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The dark side of passive investing

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The rise of passive investing

Passive investing has become increasingly popular over the past decades. The arguments in favor of passive investing are well-known, and we acknowledge the validity of these arguments. However, there are also some considerations which should make investors think again about the desirability of a passive approach. A discussion of this 'dark side' of passive investing is the subject of this note.

Passive investing ranks among the most successful innovations of modern finance. At its foundation is the realization of Sharpe (1991) that active management is a zero-sum game before costs and a negative-sum game after costs. This realization implies that a strategy of simply buying and holding the capitalization-weighted market portfolio at minimal costs should ensure a better performance than most actively managed funds. The proof of this theoretical concept in practice has been provided by passive investment pioneers such as Vanguard. Their success has not gone unnoticed, as the market share of passive managers has risen steadily over time, and many large institutional investors nowadays invest large portions of their assets passively. Even regulators have recently started to openly question active investing, encouraging investors to seriously consider a passive approach instead.[1]

Passive investing has appeal

In this note we are not denying that passive investing is an appealing concept. In fact, we fully acknowledge that:

- a passive manager is likely to outperform an active manager chosen at random, assuming the latter involves higher fees and costs[2];
- passive investing has the benefit of being a highly transparent approach, as performance can be evaluated against an index that is independently calculated by a third party;
- a passive approach can be applied on a large scale because of its high liquidity;
- passive investing may be considered a safe choice, because by pretty much guaranteeing a return close to the index it eliminates the risk of having to explain a large underperformance sooner or later.

Serious concerns

However, we also have some serious concerns with regard to passive investing. We argue that if these concerns are also taken into account, the case for passive investing is not so clear-cut anymore. But first we define what we mean exactly with passive investing.

[1] In the Netherlands, for instance, the AFM takes this stance in its white papers "De wetenschap over de resultaten van actief en passief beleggen" and "Leidraad actief en passief beleggen in het belang van de klant", while the DNB now explicitly penalizes pension funds for using active management, with higher solvency requirements in its FTK regulatory framework.

[2] This is typically the case in practice, although not necessarily so.

What is true passive investing?

There is a lot of confusion as to what passive investing really entails. In theory, passive investors believe in an efficient market in which market prices are always right, i.e. they have no views on how the fair price of a security may differ from the market price. As a consequence, they hold a portfolio consisting only of the capitalization-weighted market portfolio, defined in the broadest sense, and a risk-free investment, with the weights of these two assets depending on their risk tolerance.

A myriad of passive products

Given that in theory passive investors just need a single product that replicates the broad capitalization-weighted market portfolio, it is striking that in practice investors can choose from a huge number of different passive products. One can imagine not one but a few products, because of competition from different providers, or practicalities such as time zone differences which frustrate trading in all markets simultaneously. In practice, however, many thousands of passive products are on offer to investors. This raises the question: why so many?

Isn't it ironic?

In order to answer this question, we need to take a closer look at the characteristics of all these passive products. It turns out that many passive funds follow just a part of the market portfolio, such as a single sector or a single country. As such, these passive funds are typically not used to passively follow the broad market portfolio, but as instruments for active sector and country allocation. This is actually rather ironic, because if there is one form of active management that is particularly tough, it is making active asset allocation decisions. This follows not only from empirical studies, but also from Grinold's (1989) theoretical Fundamental Law of Active Management, because of the small 'breadth', i.e. the small number of independent decisions, involved in active asset allocation.

Market price distortion

Another issue with passive funds in practice is that they typically track a liquid market index, such as the S&P 500, rather than the broad market portfolio containing all listed securities. This approach is known to significantly distort market prices and negatively affect the performance of passive investors. For instance, Petajisto (2011) documents significant price reactions following announcements about stock inclusions and exclusions for popular indices, while Chen, Noronha and Singal (2006) estimate that arbitrage around the time of index changes results in losses between USD 1.0 billion and USD 2.1 billion a year for investors who passively follow the S&P 500 and Russell 2000 indices. In order to ensure a truly passive approach which does not suffer from these shortcomings, investors should consider the most broadly defined capitalization-weighted index.

Smart beta investing is active, not passive

Another group of supposedly passive products are actually active products in disguise: funds based on so-called 'smart beta' indices. Although these funds passively follow an index, this index reflects a mechanical active strategy which intentionally deviates from capitalization weights in order to achieve a superior performance. Examples include fundamental indices and minimum-volatility indices. Although a lot may actually be said in favor of such strategies, our point here is that investors should not fool themselves thinking these are passive investment approaches. Smart beta investing is an active strategy, which only differs from traditional active strategies in the sense that the active strategy is entirely based on pre-determined formulas, parameters and rules.

Having clarified what passive investing is really (or should really be) about, we now turn to our main concerns with passive investing. Our first concern is the free-riding nature of passive investing, and our second concern is that it goes against proven factors. In the following sections we will elaborate on these issues.

Concern #1: Passive investors are free-riders

Lorie and Hamilton (1973) already noted that the market can only be efficient if a large number of investors actually believe it to be inefficient, the so-called efficient markets paradox. In other words, the existence of a large number of active investors is a necessary requirement for efficiently functioning capital markets. Active investors continuously trade on perceived mispricings, thereby ensuring that the price of each security always reflects the market's best assessment of its (unobservable) true value, and that the market is highly liquid. As such, active investors play a vital role in financial markets. Passive investors, on the other hand, are basically free-riders, as they do not make any attempt to assess the fair value of a security. Instead, they assume that active investors have done their homework properly, which enables them to simply accept and mechanically follow the observed security weights in the capitalization-weighted market portfolio.

Passive investing is impossible without active investors

True passive investing is actually impossible, because when a company wants to go public (IPO) or a government wishes to borrow money, investors have to choose whether to participate in this offering or not, which is an active decision. A passive stance could either be to always go along with new stock and bond offerings, or to never do so, but both of these alternatives would clearly be highly undesirable. In practice passive investors avoid this dilemma by relying on active investors to decide on whether to subscribe to new issuance, and simply following in their wake. This example already illustrates that a situation in which everyone would attempt to invest passively is highly undesirable, as requests for new capital by firms and governments always require an active assessment by investors.

Passive investing is not only ill-equipped for dealing with new issuance, but also for securities that are already listed. If everyone would attempt to invest passively, the result would be a breakdown of the link between prices and fundamentals. Liquidity would also disappear, because passive investors do not trade, but simply buy and then hold on to the capitalization-weighted market portfolio. Clearly, not everyone can be a free-rider, and if everyone would try to adopt passive investing, a higher authority such as a government or regulator would probably feel obliged to intervene, e.g. by taxing passive investing, or by banning it altogether.[3]

Consider the implications

This kind of situation may seem like a far stretch from reality. And indeed it is, because even if, say, half of the money in the world were to be invested passively, the market would probably remain quite efficient. But does this mean that, for the time being, passive investing should be encouraged? Or are we perhaps already at the point at which discouraging passive investing would actually be more appropriate? At the very least the

[3] We acknowledge that it is unclear if this would actually be feasible in practice. For instance, it is hard to draw a line between a realistic, pragmatic approach towards passive investing versus active investing. In addition, there is also the question of how to deal with hybrid approaches, such as enhanced indexing. However, our observations in this section are not meant as a ready-for-use practical solution, but intended to stimulate a fundamental discussion about the nature of passive investing.

proponents of passive investing should be challenged to seriously address the broader implications of their approach:

- acknowledge that large-scale active investing is a prerequisite for passive investing;
- describe how large-scale passive and large-scale active investing can co-exist in a macro-stable equilibrium;
- identify who should be investing actively in this equilibrium and their own role and responsibility here.

The sustainability dimension of passive investing

These considerations might be called the sustainability dimension of passive investing. Interestingly, investors increasingly demand that the companies they invest in adhere to a sustainable business model, but we argue that the sustainability of their own investment approach ought to be put to at least the same scrutiny.

Active investing: a moral responsibility?

A famous quote from Benjamin Graham is that the market can be compared to a voting machine. This is a useful analogy, because, similarly to passive investing, voting in a parliamentary democracy involves a big free-riding problem: voting is basically futile so long as millions of others vote. Free-riding appears to be a rational alternative: instead of going out to vote, spend the time on a more useful activity, such as family or a hobby. Interestingly, however, most people are well aware of this logic but still choose to put time and effort into voting, arguably because they see this as a moral responsibility in a parliamentary democracy. In the same spirit, active investing may be seen as a moral responsibility that comes along with a market economy. An efficient and liquid market benefits everyone, but because this can only arise as a result of large-scale active investing, perhaps every investor should feel obliged to contribute.

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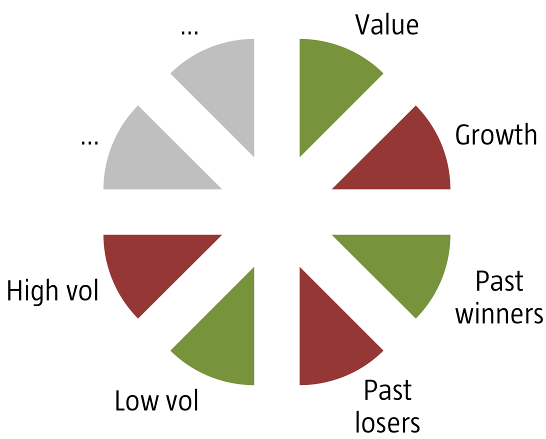
Concern #2: Passive investing goes against proven factors

Our second concern with passive investing is that it goes against proven factors. The literature provides extensive evidence that securities with certain factor characteristics tend to exhibit a very poor performance, while other characteristics appear to be rewarded with better returns. Because passive investors simply buy the capitalization-weighted market portfolio, which contains all securities, they basically choose to ignore such evidence. In other words, a passive approach involves intentionally investing large parts of one's portfolio in segments of the market that are known to be associated with disappointing historical performance characteristics.

Diversity in stock characteristics...

We illustrate this point by taking a closer look at the equity market portfolio. It is important to realize that this is not a homogeneous group, but consists of stocks with all sorts of characteristics. For instance, it includes stocks with low valuation multiples (value stocks) and stocks with high valuation multiples (growth stocks), stocks with a strong momentum (past winners) and stocks with a weak momentum (past losers), stocks with a low past volatility and stocks with a high past volatility, et cetera. This diversity within the market portfolio is illustrated in Exhibit 1.

Exhibit 1 | Illustration of the diversity of the capitalization-weighted market portfolio



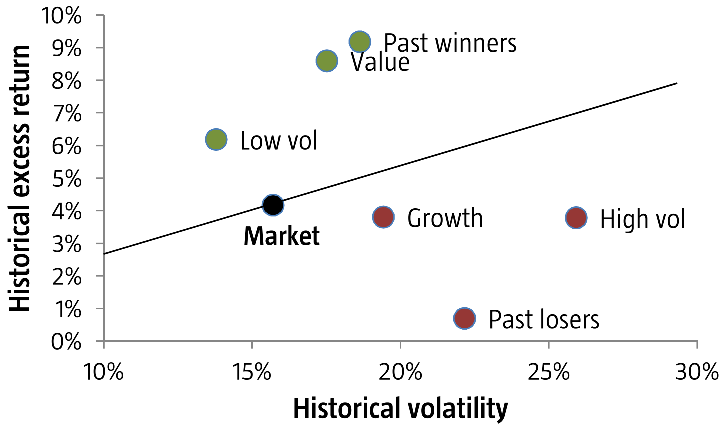
... and in performance

The reason for grouping stocks according to these specific factors is because numerous academic studies have documented that these groupings exhibit very different performance characteristics. This is illustrated in the figure below, which depicts their historical risk and return characteristics for the US equity market over the 1963:07-2010:12 period.[4] It is clearly visible that value, past winner (momentum) and low-volatility

[4] Source: Kenneth French data library and own calculations. The methodology used is similar to Blitz (2012). As the portfolios are based on the large-cap segment of the market, these strategies can be followed on a large scale. The factors discussed are also known to be effective in the small-cap segment of the market. In theory the factor premiums that can be earned here are larger,

stocks have been much more attractive than the market portfolio, while growth, past loser and high-volatility stocks have delivered very disappointing results. Similar results have been documented for other time periods, for equity markets other than the US, and even for asset classes other than equities, making it unlikely that these findings are merely a result of data-mining.

Exhibit 2 | Historical performance characteristics of US equity factor portfolios, 1963:07-2010:12



Source: Kenneth French, Robeco

Proponents of passive investing might argue that these large performance differences arise because of the behavior of active investors[5], and that the way to deal with this should therefore be less active and more passive investment. However, this is like a medicine which effectively treats the disease, but kills the patient in the process. Perhaps the value, momentum and low-volatility effects would indeed disappear if everyone would attempt to invest passively, but, as argued in the previous section, in such a world the link between market price and fundamentals breaks down altogether, which is a lot worse still. Moreover, although passive investing has increased steadily over the past decades, it appears to have had little or no impact on the continued existence of these anomalies.

If you believe in factor premiums, passive investing does not make sense

The logical implication of factor premiums is not to adopt passive investing and thereby intentionally invest large parts of one's portfolio in segments of the market that are known to be associated with very poor historical performance characteristics, such as growth, past-loser and high-volatility stocks. This only makes sense if one chooses to believe that the bad historical record of these market segments contains no information whatsoever about future performance. In other words, if one believes that going forward the market will be fully efficient, with growth, past-loser and high-volatility stocks delivering the return they ought to provide. We are not denying that this is a *possible* future scenario, but we do question whether this should be considered an extremely likely scenario. In light of the overwhelming evidence provided by the literature we would actually consider it a contrarian, rather unlikely scenario. Even if one does consider full market efficiency to be the most likely scenario, this still does not justify putting zero weight on the alternative

but in practice there are concerns with regard to the investability of such strategies, as small-caps tend to be much less liquid.
[5] Note that if active investing is at the root of factor premiums, this does not necessarily imply that active investors are acting in an irrational manner. Examples of rational explanations could be a limited opportunity set, constraints (for instance, on leverage), or an investment objective which differs from that assumed by the CAPM.

possibility that factor return characteristics observed in the past will persist in the future after all.

Actively avoid unattractive market segments

If passive investing is not the logical implication of factor premiums, then what is? The answer is actively avoiding unattractive segments of the market and seeking more exposure to attractive segments of the market, as also suggested by a.o. Ang, Goetzmann and Schaefer (2009), Bender, Briand, Nielsen and Stefek (2010), Ilmanen and Kizer (2012) and Blitz (2012). If factor premiums arise because of traditional active management, then not passive management, but counterbalancing active management is needed. Investors can benefit from the existence of factor premiums, and in the process of doing so contribute to making the market more efficient. Another school of thought is that factor premiums do not arise from suboptimal investor behavior, but represent priced risk factors. Following this reasoning active investing makes even more sense, because it justifies allocating to factor premiums, which is by definition an active decision (which factors?, which weights?) Moreover, the factor premiums themselves also represent active strategies (e.g. how to define a factor such as 'value'?, how to determine the number of stocks needed?, how to rebalance?, etc.)

Summary

The case for passive investing is based on some very appealing arguments. Most importantly, because active management is a zero-sum game before costs and a negative-sum game after costs, the long-term expected return of low-cost passive investing is higher than that of the average, more expensive active manager. In addition, passive investing offers a high transparency, high liquidity and low risk of regret. With such a strong business case, it is not surprising that the market share of passive investing has been growing steadily at the expense of the market share of active investing.

In this note, however, we discuss the other side of passive investing. We have argued that passive investors are essentially free-riders, and that they choose to ignore compelling academic evidence that the market portfolio includes large groups of stocks with very poor expected performance characteristics. If these considerations are also taken into account, passive investing loses a lot of its initial appeal. As an alternative, we propose a factor investing approach, which avoids going against proven factors such as value, momentum and low-volatility, and actively seeks to benefit from these factors instead.

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Important information