.3% US stocks, 29.3% international stocks, 5.0% US Treasury bonds, 31.5% US investment grade corporate bonds, 1.4% international bonds, 1.3% gold, and 1.2% other commodities. Over the last 102 years (ending 1/31/2021) this portfolio would have delivered 11.53% per annum. That's pretty good.

PERSPECTIVES ON TACTICAL ASSET ALLOCATION (AKA SECTOR ROTATION)



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PERSPECTIVES ON TACTICAL ASSET ALLOCATION (AKA SECTOR ROTATION)



A Century of Evidence on **Trend-Following Investing**

Yao Hua Ooi

Fall 2014

investing across global markets s determine its truth or falsehood.

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extending the existing evidence by more But first, let's work to better understand this issue. The following graph shows two different market paths. Each starts and ends years. We find that trend following ha at the same spot, and therefore both generate the same total return after many years.



A Century of Evidence on Trend-Following Investir PERSPECTIVES ON TACTICAL ASSET ALLOCATION (AKA SECTOR ROTATION)

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The way back is closed, only the path forward remains open

There are different types of change

It's a trite phrase to say "change is the natural order of things," sounds too much like an excuse.

Worse yet, it serves to mask the different types of change - and how the best approach for dealing with one type of change is the worst for another.

Different types of change are distinguished by two attributes:

For internal use only, do not share with clients or prospects

Time - Can be your best friend



PERSPECTIVES ON TACTICAL ASSET ALLOCATION (AKA SECTOR ROTATION)



Time - Can be your best friend

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But was it reasonable? To answer this question, I turned to history, examining what stocks and bonds returned during every possible 12 ½ year time period since 1919 (the last 102 years). Essentially, I'm asking the question: "If I were to draw a random 12 ½ year period out of history, what's the chance that I would have earned at least 6 ½%?"

Historical results

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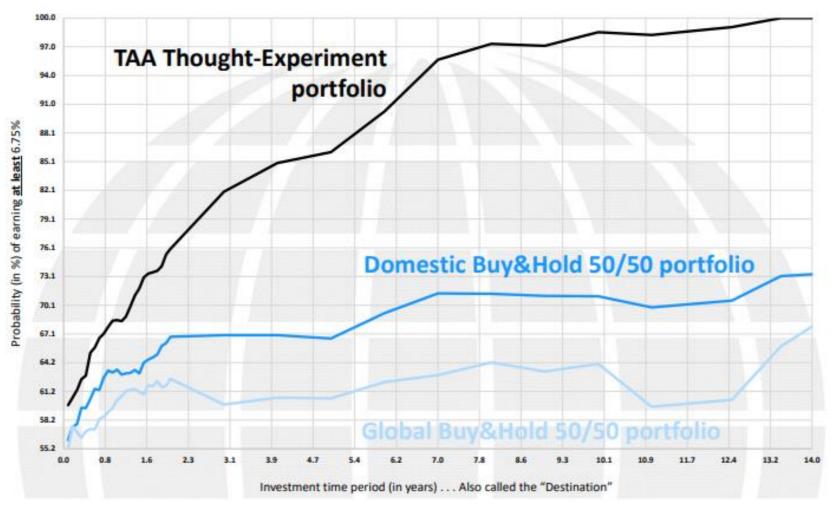
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PERSPECTIVES ON TACTICAL ASSET ALLOCATION (AKA SECTOR ROTATION)





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Important Disclosures



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The risk of loss in trading securities can be substantial. You should therefore carefully consider whether such trading is suitable for you in light of your financial condition. All information posted is believed to come from reliable sources. We do not warrant the accuracy or completeness of information made available and therefore will not be liable for any losses incurred.

Some part of the investment performance shown is HYPOTHETICAL. It is based on the back tests of historical data. Hypothetical performance results have many inherent limitations, some of which are described below. No representation is being made that any account will or is likely to achieve profits or losses similar to those shown. In fact, there are frequently sharp differences between hypothetical performance results and the actual results subsequently achieved by any particular trading program.

One of the limitations of hypothetical performance results is that they are generally prepared with the benefit of hindsight. In addition, hypothetical trading does not involve financial risk, and no hypothetical trading record can completely account for the impact of financial risk in actual trading. For example, the ability to withstand losses or adhere to a particular trading program in spite of trading losses are material points which can also adversely affect actual trading results. There are numerous other factors related to the markets in general or to the implementation of any specific trading program which cannot be fully accounted for in the presentation of hypothetical performance results and all of which can adversely affect actual trading results.

The composition of a benchmark index may not reflect the manner in which a Julex portfolio is constructed in relation to expected or achieved returns, investment holdings, portfolio guidelines, restrictions, sectors, correlations, concentrations, volatility, or tracking error targets, all of which are subject to change over time.

No representation or warranty is made to the reasonableness of the assumptions made or that all assumptions used to construct the performance provided have been stated or fully considered.