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Strong hands – bridging the behavioral gap

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- Investors lose up to -2% per year due to poor timing
- 'Weak hands' are driven by short-termism and emotions
- A disciplined 'strong hands' strategy is needed to translate factor premiums into client returns

The average mutual fund investor is not good at timing. Adverse timing can completely wash away the returns on factor investing strategies. Investors with **'strong hands'** - patient long-term investors with persistent style exposures - are much more likely to harvest factor premiums.

Evidence for weak hands

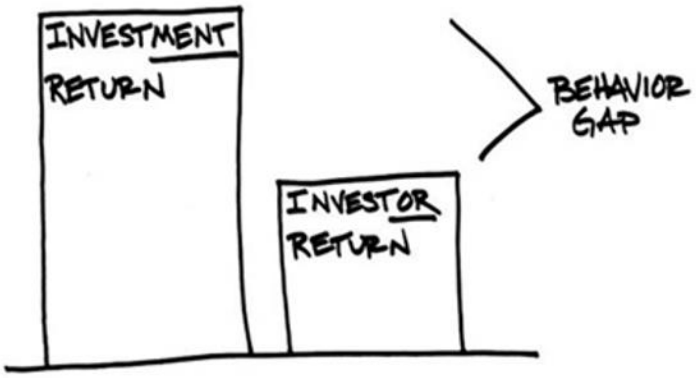
When investment returns are reported, virtually all empirical studies rely on time-weighted returns. Time-weighted returns are used in academic studies and by asset managers. However, the crucial question is how many dollars clients are actually making on their investments. There is a difference between investment returns and investor returns (Dichev, 2007). The investor return can be calculated as the dollar- or cash-flow weighted rate of return, the Internal Rate of Return (IRR).

From a client perspective, a dollar-weighted return is much more informative and could reveal some useful insights. It takes into account the timing effects and cash flows of investors. For example, when losses are made when a fund is large, and gains are made when a fund is small, the difference between fund return and investor return can be large.[1] This gap is illustrated in the figure below.

'A solid investment plan can be very effective in taking the emotion out of the investment decisions'

[1] https://corporate.morningstar.com/us/documents/MethodologyDocuments/MethodologyPapers/InvestorReturnMethodology.pdf

Figure 1 | Investor return versus investment return



Source: Behaviorgap.com

Hsu et al (2016) give further insight into this interesting question using mutual fund data. They find that the average mutual fund investor lags a buy-and-hold strategy by -1.9%. This finding is persistent across different styles, varying from -1.3% for value investors to -3.2% for growth investors. Also 'passive' investors in market funds underperform a buy-and-hold strategy by a whopping -2.7%. These results are all gross of fees and transaction costs. It is a well-known fact that the average mutual fund investor underperforms the index after costs, but the significant performance drag caused by poor timing is less well-known.

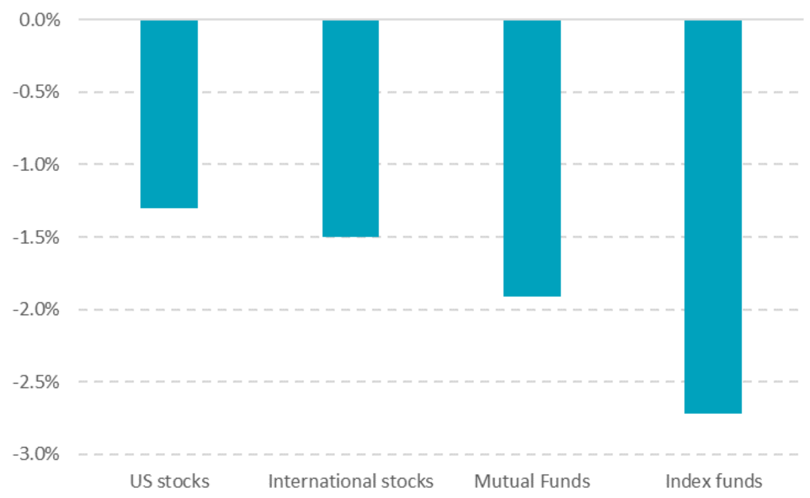
The average mutual fund investor is not good at timing. When mutual fund investors start allocating to a certain style, their 'buy' signal is probably a 'sell' signal, since on average they move in at the wrong moment. It also works the other way around: when mutual fund investors leave a style, this could be seen as a contrarian signal. The good news is that these adverse timing skills create alpha opportunities for other market participants. The bad news is that these weak hands will completely wash away the benefits factor investing might offer them due to their poor timing skills. It is more likely that patient long-term investors with persistent style exposures will be able to harvest the factor premiums.

On average even the equity premium itself suffers from adverse timing skills. Dichev (2007) shows that when all investors are combined, US stock investors lag the buy-and-hold equity return by -1.3% (period 1926-2002, table 3 in the study). For international investors this number is -1.5% (period 1973-2004, table 4). Figure 2 summarizes the findings from the literature.

Strong versus weak hands

Strong hands refers to investors who are not easily disturbed by market movements, have a long-term view and do not change beliefs when fundamentals have not changed. Investors with 'weak hands' have a more short-term view and are driven by emotions such as fear and envy.

Figure 2 | Investor return minus investment return



Source: Robeco Research; fund return gap from Hsu et al (2016) and stock return gap from Dichev (2007).

The Dichev (2007) and Hsu et al (2016) studies shows that adverse market timing is not another anecdotal story, but is real and significant among investors. The amount of money lost due to this poor timing behavior amounts to hundreds of billions of dollars. It is a sad tale. It should be told to scare, wake up and educate investors to become better investors. To turn weak hands into strong hands.

Are my hands weak?

The empirical proof for weak timing should be a wake-up call to all investors. If you ask yourself: "Who is actually the market fool?", usually it is you. Invest with a humble mindset. Due to ignorance and overconfidence some investors will never think about this issue. However, the good news is that many investors will only have to ask this question once in their investment careers and become better investors.

Currently, many investors are allocating to factor-based strategies, possibly also investors with weaker hands. Some of them will probably be disappointed somewhere in the near future when short-term performance is weak. Based on the evidence provided above, a good rule of thumb in such a scenario would be to be persistent and hold on to the positions. However, when you get burnt, a human response is to pull away quickly. That is natural. In addition, when performance is weak, new narratives will appear. As humans we are very good story tellers and new investment opportunities will be available with much better stories backing them up.

Therefore it is difficult to assess if your own hands are weak. The delegated asset management industry is sometimes characterized by a conflict of interest between asset owners and asset managers. For asset managers career incentives often play a large role. Unfortunately, managers sometimes worry more about their career and keeping their job, than about the risk of the assets they manage. In an institutional setting, jobs rotate and often the professionals who made the investment decision years ago are gone. New decision makers are happy to implement alternative views.

This means that finding out why timing decisions were made will not be an easy task. The reasons for timing will probably be numerous and often ill-documented or simply forgotten. Besides costs or liquidity, in most of the cases past timing decisions were performance-related. Performance reviews are often based on a 3-year period, which is too short to evaluate factor premiums (Goyal and Wahal, 2008). If value does not work for three years, would this be a good reason to stop investing in a value strategy? It is important to investigate the length of the evaluation period and the benchmark.

Besides performance, timing decisions are often driven by emotions such as envy, fear, or greed. In the end institutional investors are driven by the same emotions as mutual fund investors. Since 'evil' often manifests itself in socially acceptable forms, it will be difficult to detect. Envy is often masked as a search for excellence. Greed often switches roles with hope, while fear can be framed as a 'choice for safety'. Emotions can be helpful in life, but when it comes to investing, they usually are not.

It is easier to quantify past timing decisions. Much time is spent on current market views, while evaluating past views and learning from past decisions is just as important. This historical reflection could give a good insight into your investment behavior. Or the past behavior of an investment committee. Investment consultants could help to provide clear insights. In the retail space client returns are already common practice, and with the help of technology, one could benchmark client dollar performance against a dollar-weighted index. It must be possible to gain access to this important piece of information. For example, Morningstar regularly writes about this topic and reports investor returns for mutual funds. In this case, the retail market is more advanced than the institutional market.

Too good to be true?

Factor investing is widely accepted among institutional investors and large sums of money are flowing into the various quantitative, smart beta, factor-style strategies. The concept is very appealing to many investors for many reasons. First, the historical low-volatility, value, momentum and quality premiums are about two percent per year or even higher (e.g. see Blitz, 2015). In a world of low returns this is very attractive. Second, factor investing is supported by Nobel prizes. The empirical and behavioral contributions of Eugene Fama, Robert Shiller and Richard Thaler all help us to recognize and understand asset pricing and investment behavior. Third, most of the outperformance of active managers can be contributed to factor style exposures (Carhart, 1997). Factor solutions are available at much lower fees than traditional active approaches. They therefore provide a perfect middle ground between active and passive investing. Not surprisingly, many asset management firms are moving into this fast growing field and marketing budgets are spent on promoting this very appealing message. However, doesn't this all sound too good to be true? To answer this question, it is important to bear two things in mind.

First, the academic world is in a small crisis as the collective behavior of researchers and journal editors is leading to biased results. Researchers tend to focus on showing positive and significant results and fall prey to so called 'p-hacking' (see Harvey et al, 2016): if a researcher tests 20 hypotheses, one of them will be statistically significant at 5%. However this is simply due to chance. Falsification is much needed and in short supply, not only in the financial industry but also in academia itself. It is now a factor jungle, with some studies reporting more than 100 factors of which many cannot be replicated. This means that many of the back-tests which are sold by index providers and asset managers could lead to significant disappointments.

Second, with such collective enthusiasm it is often wise to take a step back and critically think about what is going on. Many investors cannot resist the temptation of 2% additional average return. Most of the new products solely rely on back-tests, which by definition always look good. After all, have you ever seen an investment proposal based on a mediocre back-test? Another reason to be skeptical, as nothing beats a real-life track record. However, only a few firms now have >10 year real-life track records and only a subset of these funds or indices have outperformed the market by 2% or more. Still, even the very few who show this outperformance are characterized by great uncertainty. In order to get 2% excess return or more, large active positions versus the market average are needed, which could result in large relative performance differences that sometimes exceed 10% in a volatile year. Thus, even for the very few funds who have shown real-life outperformance over the past 10 years, this outperformance is often not statistically significant. So if the usual evaluation horizon is three years, this does not match the length of a full business cycle, which is needed to prove significant alpha.[2]

[2] The Robeco QI Global Conservative Equities fund exists since 2006. It is one of the few global quantitative funds with over ten years of real-life experience. Over the period October 2006 – September 2017, the fund has delivered a 2.5% excess return versus the market with 6.8% tracking error. This translates into a t-value of only 1.2, still below critical t-value levels of 1.65 (5%-level) or 1.96 (2.5% level). Even this successful fund cannot claim (yet) that the average return is significantly higher than the market, even after 11 years of real-life performance! Figures in EUR, gross of fees, based on net asset value. The value of your investments may fluctuate. Results obtained in the past are no guarantee for the future.

Probably, many investors rushing into smart beta, are not fully aware of all these skeptical considerations with regards to false academic results, biased back-tests and insignificant real-life performances. What is probably happening is that more and more 'weak hands' are entering the factor arena. We define weak hands here as investors who make decisions based on intuition and gut feeling. They often have a more short-term view and often change positions and try to time the market. It would be an irony if investors who want to harvest factor premiums, were to end up on the wrong side of the factor trade.

I want strong hands now!

Strong hands are easy to wish for, but difficult to get. Strong hands are a virtue, taking years of practice. Due to overconfidence most investors will think they have strong hands, which is by definition not possible. As with car driving (see Svenson, 1981), most people think they invest better than average. In the case of dollar weighting versus time-weighting it is not even a zero sum game as shown by Dichev (2007). This means that most investors will probably suffer from adverse timing skills, while only a minority of investors can profit. From a macro perspective this is a big head wind too few people are aware of.[3] Therefore, figure 2 should become a common fact known to all investors. But how can we create strong hands?

Everyone pays lip service to patience and a long-term vision. But it could be a meaningless concept if not specified. It is crucial to make the investment horizon very concrete and translate 'a long-term period' into a specific number of years. The length of this horizon will depend on the risk or return objective. For example, the goal to reduce volatility can be achieved on a 1-year horizon, while the objective to outperform could take a full business cycle. In the appendix, we propose a step-by-step guide to stronger hands.

Something which could help to reduce the 'pain' of underperformance or weak absolute performance is to create diversified portfolios. If the challenge is smaller, the need for strong hands is also smaller. For example, when value and momentum are included in a defensive strategy, the length of relative drawdowns can be reduced by many years.[4] If consistent outperformance is the objective, it also helps to include multiple factors. For example, enhanced indexing strategies offer a good alternative to passive market investing. One can use multiple factors like value and momentum to take hundreds of small active positions across countries and sectors while staying close to the index. The performance of low tracking error strategies can be evaluated on a shorter horizon than high tracking error

[3] Most of us will be familiar with many anecdotes and experiences with regards to adverse timing which plague investors. However, the empirical literature on this effect provides solid evidence and quantifies it into a useful market fact.
[4] Robeco research (2012) shows that a generic low-volatility strategy can underperform the market for two decades, something which happened in the 1940s to 1950s. By contrast, a multi-factor low-volatility strategy showed outperformance over this multi-decade period.

strategies.[5] Therefore we include multiple factors in all our quantitative equity strategies to enhance return and limit relative risk.

This multi-factor approach has proven to be an effective 'pain killer' over the past years, but does not create strong hands directly. It takes away some of the possible challenges. What could strengthen investor hands is to write down investment beliefs and make an investment plan.

A joint journey

Partnering often helps in life to stick to your plans. For example in sports, studies, and work it helps if someone knows your plan and is willing to help you execute it. Many successful investors acknowledge that the biggest enemy is you. The best way to win this internal battle is to create a plan and seek allies in order to successfully execute this plan. We should not underestimate how easy it is to cheat on good intentions. The road to hell is paved with good intentions, they say.

Besides the investment goal, the investment journey also matters. Virtue is achieved in many small steps, rather than in one big step. Finding the right partner might help to successfully meet long-term investment goals. In case of factor-based investing, the first obstacle is to limit the factors down to a limited set of the most robust and effective factor groups. This is needed since some factors will turn out to be fake. Another obstacle is to make sure your hands stay strong. Continuously educate yourself and everyone around you. The 2 percent loss by mutual fund investors should be a warning signal. Probably wrong timing has more return impact than most other investment decisions. Therefore one should consider oneself as an investor manager rather than an investment manager. The person to manage could be you, but also your colleagues, your clients or your team. In fact any human stakeholder.

A disciplined approach pays off and might help to avoid the -2% booby trap. Education is key since teams change and investment horizons are often short. This permanent education fosters a successful investment culture which leaves no room for harmful emotions or misaligned incentives. Deeper knowledge of weak hands and strong hands will help to increase humility and patience and limit harmful trading.

Closing remarks

A classical virtue such as patience could save investors more return than most active managers could ever achieve. Our goal as a fund manager is to achieve both high investor

[5] The Robeco Quant Developed Market Equities fund has outperformed the market in 10 out of 12 calendar years with an average of 1.27%. The realized information ratio is 1.24 and is statistically significant over the Sep 2004 – Oct 2017 period. Source: Robeco Performance measurement. Figures in EUR, gross of fees, based on net asset value. The value of your investments may fluctuate. Results obtained in the past are no guarantee for the future.

returns and high investment returns. If the client base is stable, in line with our investment philosophy, the gap in returns will be limited. We believe that a stable client base closely connected to our investment philosophy will help to significantly increase client returns.

Since 2002, we have been traveling this investment journey together with our Quantitative Equity clients and over the years the number of clients have grown. Also in prolonged periods of weak performance, clients have subscribed to our quantitative philosophy and net assets have increased. We engage with our clients as much as possible through meetings, calls, training sessions and seminars. We aim to act as an investor manager, to bring the gap between 'fund return' and 'client return' back to zero. Through continuous education, we aim to manage clients' expectations and help them strengthen their hands.

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Appendix: A guide to stronger hands

All investors have investment beliefs. When made explicit, these can be very helpful in creating an investment plan. For example, many investors believe that markets are fairly efficient and that they are not equipped to beat the market after costs and fees. They therefore opt for passive market index investing. Others believe in the added value of factor investing. Still others believe that good fundamental analysts can find stocks with upside potential. Most believe in the benefits of diversification. Writing down these investment beliefs can be very helpful and one should accept that various truths can coexist. For example, a small investor with limited resources might believe in passive investing, while a large investor with lots of resources might hold the opposite belief.

First, think and talk about weak & strong hands. Be aware of the empirical evidence on timing. Do you believe you will be able to prevent falling victim to behavioral biases? Which measure have you put in place to overcome these? A great help here could be the work by Thaler (2008) and Kahneman (2012) on investor psychology. A prudent investment credo could be: "I believe that I can become a victim of my own biases and therefore…'.

Second, a consistency check on beliefs and actual investment behavior can be helpful. For example, many investors nowadays believe in passive investing. However, many try to actively time the market with a passive strategy, which costs 2.7% per year for investors using passive mutual funds. Others believe in passive investing, but track an index which is very active. For example, tracking a momentum index with over 100% turnover per year is not a very passive thing to do. This conflicting behavior should be a good reason to pause and reflect. If such a mismatch exists, either the investment belief or the behavior should change.

The third step is to translate these investment beliefs into a plan. If there is belief in the added value of factor investing, one starts searching for the most efficient strategy. A helpful check is if the investment philosophies match. Important is to list the objectives and circumstances in which the strategy is expected not to work. This will help in the monitoring phase. Also ask the manager beforehand when he thinks he will fail to deliver. Monitoring should be done in line with the long-term objectives. Make sure that reasons to change the investment portfolio are part of the plan. You must stay adaptive and must be able to change your portfolio when facts change. Which new piece of information could challenge the investment beliefs? For example, a new academic study using out-of-sample data could falsify a certain factor, which could be a reason to stop investing in this factor. Or Tobin's tax could become a law in many countries, which would significantly impact transaction costs. This could change investment beliefs on factors that rely on high turnover, such as short-term reversal and momentum, which both rely on low implementation costs. A solid plan which consists of clear rules can be very effective in taking emotions out of the investment process and make the manager, style or index selection more systematic.

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