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Academic Implications from the Recent Development in Asset Management Industry*

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Abstract

This paper discusses the recent development in asset management industry, focusing on the diversified use of asset price indices as performance benchmarks. It points out that there are gaps to be filled between academics and practitioners, and more theoretical and empirical studies in this field need to be conducted. Furthermore, this paper tries to predict how diversified use of indices has implications on the competitive landscape in asset management industry. It concludes that this kind of business environment forces practitioners to generate new ideas, therefore they strongly anticipate proactive contributions from the field of financial economics in topics such as discovery of new anomalies, development of effective portfolio construction methods and risk management.

JEL Classification: G11, G12, G14

Keywords: Portfolio Selection, Anomalies, Active-Passive Management.

1 Introduction

We are currently observing a slow but steady paradigm shift in asset management industry: A diversification of asset price indices used as performance benchmark. Market capitalization-based indices have maintained dominant market share for decades and have been the only choice for many investors. For instance, mandates that invest in the Japanese equity market frequently use TOPIX, or Tokyo Stock Exchange Stock Price Index, which is a free-float adjusted, market capitalization based index. Mandates that invest in the Japanese fixed income market often use Nomura BPI, which is based on the market capitalizations of yen-denominated bonds that are issued in Japan. Similarly, this type of indices plays important role in mandates that invest in non-Japanese equity and fixed income markets.

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However, especially during last several years, changing economic and market environment forced investors to reconsider the standard practice they have maintained for decades and consider adopting alternative index construction methods such as low volatility and fundamentals indices. This is an interesting development from an academic point of view, since some of them have strong theoretical or empirical background, while some others have almost no rationale.

The purpose of this paper is to advocate that there is a gap to be filled between academics and practitioners regarding this new trend in asset management industry. Practitioners should be aware of theoretical and empirical background that justifies adopting and developing new types of indices. On the other hand, academics should be aware of this new trend in the industry and see whether they can reinforce the theoretical and empirical evidence for/against what practitioners are doing. They can also initiate discussions regarding, for example, discovery of new anomalies, development of effective portfolio construction methods and risk management. In doing so, they can both contribute to the healthy development of financial industry.

This paper is organized as follows. Section 2 summarizes the proliferation of passive investment in asset management industry and its relationship with theoretical development. Section 3 discusses the departure from traditional market capitalization based indices focusing on several factors that have caused such changes. Section 4 highlights three examples of new indices that have recently gained attention from practitioners and provides theoretical and empirical topics that academics may conduct further research in the future. Section 5 concludes the paper by considering the implications from the diversified use of indices and tries to predict the impact on the competitive landscape in asset management industry.

2 Proliferation of passive investment and the theoretical background

In modern asset management business, asset managers often use predefined indices to measure the performance of their strategies. For instance, passive managers are required to replicate index returns and aim at minimizing the return discrepancies from the index, or tracking error. On the other hand, active strategies try to achieve performance above index returns by focusing on, for example, sector and stock selections.

In Japanese asset management industry, it is a widely accepted customary to use TOPIX for Japanese equity and Nomura BPI for Japanese fixed income mandates. In foreign equity mandates, MSCI Barra's indices are widely used and among those indices MSCI Barra provides, MSCI Kokusai, which includes all developed countries except Japan, is most commonly used. MSCI All Country index, which also includes emerging equity markets, has gained more popularity in recent years in order to benefit from high growth countries and regions. For fixed income mandates, indices compiled by Barclays or Citigroup are common. These are all market capitalization based indices and it is obvious that this type of indices play dominant roles in asset management industry regardless of asset classes.

Needless to say, Capital Asset Pricing Model, or CAPM, has played an important role to achieve

broad acceptance in the asset management industry. Under certain assumptions, CAPM tells us that the optimal composition of risky assets all investors should hold is uniquely determined and the balance between the risky and risk-free assets is determined by the each investor's risk preference. This is the well known separation theorem, which is the most important implication from the theory of CAPM. This uniquely determined composition of risky assets is called a market portfolio, whose proportion is determined by market capitalization of each asset.

This idea managed to spread quickly among practitioners, who started passive investments that track market capitalization based indices sometime around 1970 and quickly succeeded in attracting assets. At the same time, active strategies that try to outperform such indices started to grow fast. Now this type of indices plays a dominant role in asset management industry and investors around the world embrace them as benchmark for their portfolio.

For practitioners, the purpose of passive investment is to provide clients with the market average return at low management fees. For example, a US asset management company Vanguard provides a fund called Vanguard 500 Index Fund Admiral Shares, which passively tracks S&P500 index, at annual management fee of 0.05%. Similar cost levels can be achieved via Exchange Traded Funds, or ETFs, and they both provide institutional and individual investors easy access to market returns. In the US, the long term average equity return after inflation adjustment is considered between 6.5% and 7%¹ and passive funds and ETFs provide an attractive, cost-effective ways to maintain exposure to this return.

The other reason passive investments gained such popularity in more recent years is that both practitioners and academics found that consistent outperformance over market capitalization based benchmark is a highly challenging objective to achieve. Since the seminal work by Jensen (1968), the consistency in active managers' performance has been of interest for both practitioners and academics. For example, recent research by Cremers and Petajisto (2009) drew strong attention from practitioners, discussing that what they call 'active shares', which is the sum of absolute deviations from benchmark weight of each stock in a portfolio, has a meaningful correlation with future performance. In Japanese case, Takehara (2012) discusses methods to evaluate the consistency of performance in Japanese equity mutual funds. Shikata (2010) analyzes the performance of active equity managers who manage mandates from pension funds.

As skepticism against active strategies grew among some investors, a shift from active to passive strategies has become a distinct trend in the industry over the past 10 to 20 years. Pension and Investment, a magazine that covers pension fund industry, and Towers Watson, a pension consultant, released a study (Pension and Investments and Towers Watson, 2010), where they estimate that the asset under management in passive strategies grew at annual rate of 12.7% between 1999 and 2009, while S&P 500 index grew only at annual rate of 5.7%. Mueller-Glissmann (2012), a similar research conducted by a strategist at Goldman Sachs, concluded that passive strategies grew by 24% annually between 1995 and 2011, while active strategies grew only by 8%. These numbers are estimations and

¹ This often called a Siegel's constant by practitioners, named after Professor Jeremy Siegel. See, for example, Siegel (2007) for detailed discussions.

not actual ones, but we can observe the stark growth difference in passive and active investment over the past 10 to 20 years.

3 Departure from traditional indices

The previous section discussed how market-capitalization based indices became the industry standard and how passive strategies that track such indices proliferated quickly over the past 10 to 20 years. However, we are currently observing a significant shift in this trend. The followings are the several points from academic and practical points of view that threaten the position of traditional indices.

First, there are a few theoretical evidences against the use of market capitalization based indices. Theoretically speaking, by adopting traditional market-capitalization based indices as benchmark, an investor implicitly assumes that Capital Asset Pricing Model, or CAPM, holds in the capital market. However, it is dubious if all investors who use this type of indices are actually aware of the restrictive assumptions that must be met². From another perspective, Kan and Zhou (2007) point out that when there are uncertainties in parameters such as expected returns and volatilities, tangency portfolio based on simple empirical parameters ('plug-in' parameters) is not optimal. Finally, Roll's critique is a famous empirical criticism against CAPM, pointing out that empirical testing of CAPM is impossible, because the market portfolio observed in the actual market is not necessarily the 'real' market portfolio since CAPM requires including broader assets other than stocks and bonds, for example, human resources and real estate.

In recent papers, mainly practitioners, but some academics started to express concerns over increased use of passive investment. For example, Wurgler (2010) points out that stock market's price discovery function is being eroded. When capital flows into passive strategies, they mechanically buy stocks in the specified indices regardless of fundamentals of each company. Practitioners often point out the increased pair-wise correlation in individual stock returns in recent years, and some of them link this to increased use of passive investment and ETFs.

From empirical point of view, it is well known that single factor or even Fama-French three factor models fail to explain the stock price movements actually observed in stock market. They are called anomalies, and those that had large influences on practitioners include, but not limited to: momentum effect reported by Jegadeesh and Titman (1993), who found that stocks that outperformed the market tend to continue the trend subsequently over the short run; reversal effect reported by DeBondt and Thaler (1985), who found that stocks that outperformed the market reverse the trend over the long run. Value effect, where stocks with low price to book ratio tend to outperform the market, has been known for long time. Finally, post-earnings announcement drift, or PEAD, where stocks of companies that announced surprisingly good results tend to outperform the market even a while after the announcement, is well known in practice. Zacks (2011) is a comprehensive resource for anomalies in stock market and its implications on practical portfolio construction.

² See, for example, Maeda (2003) for theoretical background.

4 Recent development in adopting new indices

As seen in the previous section, practitioners are increasingly interested in the possibility of outperforming traditional market-capitalization based benchmarks. This trend has become particularly evident after the financial crisis in 2008, during which even passive strategies had large increase in volatility and did not perform as well as investors had expected. Skepticism against traditional passive strategies grew on the back of the recent market and economic environment.

Many indices have already been proposed by index providers and asset managers. The following subsections introduce three indices that have attracted significant attention from practitioners and discuss the relationship with their theoretical and empirical background. Specifically, low volatility index, fundamentals index and equal weight index are discussed here.

4.1 Low volatility index

Low volatility or minimum variance index is an application of low volatility anomaly in actual portfolio construction. It had been well known since 1970s that low volatility or low beta stocks do not underperform as the theory predicted, but many empirical studies in 2000s have formally shown that risk-adjusted returns of low volatility stocks actually outperform the ones with high volatility.

This anomaly is interesting because empirical evidence shows that this holds in equity markets around the world³. So far, at least three explanations have been proposed. Barberis and Huang (2008) discusses that high volatility stocks are lottery-like in which some investors have excessive expectations on future earnings growth and stock returns. As the result of this, they become overvalued and subsequently underperform. Alternatively, Baker, Bradley and Wurgler (2011) point out that investors do not pay much attention to low volatility stocks and this results in undervaluation and consistent anomalous returns. Finally, Clarke, de Silva and Thorley (2006) point out the mere possibility of capturing small-cap and value anomalies. Though many empirical and practical studies have already been devoted to this subject, there is no definite explanation to this anomaly. This is the reason why Baker et al (2011) wrote that “We believe that the long-term outperformance of low-risk portfolio is perhaps the greatest anomaly in finance.”

Many studies have shown that this strategy consistently outperform traditional indices over the long run while reducing return volatility by 20 to 30%. This improvement in risk-return profile is the reason many practitioners found investing in low volatility strategy particularly attractive. Some point out that this strategy outperformed the traditional indices simply because the stock market as a whole struggled over the past 10 years or so. However, it is important to understand that the objective of this strategy is to achieve better risk-adjusted return, not the unadjusted return itself.

4.2 Fundamentals index

One of the biggest criticisms against traditional indices is that they do not take into account the

³ See, for example, Blitz and Van Vliet(2007) who showed the anomaly exists in the US, Japan and Europe.

valuation of individual stocks. This problem can be exacerbated especially during periods like technology bubble that we observed in late 1990s. As prices of popular stocks appreciate, their index weights increase reflecting the ballooning market capitalization, which results in more buying by passive strategies when they have capital inflows. This cycle supports the prices of stocks with irrational valuation.

Fundamentals index is one of the solutions that try to avoid this issue. In a fundamentals index, individual weights are based on numbers like total dividend payment, shareholder's equity and sales, instead of market capitalizations. In this type of index, fundamentals of index constituents are considered to some extent, so the weights of bubble-like stocks are much smaller than the one in traditional benchmark.

Though it is likely to underperform traditional benchmark when market is under irrational exuberance, it is shown that it outperforms over the long run. However, it should be noted that factors that are used to construct the index are chosen rather arbitrarily, and more importantly from academic view point, there is almost no theoretical backing to this index.

Research Affiliate is a leading firm that provides actual indices for asset managers and Arnott, Hsu and Moore (2005) provides the discussion regarding the reasons for the outperformance. They analyze the performance of fundamentals index and observes that it has exposure to value and size factors and conclude that “the fundamental metrics of size all implicitly introduce a value bias into the indexes, which has been amply documented as possibly the result of market inefficiencies or as priced risk factors”. It can be simply said that the source of excess performance is due to exposures to value factors.

4.3 Equal weight index

Although equal weight indices have not been as popular as low volatility and fundamentals indices among practitioners, they have also drawn increased interests⁴. As the name suggests, the index diversifies capital equally into its constituents. This method is sometimes called *naive diversification*, but there are two interesting aspects in this type of index.

First, despite the simplicity, return level of this index is remarkably high. Platen and Rendek (2010) conducts a simulation and point out that it significantly outperforms market-capitalization based index. Practically, this can be understood as follows. Some time after the portfolio formulation, the portfolio weight in stocks that outperformed the portfolio return would increase; on the other hand, stocks that underperformed would have decreased weight. Because the equal weight indices often amend this type of weight changes to maintain equality⁵, they buy losers and sell winners. If there is a reversal tendency in stock prices, this will result in superior return compared to market average. This intuitive interpretation is largely supported by Plyakha, Uppal and Vilkov (2012), who conclude “The higher alpha of the equal-weighted portfolio arises from the monthly rebalancing required to maintain equal

⁴ See, for example, “Equal weighted portfolios perform better”, *Financial Times*, 17 October, 2010 or “Award for contrarian strategists,” *Financial Times*, 18 March, 2012.

⁵ For example, MSCI equal weight indices rebalance the portfolio twice a year.

weights, which is a contrarian strategy that exploits reversal in stock returns; thus, alpha depends only on the monthly rebalancing and not on the choice of initial weights.”

Second interesting point is that there is a theoretical base that supports this superior performance. Platen and Rendek (2010) show that equal weight portfolio with large number of assets can approximate a growth optimal portfolio. Growth optimal portfolios are constructed in a way that any asset price processes deflated by returns of such portfolio are supermartingale. Although this can be interpreted as theoretical background that supports the superior outperformance, theoretical and empirical work in this subject remains somewhat limited compared to other portfolio construction methods. More academic work can be conducted in this field.

One thing to be noted from practitioner’s point of view is that when an equal weight index is rebalanced frequently and the liquidity of constituents is not properly considered, this can result in significant transaction costs. This trade-off between potential performance and rebalancing frequency is something that needs to be carefully considered when implementing the strategy in practice.

5 Conclusion

Asset management industry has experienced a trend in which investors shifted capital from active to passive strategies over the past decade, on the back of unstable excess return performance achieved by active managers. However, more recently, there have been increased concerns over traditional benchmarks used in passive strategies, which has resulted in increased variety of indices.

Index providers and asset managers have already started providing indices based on alternative calculation methods. It is striking to observe that these methods, at least partially, include measures that active managers have utilized trying to achieve excess returns over their benchmarks. For instance, active managers focusing on fundamental value often use valuation measures such as price to book and price to earnings ratio, but these elements are also reflected in fundamentals indices. There are passive strategies designed to follow style indices like Russell-Nomura, arguably the most popular style index in Japanese equity space. This poses as a threat to active managers who now have to compete more with passive managers.

Though we have not observed this trend in Japan yet, the variety of ETFs in the US equity market is staggering. Sector ETFs provide returns of certain sectors, whose classification is often based on GICS, or Global Industry Classification Standard. Factor ETFs provide easy access to well-known anomalies such as value and stock price momentum that are mentioned in the previous section. Investors are free to choose from these building blocks to meet their investment objective and even construct portfolio that can replicate to some extent what active managers try to achieve in active strategies. This trend can be summarized as passive manager’s shift toward the area of active management.

As an opposite trend, some active managers are starting to provide active ETFs. PIMCO, for example, started providing their core product Total Return Strategy as an ETF with huge success and it has been reported in the media that there are several other equity active managers planning to launch

products in the ETF segment. This trend can be summarized as active managers' shift toward the area which had been traditionally dominated by passive managers.

Until recently, active and passive managers did not compete directly, but as they move toward each other's traditional territories, the competition will be fiercer. Perhaps the traditional distinction between passive and active portfolio management will become obsolete in the future as they compete against each other in the same field.

Passive managers enter active managers' field by providing ETFs and other passive products using alternative benchmarks at low cost. Active managers will need to defend their position in the industry and their fee level that they charge their clients. This means that active managers will be required to achieve passive managers cannot provide. That is, active managers need to prove their skills to pick stocks or sectors to achieve much purer returns that cannot be replicated by the combination of traditional and smart beta. Those who fail to do this will be forced to exit from this field.

On the other hand, passive managers will need to continuously generate new ideas, if concerns and doubts against traditional market capitalization based indices continue to loom. Pressure for lower fees will mount in traditional passive mandates. This means that they will also need to have the spirit of active managers, seeking new innovation to attract investors' interests. This kind of business environment forces practitioners to generate new ideas, therefore they strongly anticipate proactive contributions from the field of financial economics in topics such as discovery of new anomalies, development of effective portfolio construction methods and risk management. We expect creative and active interaction between academics and practitioners in the future.

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