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The Nairobi Stock Exchange (NSE): the case for a buy-and-hold strategy for equity investors.

Introduction

This study aimed to establish, using data over three different annualised time periods between 2007 and 2009, whether an actively managed portfolio (following either a value strategy or a momentum strategy) would outperform a passive buy-and-hold strategy based on a benchmark index (the NSE-20) on the Nairobi Stock Exchange (NSE).

A list of stocks from both the Nairobi Stock Exchange MIMS (large caps and mid-caps) and the AIMS (small caps) that had either outperformed or underperformed the benchmark index (the NSE-20) in all three periods was drawn up. The results revealed that stocks that either outperformed or underperformed the NSE-20 were diverse across size, sector and investment style.

The research also went on to derive fundamental data- PE ratios as well as book-to-market values - BV/MV ratios[1] for the list of stocks that had either underperformed or outperformed the benchmark index for all three periods. These revealed that a value strategy that would have picked stocks on the basis of high BV/MV ratios and low PE ratios would have been unable to outperform the benchmark index. These findings were in line with anecdotal evidence on value investing where superior returns of value stocks are normalised when adjusted for risk. The case is even stronger when *agency costs of delegated investment management* are considered. (Chan and Lakonishok, 2004).

[1] The BM/MV ratio helps establish whether a particular stock is under- or overvalued.

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Additionally, on the basis of the evidence gathered, a momentum strategy[2] involving picking stocks on the basis of high PE ratios would also have been unable to outperform the benchmark index during the periods under consideration.

To outperform the benchmark index, the fund manager or private investor would have had to select stocks across sector and size (involving time and research and hence considerable cost) as well as constantly vary his investment style in order to pick winners.

Data presentation

Table 1: Stock performance over three different annualised periods

STOCK	*Sector reclassification*	*% change (21/10/07 - 20/10/08)*	*% change (1/2/08 - 31/1/09)*	*% change (11/6/09 - 10/6/10)*
MIMS				
Agriculture				
Kakuzi Ltd.	Agriculture	***-15***	***-21***	***194***
Commercial and Services				
Car & General Ltd.	Automobile	***-10***	***-20***	***48***
Nation Media Group Ltd. *	Media	-55	-52	9
TPS (Serena) Ltd.	Leisure & Hotels	***-25***	***-18***	***65***
Finance and Investment				
CFC Stanbic Bank Ltd.	Banks	-43	-53	16
Housing Finance Ltd.	Financials	-39	-59	29
Standard Chartered Bank Ltd. *		***-12***	***-20***	***59***
Equity Bank Ltd. *	Banks	***54***	***19***	***66***
Olympia Capital Holdings Ltd	Financials	-39	-33	-4
Industrial and Allied				
Athi River Mining Ltd. *	Building & Construction	***10***	***-7***	***56***
Bamburi Cement Ltd. *	Building & Construction	***-4***	***-21***	***67***
E.A. Cables Ltd. *	Industrials	-32	-41	-8
Crown Berger (K) Ltd.	Industrials	-38	-46	21

[2] The argument here is that well-performing stocks will continue to perform well into the future since they represent firms with positive long-term forecasts of sales, strong resultant cash flows and non-financial information. Thus analysts continue to recommend such firms exhibiting strong recent performance. In addition, in inefficient frontier markets like the NSE short-run positive serial correlations tend to induce the spiral of price movements in a particular direction. (Morrin et al., 2002)

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Stock	Sector			
KenGen Ltd. *	Utilities	-37	-44	21
STOCK AIMS				
Express Ltd.**	Transport	-39	-49	-4
Kapchorua Tea Co. Ltd.**	Agriculture	***-17***	***-24***	***112***
INDEX				
NSE All-share index		-22	-23	40
NSE-20 index		-27	-32	44

Source: Bloomberg, 2010; myStocks!, 2010; NSE, 2010

*Large cap stocks and constituents of the NSE-20 index

** Small cap stocks

Figures in ***bold italic*** represent the performances of stocks that outperformed the NSE-20 index in the respective periods.

In all three periods the following stocks outperformed the benchmark index- the NSE-20 index

- Athi River Mining Ltd.* (Building & Construction)
- Bamburi Cement Ltd.* (Building & Construction)
- Car & General Ltd. (Automobiles)
- Equity Bank Ltd.* (Banks)
- Kakuzi Ltd.(Agriculture)
- Kapchorua Tea Co. Ltd.** (Agriculture)
- Standard Chartered Bank Ltd.* (Banks)
- TPS (Serena) Ltd. (Leisure & Hotels)

In all three periods the following stocks underperformed the benchmark index- the NSE-20 index.

- CFC Stanbic Bank Ltd. (Banks)
- Crown Berger (K) Ltd. (Industrials)
- E.A Cables Ltd.* (Industrials)
- Express Kenya Ltd.** (Transport)
- Housing Finance Ltd. (Financials)
- KenGen Ltd.* (Utilities)
- Nation Media Group Ltd.* (Media)
- Olympia Capital Holdings Ltd. (Financials)

* Large cap companies

** Small cap companies

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Table 2: Key Fundamentals for selected 'value' and 'momentum' stocks

STOCK	Period I			Period II			Period III		
	Share price	*NAV/ share*	*PE ratio*	*Share price*	*NAV/ share*	*PE ratio*	*Share Price*	*NAV/ share*	*PE ratio*
Athi River Mining Ltd.*	86.5	15	17	91	18	18	82.5	21	16
Bamburi Cement Ltd.*	196	38	22	190	42	22	120	46	14
Car & General Ltd.	50	40	5	50	40	5	33	51	3
CFC Stanbic Bank Ltd.	131	36	27	120	30	24	61	70	12
Crown Berger (K) Ltd.	44.75	32	37	41.5	35	13	24.75	35	21
E.A Cables Ltd.*	41.25		21	42	22	23	22.75	7	12
Equity Bank Ltd.*	121	24	113	131	41	122	14	53	13
Express Kenya Ltd.**	23	11	11	22.25	13	11	9	12	4
Housing Finance Ltd.	30.25	12	38	39.75	13	50	16.1	16	20
Kakuzi Ltd.	33	52	3	28	62	2	26	74	2
Kapchorua Tea Co. Ltd.**	90	182	5	90	183	5	65	179	4
KenGen Ltd.*	27.75	29	13	25	29	11	14	29	6
Nation Media Group Ltd.*	290	49	32	289	52	32	129	30	14
Olympia Capital Holdings Ltd.	17.95	20	35	13.55		27	8.9	17	17
Standard Chartered Bank Ltd.*	191	31	17	201	33	18	135	35	12
TPS (Serena) Ltd.	74.5	39	35	58.5	35	28	38.25	35	18

Source: myStocks!, 2010; NSE, 2010

* Large cap stocks

** Small cap stocks

Athi River Mining Ltd.: Stocks that outperformed the NSE-20 in all three annualised periods

CFC Stanbic Bank Ltd.: Stocks that underperformed the NSE-20 in all three annualised periods

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Table 3: Performance of selected 'value' stocks*

STOCK	Period I (BV/MV)	Performance	Period II (BV/MV)	Performance	Period III (BM/MV)	Performance
Car & General Ltd.					1.5	**48%**
CFC Stanbic Bank					1.1	16%
Crown Berger (K) Ltd.					1.4	21%
Equity Bank Ltd.					3.8	**66%**
Express Kenya Ltd.					1.3	-4%
Housing Finance					1	29%
Kakuzi Ltd.	1.6	**-15%**	2.2	**-21%**	2.8	**194%**
Kapchorua Tea Co. Ltd.	2.0	**-17%**	2.0	**-24%**	2.8	**112%**
KenGen	1.1	-37%	1.2	-44%	2.1	21%
Olympia Capital Holdings Lt.	1.1	-39%			1.9	-4%
INDEX						
NSE All-share index		-22%		-23%		40%
NSE-20 index		-27%		-32%		44%

Source: Bloomberg, 2010; myStocks!, 2010; The Financial Times Ltd., 2010

* Only book-to-market values equal to or above 1 are shown.

Figures in **bold** represent the performances of value stocks that outperformed the NSE-20 in the respective periods.

Although CFC Stanbic Bank Ltd., Crown Berger (K) Ltd., Express Kenya Ltd., Housing Finance Ltd., KenGen and Olympia Capital Holdings Ltd. showed positive BV/MV ratios in at least one period they all

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underperformed the NSE-20 index in all three periods. A value strategy in these periods would have been unable to outperform the benchmark index. Only Kakuzi Ltd. and Kapchorua Tea Company Ltd. showed positive BV/MV for the three periods and were able to outperform the NSE-20 in all of them. Both these firms are in the Agriculture sector.

Rea Vipingo Ltd. and Sasini Tea & Coffee Ltd. (both large caps) are also in the Agriculture sector but both underperformed the NSE-20 index in at least two of the three periods. Both firms trade in tea as Kakuzi Ltd. and Kapchorua Tea. This supports the posit that a successful trading strategy would have had to select stocks across size as well as discriminate between strong and weak companies within sector.

Table 4: Performance of selected 'momentum' stocks*

STOCK	Period I (PE ratio)	Performance	Period II (PE ratio)	Performance	Period III (PE ratio)	Performance
Crown Berger Kenya Ltd.	37	-38%				
Equity Bank Ltd.	113	**54%**	122	**19%**		
Housing Finance Ltd.	38	-39%	50	-59%		
Nation Media Group Ltd.	32	-55%	32	-52%		
Olympia Capital Holdings Ltd.	35	-39%				
TPS (Serena) Ltd.	35	**-25%**				
INDEX						
NSE All-share index		-22%		-23%		40%
NSE-20 index		-27%		-32%		44%

Source: Bloomberg, 2010; myStocks!, 2010

*Only PE ratios above 30 are shown

Figures in **bold** represent the performances of stocks that outperformed the NSE-20 in the respective periods.

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Of the stocks that outperformed the benchmark index in all three periods, only Bamburi Cement Ltd., Equity Bank Ltd. and TPS (Serena) Ltd. showed PE ratios of above 20 but only in two of the three periods (see Table 2). Despite showing very high PE ratios in periods I and II[3], Housing Finance Ltd. and Nation Media Group Ltd. underperformed the NSE-20 index in all three periods.

Crown Berger Kenya Ltd. and Olympia Capital Holdings Ltd. also showed high PE ratios in period I but underperformed the benchmark index in all three periods. Despite low PE ratios averaging 4, 2 and 5 respectively in the three periods, Car & General Ltd., Kakuzi Ltd. and Kapchorua Tea Company Ltd. outperformed the benchmark index in all three periods (see Table 1). Thus a momentum strategy involving picking 'glamour' stocks with high PE ratios would have been unable to outperform the NSE-20 index in the three periods covered.

From the observed data, a strategy to outperform a buy-and-hold strategy (based on the NSE-20 index) would have had to select stocks across sector and size[4]. Also such a strategy would have had to, ex-ante, discriminate between eventual strong and weak companies. In picking strong companies a strategy to outperform the benchmark index would have had to discriminate between companies within sector especially in the Banks, Financials and Agriculture sectors where some outperformed the benchmark index while others under-performed it[5]. And even among the strong companies[6] not all were able to outperform the benchmark index.

Analysis and Interpretation

Risk-return premia

Value investors seek to benefit by purchasing undervalued stocks and selling these once the prices move towards their intrinsic values. Momentum investors, for their part, expect recent stock price trends to continue and favour growth stocks- those which exhibit continued price increases whether or not the increases are justified by firm fundamentals.

The inability of the value investor to outperform the benchmark index stems from the fact that value stocks when adjusted for risk reveal at best average returns. Beta values for small caps like Kapchorua Tea may be exceedingly high meaning that their real return measured by the Treynor ratio (see below) is low or average.

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[3] The PE ratio for Housing Finance Ltd. was as high as 50 in period II

[4] Kakuzi Ltd. - a large cap stock and Kapchorua Tea Ltd. - a small cap both outperformed the NSE-20 index in all three periods. From Table 1 stocks that outperformed the NSE-20 index in all three periods were diversified across sector.

[5] While Equity Bank Ltd. and Standard Chartered Bank Ltd. outperformed the NSE-20 index in all three periods, CFC Stanbic Bank Ltd., Housing Finance Ltd. and Olympia Capital Holdings Ltd. underperformed the same index in all three periods.

[6] Despite improving year-on-year top-line and bottom-line figures during the three periods and having significant market shares, KenGen and Nation Media Group Ltd. underperformed the NSE-20 index in all three periods.

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Thus to get a true picture of the real return of stocks included in a value-seeking actively managed portfolio, the risk associated with the individual stock must be taken into account especially with regard to the small cap stocks which carry considerable risk. An additional risk premia for these particular stocks would have to be added.

However, on occasion, the actions of investors who collectively respond to price movements in a similar manner (or adopt a similar investment style) may still lead to pricing bubbles or excessive underpricing, pricing anomalies that may lead to abnormal returns for the value investor, even after adjusting for risk. (Morrin et al.; 2002)

Mean reversion

The ability of momentum stocks to outperform the benchmark index is confined by negative serial correlation of returns for holding periods of between three and five years. Mean reversion has the ability to return stock values to their mean or intrinsic values over time thereby halting correlative price movements in a particular direction[7]. Thus past winners become future losers and past losers become future winners.

Furthermore, active investors make their purchases or sales well into a rally or decline thereby missing the opportunity to maximise their return by buying cheap before the market peaks[8] or minimising total loss by selling the stock or making portfolio reallocations before the market troughs. (Chan et al., 1996)

When bubbles develop they correct overtime thereby limiting the gains of a momentum investor. However, bubbles usually overcorrect so that the market is selling well below fair value thereby presenting value investors with a buying opportunity. However, mean reversion and the actions of arbitrageurs halt excessive movements to the downside thereby limiting the benefits to the value investor.

Equity portfolio diversification

Diversification has the potential to reduce volatility without sacrificing risk-adjusted returns. Thus where increased returns can only be achieved by increasing the level of risk undertaken, a diversified portfolio (as exemplified in a wide-ranging benchmark index like the NSE-20) provides increased or at least similar returns without increasing the level of risk undertaken. However these allocations across different equities should be selective taking into consideration strong fundamentals and technical analysis.

[7] Such moments are akin to a market peak or market trough
[8] In an over-rated market correct timing can prove very rewarding if after investing in 'multiples' stocks the investor pulls out of the market before the prices head south

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Critically, portfolio diversification should not be seen solely from the view-point of numbers (number of stocks held or percentage of holdings in the top 10) but rather from the view-point of combining assets that have very little correlation with one another[9]. In that way, when one area is suffering e.g. Banks or Industrials another might hold up a little better e.g. Building & Construction[10]. However, cyclical stocks may be seen to all suffer at the same time and hence a fund that owns many non-correlated stocks might still be volatile where it makes big sector, style or market-cap bets.

Herd mentality

Following a spate of good or bad news investor irrationality leads to an overreaction either to the upside or downside respectively. This is accentuated by a herd-like mentality which influences stock valuations beyond their fundamental or intrinsic values thereby creating an ideal buying or selling opportunity. Both value and momentum investors see this as a window of opportunity to trade and outperform the benchmark index.

However, for both value and momentum investors, the question is that of timing. When is it time to buy oversold stocks or sell overrated stocks? For value investors, the question is what valuations represent the best buying opportunity[11]. In the case of momentum investors the pitfall of chasing 'hot' stocks is that these may have reached peak values making it difficult for performance-chasing investors to gain much if at all. Poor timing can thus have unintended consequences.

Behavioural risk

Apart from the transaction costs of an actively managed portfolio, there is also behavioural risk which may lead to badly timed decisions. Market corrections, in particular, are unpredictable in timing, duration and even magnitude and hence any attempt to benefit from such corrections requires precise timing and a bit of luck. Returns of an actively managed portfolio must reflect this behavioural (timing) risk.

Momentum investors may enter into investments that showed good returns but any subsequent volatility may lead to disastrous results. Thus active portfolio management may prove high-risk due to the tendency to time purchase or sale points wrongly. Additionally, momentum investors' greater confidence levels (based on their reliance on past performance) may make them more susceptible to 'knowledge miscalibration'- the mismatch between decision confidence and decision accuracy. (Morrin et al., 2002)

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[9] It is quite apparent from looking at the NSE-20 index that this is a wide-encompassing index involving a cross-section of stocks across different sectors.

[10] In the three periods studied while Banks and Industrials showed mixed and poor returns respectively, returns by Building & Construction were pretty impressive (see Table 1).

[11] Buying stocks before the market has bottomed may reduce potential gains.

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Selling only when there are big deviations in the portfolio mix versus targets[12] or selling part of the investment (rather than the entire stock(s) at once) may mitigate the risk of poor timing. The secret lies in avoiding the instinct of thinking there is this only one critical event or opportunity since this may cause one to make a bad decision. Alternatively a buy-and-hold strategy may be sought to minimise this behavioural or timing risk.

Lack of timely information and analyst attention

Large blue-chip companies receive a lot of investor and analyst scrutiny making it near impossible for price anomalies to develop. This is especially so in rapid information dissemination/assimilation environments[13].

Conversely and especially in frontier markets like the NSE, small-cap firms rarely produce timely reports[14] of their accounts and receive few analyst forecasts or recommendations. As a result the identification of value here is only achieved at great cost involving research and investigative work. This makes the process of identifying value small caps to outperform the benchmark index a difficult proposition.[15].

Volatility of small caps, however, may still offer great opportunities for those willing to take the time to carefully study both the technical and fundamental aspects of stock and market movements. Technical analysis, in particular, is important in determining ranges or trends in volatile markets.

Illiquidity

Illiquidity leads to large bid-ask spreads. Illiquidity in emerging markets is particularly caused by few trading days, shorter trading hours and relatively low volumes traded and relatively few company listings[16]. Furthermore, institutional investors who dominate frontier emerging markets like the NSE adopt buy-and-hold strategies of usually the large cap stocks. (Adjasi & Biekpe, 2006; Prather-Kinsey, 2006)

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[12] Long-term strategic asset allocations or matching asset allocations to a pre-determined investment time horizon.
[13] These are also environments of high share volume transactions and high analyst activity and participating firms are high share-turnover firms.
[14] Annual reports may be hard to come by and accounting treatments and disclosures may not conform to international standards.
[15] While Kapchorua Tea Co. Ltd. outperformed the NSE-20 index during all three periods, Express Kenya Ltd. and Williamson Tea Kenya Ltd. underperformed the index in at least two of the three periods. All these stocks are small cap stocks.
[16] For example, on 30th July 2010 the volumes of listed shares on the NYSE and LSE stood at 4,046,227,000 and 1,137,071,711 respectively while those on the Nairobi Stock Exchange stood at a mere 23,076,900. While there are 3000 listings on the LSE, only 55 companies are listed on the Nairobi Stock Exchange.

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These factors combine to induce a forced buy-and-hold investment behaviour on investors as they are unable to attain their desired sell prices. Such a buy-and-hold investment behaviour is typified by holding a benchmark index like the NSE-20 index

Alpha and beta values

An active management strategy only makes sense if it can outperform a passive management strategy after adjusting for risk. For an actively managed fund to outperform a passively managed fund e.g. an index fund that tracks a benchmark index over time, its alpha must be less than that of a passively managed portfolio. This also means that the value added (positive returns achieved or losses minimised) by an actively managed portfolio must exceed that added by a passively managed portfolio on a risk-adjusted basis as well as a cost basis. (Timmerman and Granger, 2004)

Composite portfolio performance measures like the Sharpe ratio and the Treynor ratio measure the level of risk-adjusted portfolio returns relative to those of a benchmark portfolio. Thus:

$$\text{Sharpe ratio (S)} = (\text{Return}_{\text{portfolio}} - \text{Return}_{\text{risk free}}) / \alpha_{\text{portfolio}}$$

Other factors held constant the selection of a portfolio based on the benchmark index will reduce the alpha denominator[17] ($\alpha_{\text{portfolio}}$) thereby increasing the Sharpe ratio.

and

$$\text{Treynor ratio (T)} = (\text{Return}_{\text{portfolio}} - \text{Return}_{\text{riskfree}}) / \beta_{\text{portfolio}})$$

A portfolio built around the benchmark index (usually large stocks that are more representative of the market) will show low volatility of returns and hence a low beta. Following on the equation above and assuming other factors are held constant, a low portfolio beta ($\beta_{\text{portfolio}}$) will lead to a higher Treynor ratio. To achieve a similar Treynor ratio as the benchmark tracker fund, a riskier portfolio (for example one that includes more high-risk small caps as in a value strategy) must yield a higher return.

Transaction and other costs

Active portfolio management aims to earn a risk-adjusted portfolio return that exceeds that on a passively managed portfolio. The possibility of achieving this only comes at the expense of substantial transaction

[17] Alpha is the difference between a portfolio's expected risk-adjusted returns and its actual returns. It is the value that a portfolio manager adds, above and beyond a relevant index's risk/reward profile. A portfolio that tracks the benchmark index like the NSE-20 comprises stocks that are most representative of the market since they are the largest companies by market capitalisation. Hence their beta values (volatility) are close to 1. Due to their low volatility there is little divergence between their risk-adjusted returns and expected returns leading to a low alpha.

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costs (including stamp duty), management and commission fees[18], additional risk-taking involving small cap stocks (and hence an added risk premium) as well as the added costs of studying both the technical and fundamental aspects of particular stock and market movements. This reduces the likelihood of an active management strategy outperforming a buy-and-hold strategy both in the short and long term. (Damodaran, 2002)

Following Barber and Odean (2000), investors who traded frequently earn a lesser annualised return than inactive investors mostly due to broker fees. Furthermore, regular reallocations under active management (involving regular purchases of securities each of which incurs stamp duty) adds further to overall costs. The converse is true of a passive buy-and-hold strategy.

Tax benefits

From a tax position a buy-and-hold strategy has better tax implications since unrealised capital gains are not taxed and the tax point is usually a one-off payment every so many years as the investor liquidates his assets. An active strategy, due to its higher rates of liquidation, has tax payable at every profit-taking event.

Caveats

However, in arriving at the best investment strategy consideration has to be made of the investment time horizon of any group of investors. Someone investing for the short-term (up to five years) should generally stay away from equities (or other equity-linked securities) as they run the risk of getting back less than they invest. For longer time horizons (five-year periods and beyond), equities do provide higher potential returns.

Fundamental analysis is a broad concept and is not confined to merely accessing value (discount stocks) through book-to-market valuations or accessing growth potential by merely deriving PE ratios. Other factors that would need consideration include, but are not restricted to:

- leverage ratios
- cash generation and stability
- dividend policy (increases in dividends or share buybacks)

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[18] Management fees increase with regard to an actively managed portfolio as opposed to a passively managed one. Beyond having to expend an incredible amount of effort to track equities on an hour-by-hour basis, active day traders have to contend with trading commissions that can rack up quickly, dramatically eroding returns. Furthermore, there are other trading costs in terms of the bid/ask spread, or the small spread between what buyers are bidding and sellers are asking at any moment. Although these more hidden costs are typically only a small fraction of the share price, they can add up to substantial amounts if incurred often enough. Also frequent traders tend not to be tax efficient, and paying more taxes can greatly diminish returns.

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- other financial guidance indicators
    - firm costs (financial)
    - capex
    - interest rates
    - depreciation and amortisation
    - comparable sales
    - tax liability/ rate
- going concern issues
- impending debt maturity
- cost-cutting measures (operational)
- contingency planning
- effective management
- long-established business
- market share (growth)
- good internal controls environment
- adherence to corporate governance guidelines
- relevance of business model in a fast-changing environment (competition, globalisation, etc)
- broader market (macro-economic) indicators
    - general trend of benchmark indices
    - general trend of exports
    - consumer confidence numbers
    - business confidence numbers
    - unemployment figures
- industry/ sector analysis (trend- growth or decline or volatility)
- company risk profile
    - market risk
    - liquidity risk
    - credit risk
    - exchange rate risk
    - interest rate risk
    - operational risk (internal to the business)
    - compliance risk
        - tax issues
        - environmental issues
        - operational issues (e.g. health & safety regulations, food & health standards)

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- company law (director eligibility, financial statement disclosures, listing rules)

Limitations

The study considered investment periods of upto a year ignoring returns that could be earned over longer term horizons. In view of research evidence (Basu, 1977) that risk-adjusted returns on undervalued small caps outperform those of their larger counterparts in the long-term, a different set of results would have been seen had longer investment periods been considered.

In conducting a fundamental analysis of the quoted companies, only two factors were considered- the book-to-market values and PE ratios. This narrow purview ignored other equally relevant variables like dividend yield which is key in measuring the return over time and in determining the direction of investor allocations. Wider market (macro-economic) factors especially the impact of the 2008 financial crisis were also ignored. This latter may well have been a destabilising factor that influenced returns in a particular direction.

'Out-of-sample' testing may have also reduced the robustness of the study in that different results would have become apparent had a different era been considered. In particular, the severe market volatility following the 2008 financial crisis represented abnormal circumstances which may not hold true in the typical investment environment.

Critically, the lack of more up-to-date reporting in interim and/or quarterly reports may partly explain the divergence between book values (NPV per share) and market values (market price per share) seen.

Conclusions

Despite the apparent limitations of this research on the case for a buy-and-hold strategy on the NSE, the report uncovered the difficulties of adopting an active management strategy to achieve superior returns on a typical illiquid frontier market. Although price anomalies exist in these markets, the cost of taking advantage of these anomalies outways the derived benefit.

Investing in a benchmark index (tracker fund) of mostly large-cap stocks of long-established businesses with strong sales and cash positions brings with it steady but not significantly high returns. Investing in a portfolio of individually selected stocks – some of which carry significant risk requires great skill and

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cost to pick out winners that will bring about an above-average return[19]. This is especially so in the equity space where risk levels are higher than with other asset classes like fixed income securities and cash.

However, it's not all bad news for those wishing to pursue a more involving active management strategy as great buying opportunities and significant returns can be achieved for those ready to apply considerable technical and fundamental analysis as well as having a portion of luck. Research has established that under-valued small cap stocks outperform the wider market in the long-term even when adjusted for risk. It may well be the management of agency costs that tips the scale in favour of an active management strategy.

In the final analysis, however, this study has shown that for an active management strategy to outperform the benchmark index- the NSE-20 it would have to select a diversified portfolio across size, sector and involve a multi-faceted investment style. This would however come at considerable cost in time, investigative work and risk analysis[20] for the fund manager. For the retail investor, the transaction (agency) costs of an active management strategy add to the unattractiveness of such a strategy. Both sets of investors would benefit greatly by simply adopting a buy-and-hold strategy based on a benchmark index like the NSE-20 index.

[19] Where the NSE All-share index was used as the benchmark index rather than the NSE-20 index, none of the small caps was able to outperform the NSE All-share index in all three periods. Kapchorua Tea in particular dropped out of the list of stocks that outperformed the benchmark index in all three periods. This suggests that small cap stocks on average underperformed the large and mid-caps in the three periods further supporting the premise that small caps carry considerable risk and their returns fall below average when adjusted for risk.

[20] Small caps in particular carry considerable risk. In addition to poor reporting most of these operate in the Agriculture sector which is dogged by volatility in weather, world demand and prices for tea, coffee and other cash crops as well as a volatile exchange-rate regime all contributing to a risky environment for stock evaluation.

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