

PORTFOLIO CREATION USING SHAREHOLDER VALUE CREATION IN INDIAN MARKETS

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ABSTRACT

The empirical research uses CNXIT, an index of IT companies, as benchmark index and a sample of 256 IT companies listed, on National Stock Exchange of India. Companies are ranked in the order of shareholder value created (SVC) as measured by Pablo Fernandez Model (PFM). A portfolio is created replicating the CNXIT in terms of number of companies and their weights in the portfolio, based on their rank in SVC and portfolio risk-return are measured. The research finds that portfolio thus, created has an ability to be a good mediator to enhance portfolio return while reducing the portfolio risk.

INTRODUCTION

The portfolio managers across the globe strive very hard in their endeavours to create a portfolio that challenges the basic financial tenet of “*high risk and high return*” and create a portfolio that enhances return minimising the risk assumed on such investments using various mediating practices such as passive portfolio, active portfolio, indexed based portfolio, fundamental analysis or technical analysis based portfolios, etc. There are growth stocks and value stocks, along with several cross-combinations that fill out the equity style box. Yet none of these popular style conventions says anything about the fundamental ability (or inability) of a company to create wealth (Abate, Grant & Stewart III, 2004). The research paper tries to address this very issue by trying to create portfolio using Shareholder value creation as measured by a model proposed by a famous Latin American Economist Pablo Fernandez and try and ascertain whether this portfolio creation style is a good mediating factor to achieve the ultimate objective of every single portfolio manager across the countries.

LITERATURE REVIEW

The portfolio managers have been excessively dependent on the historical accounting measures such as price-to-earnings ratio or price-to-book ratios for making the investment decisions. P/E multiple, and EPS have been long standing pillars of investment decisions across the world and continue to be so even today. There have also been varied thoughts about portfolio creations i.e. whether to have a diversified portfolio or to focus on “a” particular sector. There have, however, been common set of parameters thereafter to make a choice of stocks. The importance of diversification in building a solid portfolio was clearly articulated in Harry Markowitz's modern portfolio theory (MPT). In his breakthrough paper published in 1952, he stated that the three key inputs in determining an optimal allocation among assets are the assets' forecasted returns, projected risks, and expected interrelationships (Miccolis & Goodman, 2012).

These traditional measures had a major flaw in terms of they being arrived at based on historical figures and also that they did not allow across company and industry comparisons. But the major area of concern is that traditional measures such as P/E multiples, EPS, etc completely neglect the cost of capital especially the cost of equity, who are the real risk bearers of the company. “They can be used for past analysis but not for future decision making” said Rappaport in 1995. The traditional methods are criticised because they only consider cost on Debt Capital while calculating returns but do not consider cost of Share Capital - Equity & Preference- as they are a part of appropriation and are not debited to P&L Account. With corporate form of business organisation growing in number, Cost of Equity cannot be ignored (Tully, 1994). Consequently, a lot of new

measures that the international business community were using started to gain acceptance like shareholder value creation as measured by Economic Value Added (EVA) and Pablo Fernandez Model (PFM). Measure such as EVA was used by researchers such as Abate, Grant & Stewart III (2004), Zaima (2008), Grant (1996, 1997, 2003), and Biddle, Bowen, and Wallace (1997) to either create portfolios or to study the correlation between EVA and Stock returns. Yook and McCabe (2001) were first to create portfolios using Market Value Added (MVAs). They found that low MVA (stock return) per share led to higher average portfolio returns. This study differs from the Yook and McCabe study by investigating portfolios formed with EVAs. An examination of portfolios ranked by EVA provides added information given that Grant (1997) found a significant difference in EVA and MVA between wealth creators and wealth destroyers.

The inadequacy of equity style is surprising, as it is well known in finance that investors are ultimately concerned with 'economic realities' (economic earnings) as opposed to 'accounting constructs' (accounting earnings). In this context, the price of any company's stock is equal to the discounted value of its expected cash flows, *not* its accounting flows. Hence, the inherently flawed traditional fundamentals—such as price-to-earnings and price-to-book ratios—that are often used to define value versus growth investing have little direct relationship to wealth creation. Economic Value Added (EVATM) has been used as a tool to create portfolios. The EVA style of investing emphasizes the fundamentals of wealth creation in the profiling of a company and its stock. It thus provides securities analysts and portfolio managers with a robust framework for identifying good companies that have good stocks. EVA also provides insight into the critical role of risk adjustment in stock selection and portfolio risk control (Abate, Grant & Stewart III, 2004).

EVATM - Economic Value Added

The conventional measures also concentrated on the short term objective of Profit Maximisation. This hindered the growth of the company as the decisions were all aimed at the short term goal. Stern and Stewart modified the concept of Residual Profit as professed by Alfred Marshall and propagated a new measure of corporate efficiency namely Economic Value Added (EVA). They annually publish EVA of 1000 US based companies. EVA is defined as an excess of Operating Profit after Tax over Cost of Capital. EVATM or Economic Value Added is excess of Net Operating Profit after Taxes over the Cost of Capital.

Arguments for EVA

Tham and Pareza (2004) supported the use of EVA by questioning that while choosing a project, if the managers concentrated on the Cash Flows as discounted by the cost of capital, then why the same managers ignored the cost of capital while measuring corporate performance.

Chong et al (2008) found that EVA could be used to manage portfolios, as the EVA-based stock portfolios were found to be similar to the S&P 500 Index, yet produced positive alphas across subsamples, an indication that EVA contained information beneficial to increasing shareholder wealth, even in bear markets. On closer examination of the EVA-based stock portfolios, it was suggested that in times of market upswings, one should construct a portfolio based on lower EVA-ranked stocks, while switching to higher EVA-ranked stocks during market downturns.

Many studies such as Tsuji (2006), Stern and Stewart (1994), Biddle, Bowen, and Wallace (1997), Farslo, Degler, Degner (2000) have investigated EVA's correlation with excess returns, back-testing it against the underlying companies' actual wealth creation, as evidenced by subsequent stock price increases, or comparing it to market value added (MVA).

Arguments against EVA

One major critic of the EVA is its methodology. Horngren, et al (1997) caution that more than 160 adjustments were expected to calculate EVA, which made the process cumbersome and tedious. The researchers such as Kramer and Pushner (1997) concluded that market value added was not predicted in a significant way by EVA. Latin American scientist Pablo Fernandez (2002), criticised EVA on the basis that it is a method based on the historical accounting and thus, cannot be used as a measure of value creation and corporate performance.

Shareholder Value Creation measures like EVA are useful for the companies to pay honorarium to its Managers (who take strategic decisions like MD, CEO, CFO, etc). This is a usual practice in the west where companies like Coca-Cola, AT&T, etc use EVA to pay managerial compensation. But is not a useful tool while making strategic decisions like Mergers & Acquisitions, Portfolio Creation and Management, etc. The paper, therefore, uses PFM for portfolio creation and management.

PFM

Pablo Fernandez formulated a model, namely the Pablo Fernandez Model (PFM) where he calculates the Shareholder Value as excess of Shareholder Return (based on the market returns) over the cost of Equity. His model is as follows:

$$SVC = (r_{sh} - k_e) \times MV_t \quad (1)$$

Where

2. Shareholder Return

$$r_{sh} = SVA \div MV_{t-1} \quad (2)$$

o Shareholder Value Added

$$SVA = \Delta MV + \sum_{t-1}^t DIV + \sum_{t-1}^t P - \sum_{t-1}^t OC - \sum_{t-1}^t Conv \quad (3)$$

Where,

$$6. \Delta MV = MV_t - MV_{t-1} \quad (4)$$

▪ Where MV_t = Current Market Value &;

▪ MV_{t-1} = Market Value 1 year back;

7. DIV = Dividends paid during the year. Also stock dividend;

8. P = Other payments to shareholders during the year like discount on par values, share buybacks

9. OC = Outlays for capital increases like issue of new shares, GDRs, etc.

10. Conv = Conversion of convertible debentures, creditors, etc to share capital

4. K_e = Cost of Equity as calculated by CAPM model:

$$K_e = r_f + \beta(r_m - r_f) \quad (5)$$

Where,

5. K_e = Cost of Equity;

6. r_f = Risk Free Rate of Return (using Interest Rate on 90 days T-Bills);

7. β = Beta Coefficient;

8. r_m = Market Return (Using NIFTY as benchmark index)

5. MV_t = Current Equity Market Value as explained in eq. (4) above.

RESEARCH QUESTION

Shareholder Value Creation, as measured by PFM (Pablo Fernandez 2001), in comparison to a measure such as EVA has proved to have significant relationship with Market Value Added (stock return) in developed countries like US and Europe. An efficient market is a market in which price fully reflect all information. (Sudhahar and Selvam, 2009). It has been proved by Vaidyanathan and Kumargali (2005) and Khan and Ikram (2004) that Indian Markets are different from the US and European markets in terms of Market Efficiency. Indian Markets namely NSE and BSE are good examples of Weak form of Efficiency with a little hint of Semi-Strong Efficiency. But in either case, the Indian Markets do not reflect all the publicly available information (Khan and Ikram, 2004). Hence, this research focuses on the PFM as a successful mitigating variable for a portfolio manager to create portfolio that maximises the returns and minimises the risk.

We shall, therefore, test the following null hypotheses:

H0 = Shareholder Value Creation as measured by PFM is not a successful mitigating variable to create portfolio in Indian Markets.

The null hypothesis is further sub divided in to:

- H0₁** = Portfolio as created using SVC as measured by PFM does not give increased return compared the benchmark; and
H0₂ = Portfolio as created using SVC as measured by PFM does not reduce the risk as measured by Beta (β) compared the benchmark;

RESEARCH METHODOLOGY

Sample

This study considers 256 IT companies listed on National Stock Exchange of India as on 31st March, 2012 for a period of 4 years from 1st April, 2008 to 31st March, 2012.

Data Source

The data is collected from NSE website, Reserve bank of India website, and Capitaline database. PFM values are computed using the above mentioned formulae in eq. 1-5.

Methodology

There are 768 IT companies which were chosen from the Capitaline database. Then those companies that were not listed NSE were removed. We, thus, got a sample of 256 companies. The PFM values of these 256 companies are calculated as per the equations given above from 2007-08 to 2010-11. These companies are then ranked in order of highest value creators to lowest value creators for the next four years. 20 companies with highest SVC as measured by PFM as on 31st March are invested on the first day of April. ***The market is not timed.*** It is a purchase done in the opening trade of the market. A portfolio comprising of 20 stocks is decided as the benchmark CNXIT comprises of 20 companies. The CNX IT Index represents about 10.27 % of the free float market capitalization of the stocks listed on NSE and 93.04 % of the free float market capitalization of the stocks forming part of the IT universe as on March 30, 2012. The portfolio created also has identical weights as per the CNXIT. The portfolio is churned on 31st March every year to include new companies or adjust the weight of companies based on their new ranks as per the shareholder value created using process described above. A portfolio and index return and portfolio risk, as measured by portfolio beta (β), is calculated for a period of 4 years 1st April, 2008 to 31st March, 2012. Index beta (β) is assumed to be 1. Portfolio return is calculated as follows:

$$r_p = (P_t - P_{t-1}) \div P_{t-1} \tag{6}$$

Where,

r_p = Portfolio Return;

P_t = Current Value of Portfolio;

P_{t-1} = Portfolio Value 1 year back

Index Return is calculated as follows:

$$r_i = (I_t - I_{t-1}) \div I_{t-1} \tag{7}$$

Where,

r_i = Index Return;

I_t = Current Value of Index;

I_{t-1} = Index Value 1 year back

Data Analysis

“***t-Test: Paired Two Sample for Means***” is used as a statistical tool to analyse if the change in Portfolio Return and Portfolio β show a significant change from the Index Return and an Index β .

Table 1: List of companies in CNXIT with weight

Sr. No.	Name of the company	Weight in the index
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1	Infosys	54.10
2	Tata	23.21
3	Wipro	8.80
4	HCL	4.69
5	Oracle	1.69
6	MphasiS	1.16
7	Tech	1.05
8	Hexaware	0.97
9	CORE	0.67
10	CMC	0.58
11	Financial	0.57
12	Patni	0.48
13	MindTree	0.46
14	Educomp	0.37
15	Rolta	0.34
16	Polaris	0.32
17	HCL	0.19
18	Tulip	0.16
19	OnMobile	0.14
20	GTL	0.07

Source: nseindia.com

FINDINGS AND ANALYSIS

The returns on the index and portfolio as created using PFM in INR & % for the period under review is given below in Table 2.

Table 2: Index & Portfolio Return for the period under review

Sr. No	Year	I _i		I _p	
		(Rs.)	%	(Rs.)	%
1	2008-09	-1356.15	-36.90	218.72	5.95
2	2009-10	3537.25	152.55	6673.66	171.40
3	2010-11	1292.15	22.07	5663.90	53.60
4	2011-12	-632.10	-8.84	347.14	2.14

Figure1: Graphs showing Index & Portfolio returns

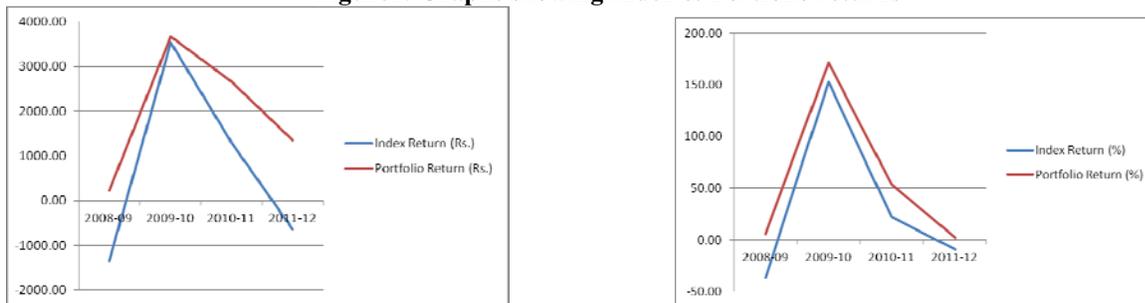


Table no 2 and figure no 1 above show that the return on the benchmark index is lower as compared to the return generated by the portfolio created using SVC as measured by the PFM. The index has given negative return in the financial year 2008-09 and 2011-12 but the portfolio return has always been positive, though the increase may have fallen. One major responsibilities and objective of the portfolio manager is to earn higher returns as compared to the benchmark.

One question that still needs to be answered is whether this higher return is statistically significant as compared to the benchmark index return. Table 3 and table 4 below show the “t-test” results conducted on the index and the portfolio returns.

Table 3: t-Test: Paired Two Sample for Means of Returns (Rs.)

Particular	Index Return (Rs.)	Portfolio Return (Rs.)
Mean	710.29	3225.86
Variance	4800816.36	11720427.90
Observations	4.00	4.00
Pearson Correlation	0.94	
Hypothesized Mean Difference	1.00	
df	3.00	
t Stat	-3.28	
P(T<=t) one-tail	0.02	
t Critical one-tail	2.35	
<i>P(T<=t) two-tail</i>	0.04	
t Critical two-tail	3.18	

Table 4: t-Test: Paired Two Sample for Means Returns (%)

Particular	Index Return (%)	Portfolio Return (%)
Mean	32.22	58.27
Variance	7015.80	6236.20
Observations	4.00	4.00
Pearson Correlation	0.99	
Hypothesized Mean Difference	1.00	
df	3.00	
t Stat	-3.85	
P(T<=t) one-tail	0.02	
t Critical one-tail	2.35	
<i>P(T<=t) two-tail</i>	0.03	
t Critical two-tail	3.18	

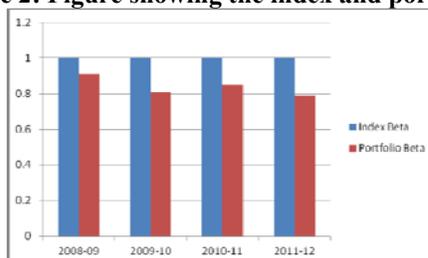
Further scrutiny of the “t-test” results in tables 3 and 4 point out that, not only has there been increase in returns compared to the benchmark but also this increase has been significant with “P – Values” in both the tables being lower than .05. We, therefore, *reject H₀* which stated that “*Portfolio as created using SVC as measured by PFM does not give increased return compared the benchmark*”

Table 5 and figure 2 below show the risk as measured by Beta (β) for the benchmark Index and the portfolio.

Table 5: Table showing the Index and the portfolio β

Year	Index Beta	Portfolio Beta
2008-09	1	0.91
2009-10	1	0.81
2010-11	1	0.85
2011-12	1	0.79

Figure 2: Figure showing the index and portfolio β



It can be seen from above that the portfolio β has come down in comparison to the Index β , which is considered to be 1. The “t-test” given below in Table 6 shows whether, the reduction in β value of the portfolio, in comparison to the index, is significant or not.

Table 6: t-Test: Paired Two Sample for Means of β value of the Index and the portfolio

Particular	Index Return (%)	Portfolio Return (%)
Mean	1.00	0.84
Variance	0.00	0.00
Observations	4.00	4.00
Pearson Correlation	0.00	
Hypothesized Mean Difference	1.00	
df	3.00	
t Stat	-31.75	
P(T<=t) one-tail	0.00	
t Critical one-tail	2.35	
P(T<=t) two-tail	0.00	
t Critical two-tail	3.18	

Further scrutiny of the “t-test” results in table 6 point out that, not only has there been decrease in risk as measured by β compared to the benchmark but also this decrease is significant with “P – Values” in the table way lower than .05. We, therefore, reject H_0 , which stated that “Portfolio as created using SVC as measured by PFM does not reduce the risk as measured by Beta (β) compared the benchmark”

Thus, portfolio created using SVC as measured by PFM is a good mitigating factor to create portfolio in the Indian Markets. We, therefore, reject the main null hypothesis H_0 , which states that, “Shareholder Value Creation as measured by PFM is not a successful mitigating variable to create portfolio in Indian Markets”

CONCLUSION

It is thus, seen that portfolio created by using SVC as measured by PFM achieves the desired mitigating impact while creating a portfolio, where the main objective is to maximise returns, minimising risks.

MANAGERIAL IMPLICATIONS

This paper, thus, makes a case for the use of PFM, which considers a Shareholder Value Added; a market based return, and only considers Cost of Equity, hence, it is more suitable for Portfolio Managers or Strategic decisions such as Mergers and Acquisitions, Sharebuybacks, Share splits, etc.

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