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ASSESSING THE IMPACT OF MULTIPLE STOCK SCREENING TECHNIQUES ON THE PERFORMANCE OF LISTED MANUFACTURING FIRMS IN BANGLADESH

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ABSTRACT: *This paper investigates the efficacy of various stock screening methods in analyzing the financial distress and performance of listed manufacturing companies in Bangladesh. As financial decision-making becomes increasingly complex, businesses, investors, and policymakers require sound evaluation methodologies to assess the viability and potential growth of firms. This study systematically analyzes several screening techniques (e.g., financial ratios, market, and operational indicators) to evaluate their ability to predict the viability of manufacturing firms. The analysis is conducted on a sample of listed manufacturing companies across various sectors, using a quantitative approach to measure associations between screening variables and performance indicators such as profitability, liquidity, and growth potential. The results indicate that multimethod function testing can create an integrated performance assessment method, providing a richer picture for the decision-making process. This paper contributes to corporate finance literature by demonstrating that a variety of screening tools can be effective for monitoring the manufacturing industry and offers both academic and practical relevance for financial analysts, investors, and firms seeking long-term sustainability.*

KEYWORDS: Wealth Maximization, Financial Performance, Stock Screening, Manufacturing Firm.

JEL classification: G31, M41

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INTRODUCTION

The stock market contributes to economic expansion in any economy by providing instruments for capital allocation and investment. In developing countries such as Bangladesh, the Dhaka Stock Exchange (DSE) is the core for trading stocks and assessing the financial condition of the listed companies (Rahman, 2018). With the growing complexity of market data and the huge scale of the market numbers, investors have found that it is very hard to pick up applicable stocks according to their investment aim. In this regard, stock screening strategies have received significant attention in the literature as a tool to simplify the selection process (Kumar & Ranjan, 2020). Several approaches have been used for stock ranking, one such approach being multiple criteria decision making (MCDM). MCDM combines a multitude of criteria (i.e., financial return, success within the market), enabling a holistic comparison regarding shares' suitability (Zopounidis & Doumpos, 2002). Especially financial indices as an indicator of the "well-being" of a company, and stock prices as an indicator of a company's achievement in the financial markets, have been identified as the two main instruments for the assessment of stocks (Fama and French, 2004). Financial ratios, like return on equity (ROE), return on assets (ROA), and the debt-to-equity ratio, can be used as metrics for the profitability and solvency of a company as well as its operational efficiency (Dechow, Ge & Schrand, 2010). Meanwhile, the stock price reflects investor sentiment and market perception of the future of a company, which can be affected by extraneous factors, including public opinion, rumors, and industry trends (Fama, 1991).

Nevertheless, despite the increase in the significance of stock screening, the literature presents a clear gap up to now by considering either financial performance or market success, but never both (Lhabitant, 2017). However, few of these papers integrate these two dimensions by considering stocks with high trading volumes on the long and short positions, resulting in an incomplete picture of the stock picking activity (Chen et al., 2009). In this study, we introduce a new ranking procedure for this purpose that entails MCDM and optimization algorithms that consider financial health and market success simultaneously in order to select a small group of "good" stocks. These stocks are highly correlated with the overall financial performance of a firm and closely correspond to its market success, thereby eliminating firms that are driven by less reliable factors, capturing media hype or speculative activities (Baker & Wurgler, 2006).

The main aim of the study is to find out the key determinants of selecting stocks in the manufacturing sector of Bangladesh. The importance of different financial variables and stock price behavior in the investment decision process is the focus of this paper, based on 60 manufacturing firms of DSE representing eight different sectors. In particular, the analysis considers the determinants of levered choice, and it investigates whether multiple screening strategies can be useful to enhance stock picking and portfolio performance. Additionally, there is no such study conducted from the Bangladeshi perspective, which has its own economic and market conditions, and therefore, it becomes necessary to find out the appropriateness of the models (Rahman & Ahmed, 2019).

This paper adds value by contributing to the improvement of investment strategy in its manufacturing industry, which is not well served with advanced stock screening techniques in Bangladesh (Islam & Alam, 2020). In addition, the study applies the developed MCDM for stock selection to consider whether a portfolio configured by the method outperforms a benchmark index from 2008–2017, which offers a real-world application of the MCDM for individual and institutional investors (Miller & Modigliani, 1961). The research also seeks to

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recognize the most optimal screening methods that can add value to portfolio returns, thus adding to the plethora of literature on stock selection and optimization in an emerging market (Wang, 2016).

CONCEPTUAL FRAMEWORK:

Screening is the use of quantitative criteria to an expansive universe of stocks, keeping in mind the end goal to limit the rundown down to a couple of organizations. It enables us to concentrate on a small number of stocks, however, an additionally encouraging combination of stocks. It additionally drives to utilize a steady structure to choose which stocks to include or expel from portfolio. Stock screening is a multistage procedure, and it is imperative to invest energy deliberately dissecting each phase of the procedure. A very much developed screen will prompt a rundown of organizations meeting fundamental investment objectives. This will spare long stretches of time in the exploration procedure by guaranteeing that they are just investigating organizations with high potential. In any case, an inadequately developed screen will probably create organizations that investors may not be keen on and will prompt wasted of research time. The means in the screening procedure zones takes after characterizing investors' objective, building Criteria, detailing and Picking Stocks to Research

Techniques of stock screening

Fundamental screens compare price to a particular number in firms' financial statements. Typical fundamental screens are:

Price-to-earnings (P/E) screens: Buy firms with low P/E ratios and sell firms with high P/E ratios.

Price-to-book value (P/B) screens: Buy firms with low P/B and sell firms with high P/B. Price-to-cash flow

Price to cash flow (P/CFO) screens: Buy low price relative to cash flow from operations, sell high P/CFO.

Price-to-dividend (P/D) screens: Buy low P/D, sell high P/D.

These screening techniques are designed to help investors identify stocks that are undervalued relative to their financial metrics and avoid those that may be overpriced due to market speculation.

Dependent Variable

Dependent variable is annualized return of five years. It is a broader term that depends on different related factors. We have assumed that factors affected returns such as dividend. Here dependent variable denoted by symbol AR.

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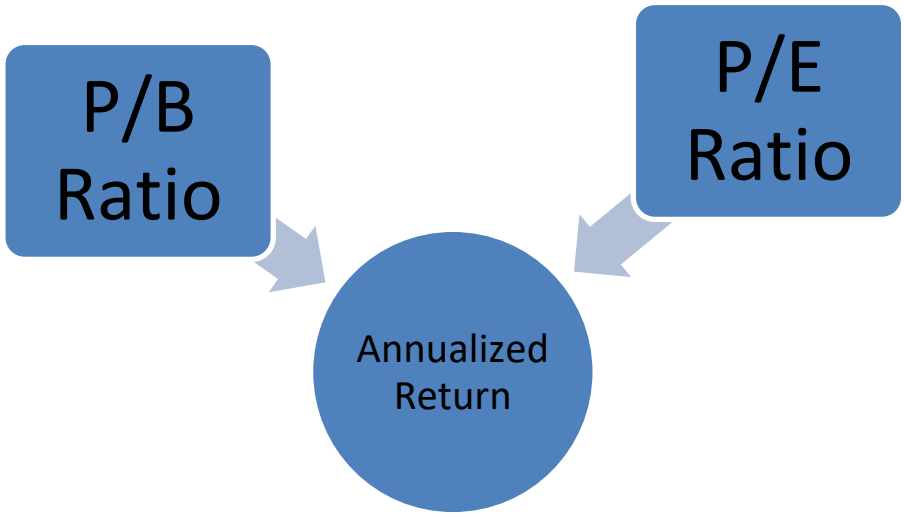
Independent Variables

We have conducted multivariate regression analysis, meaning we have used more than one independent variable

Price-to-earnings (P/E): Buy firms with low P/E ratios and sell firms with high P/E ratios.

Price-to-book value (P/B): Buy firms with low P/B and sell firms with high P/B.



Review of the Literature

The efficiency and cost of the sound stock valuation system should be efficient and cost effective. Identifying which stocks provide good investment opportunities is the ultimate reason for the use of the valuation, but whatever valuation metric must provide a useful service that is worth its price (Damodaran, 2002). The expense of using a detailed analysis system may turn out to be significant, particularly if it includes analyzing large portions of financial data and thereby requires substantial work (Koller et al., 2010). Faced with this challenge, there is a need to investigate techniques that achieve a tradeoff between accuracy and efficiency, proving that using these techniques is rewarding. A great number of standard valuation multiples (like P/E, price-to-book ratio, P/B, price-to-sales ratio, and price-to-cash flow ratio, etc.) are based on crucial summary metrics reported in financial statements. These are easy to compute value estimation indicators that require no drudgery to be carried out in calculating it (Penman, 2013).

Although these ratios provide useful input, deeper stock analysis can be carried out using advanced techniques such as the method of comparable and multiple screening analysis. The comp method involves adjusting the target firm to look like the similar firms by choosing an appropriate degree of comparability based on industry, size and/or market segment (Valuation Advisors, 2005). With the help from financial measures in the form of earnings, book value and sales to calculate valuation multiple, this technique enables the analyst to gauge the fair market value of a business by applying the median or average of multiples arrived at from a group of comparable companies to the financials of the subject company (Damodaran, 2002).

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Investment bankers frequently use this approach, especially in determining a firm's value for IPO purposes, because it takes a market- based approach to valuation (Goetzmann, 2002).

But even though the comparable method offers a fast and usually accurate way to value a property, it is not without its drawbacks. The main problem with comparable is that you may not be able to find companies that behave exactly the same as your target company. The operating and financial structure of companies in the same industry or sector can be diverse, which makes the firms as bad comparable (Lynch & Maughan, 2000). According to Miller (2017), the use of these variables to know firms by product, size, and risk factors to use in a model may result in mispricing since no two firms have the exact same operations base or market position. Furthermore, various multiples (e.g., P/E, P/B) can lead to widely differing valuations, so the valuation result is very sensitive to the multiple applied (Koller et al., 2010).

The comparable method also has the issue of subjectivity in deciding what are the "comparable" firms. According to Lakonishok et al. (1994), the selection of peer firms is largely at the discretion of the investigating company and offers a potential for bias. Additionally, the possibility of "playing with mirrors" in valuation (analysts choosing comps that bridge the gap to their desired result) brings the integrity of the approach into doubt (Graham & Dodd, 2009). This inherent flexibility may produce biased valuations, which is undesirable if the object is to test market efficiency or stock price models (Fama, 1991). In addition, different multiples such as the P/E ratio versus the P/B ratio can provide different results, which suggests that analysts need to be cautious with the interpretation of these ratios (Fama & French, 2004).

Conversely, employing more than one screening method brings a more disciplined approach to selecting stocks. Using multiples method, investors are able to screen stock based on financial criteria and can discover stocks with low multiples (undervalued) or high multiples (overvalued), in line with the fundamental concept of buying cheap and selling high (Dreman, 2013). The principal screening focus is the fundamental ratios and multiples, seeking to be able to separate undervalued stocks due to their financial health, from overvalued ones due to speculative investment in the market (Black, 2000). A lot of these screening approaches are consistent with value investing (i.e., targeting stocks that are "out of favor" or are priced lower than their intrinsic value) (Greenwald et al., 2001).

Difference between value and growth stocks One important aspect of multiple screening is the separation of value stocks from growth stocks. Value stocks, those which are traded at low multiples, are believed to be underpriced according to their financial characteristics, which opens up an opportunity for investors to exploit for excess returns as the market moves to their true values (Graham, 2005). By contrast, growth firms (as indicated by high multiples) are considered the overvalued or \"glamorous\" firms that investors are more apt to pay attention on their future growth prospects, rather than their current financial performances (La Porta et al., 1997). Following investors' contrarian approach, value investors are motivated to make profits from trading on the market inefficiency (buying low stocks and selling high) by buying underpriced and selling overpriced stocks (Fama & French, 1992).

Additionally, combining a number of screening methods as part of a larger investment approach can also contribute to better portfolio performance. A few studies have reported that low-multiple stock portfolios outperform high-multiple stock portfolios (Poterba and Summers, 1995). According to the research of Shiller (2000), cheap stocks–those with low valuation ratios, like the P/E or P/B ratio–tend to outperform risk-adjusted in the long run. The

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intuition aligns with the notion of contrarian investing: picking up stocks that have been neglected or undervalued by the market at reduced prices, and the probability that their value gets properly recognized over time.

Screening on multiples, particularly in the contexts of developing countries like Bangladesh, has taken prominence because of the opportunity of mispricing brought about by the market in efficiency (Mokhtari, 2015). In these markets in which the asymmetry of information and speculations has the potential to impair stock prices, the employment of a series of screens that enable investors to concentrate on the intrinsic dimension of companies, allows them to decide better cognitively about where to place investment money (Nguyen et al., 2019). In the manufacturing sector of Bangladesh, where companies are not always accountable to the same level of scrutiny as those in developed markets, such screening techniques are also a better way of selection stocks where speculation/risks are relatively less.

METHODOLOGY

The methodology section outlines the process through which this research is conducted, covering aspects such as population and sampling, data collection, potential biases, statistical analysis, and hypothesis testing. This section aims to explain how the research design was crafted to address the research question effectively while ensuring the reliability and validity of the findings.

The population refers to the total set of firms listed on the Dhaka Stock Exchange (DSE) that belong to the manufacturing sector. This study focuses on a sample of 60 manufacturing firms representing 8 different industries within the DSE. The primary aim is to identify firms with significant data available over the 2013–2017 period for analyzing stock performance based on multiple screening criteria.

Due to the large size of the DSE, it is not feasible to examine every firm. Therefore, a non-random sampling approach was used, selecting firms that meet certain criteria:

1. Firms must be listed on the Dhaka Stock Exchange.
2. Firms must belong to the manufacturing sector, ensuring homogeneity within the sample.
3. Firms must have available financial data for the years 2013-2017, including annual reports and relevant metrics for the screening process.

This purposive sampling technique was chosen to ensure that the sample accurately represents firms with the necessary data and characteristics relevant to the study's objectives. The selected firms cover a range of sizes and sub-sectors, ensuring the findings are applicable across different segments of the manufacturing industry.

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This study predominantly relies on secondary data for analysis, which is data that has already been collected and published by other entities.. The use of secondary data ensures that a large dataset can be analyzed efficiently and accurately.

The secondary data sources for this study include:

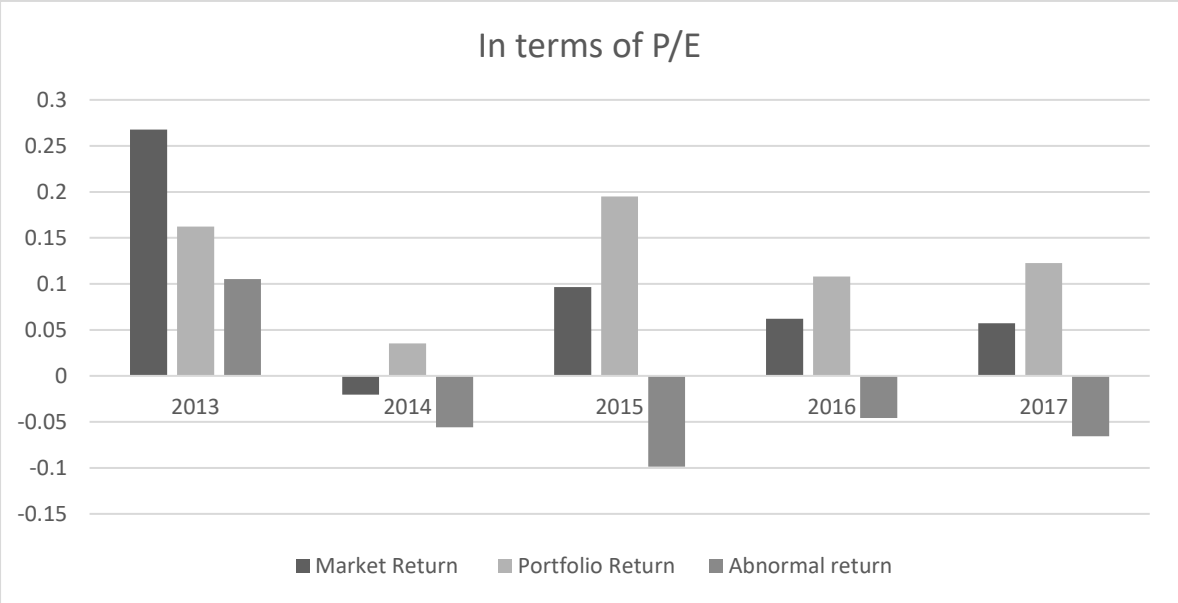
- Annual Reports: Data from the annual financial reports of selected firms for the years 2013, 2014, 2015, 2016, and 2017. These reports provide key financial metrics such as earnings, book value, sales, and cash flow, which are essential for calculating the stock screening ratios.
- Company Websites: Basic information regarding the firms, including their financial performance, corporate governance practices, and strategic plans, has been gathered from the official websites of the selected manufacturing firms.

EMPIRICAL STUDY AND RESULTS

An Overview of the unusual return of Stock Screening (P/E Ratio)

From the analysis of stock screening by using P/E and P/B ration, return of selected that 12 companies give scope to earn some unusual return over the market return. Here presented a table including the portfolio return, abnormal return, and market return. The abnormal return calculation is based on P/E ratio screening techniques.

	In terms of P/E				
Particulars	2013	2014	2015	2016	2017
Market Return	0.26759	-0.02044	0.096442	0.062198	0.057049
Portfolio Return	0.162374	0.035392	0.195056	0.108069	0.122521
Abnormal return	0.105216	-0.05583	-0.09861	-0.04587	-0.06547



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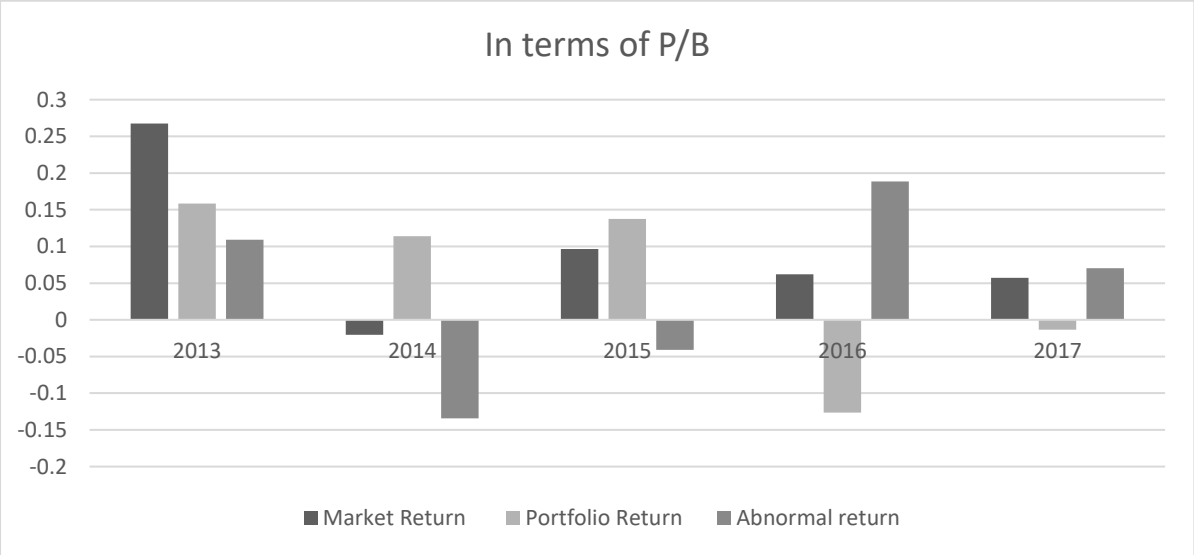
The above figure shows that in the year 2014,2015, 2017 the abnormal return is negative which implies the market return is more than our portfolio return. Here we are not ready to beat the market, which nullifies the point of stock screening. In the year 2014 the market return is marginally as portfolio return. Be that as it may, the anomalous return is positive. 2013 is where both market and portfolio return was positive and the market return was as much as the portfolio return.

An Overview of the unusual return of Stock Screening (P/B Ratio)

From the analysis of stock screening by using P/E and P/B ratio, return of selected that 12 companies give scope to earn some unusual return over the market return. Here presented a table including the portfolio return, abnormal return, and market return. The abnormal return calculation is based on P/B ratio screening techniques.

	In terms of P/B				
	2013	2014	2015	2016	2017
Market Return	0.26759	-0.02044	0.096442	0.062198	0.057049
Portfolio Return	0.158354	0.113828	0.137363	-0.12653	-0.0134
Abnormal return	0.109236	-0.13427	-0.04092	0.188732	0.070451



In the year 2014 the market return is negative, yet the portfolio return is sure, but the anomalous return is negative. However, in the year 2016 the contrary thing happened. Market return is certain however the portfolio return is negative. 2016 and 2017 demonstrate comparable criteria. In 2015, the Market return is marginally lower than the portfolio return. So, the unusual return is not certain.

Techniques of Multiple Screening

Presently the organizations which we short sale as far as their most elevated computed P/E proportion, their P/BV proportion was distinguished. After that, those organizations which had the most noteworthy P/BV proportion were screened. At that point, their normal return was figured to contrast with the market normal return. This procedure encourages us to get more

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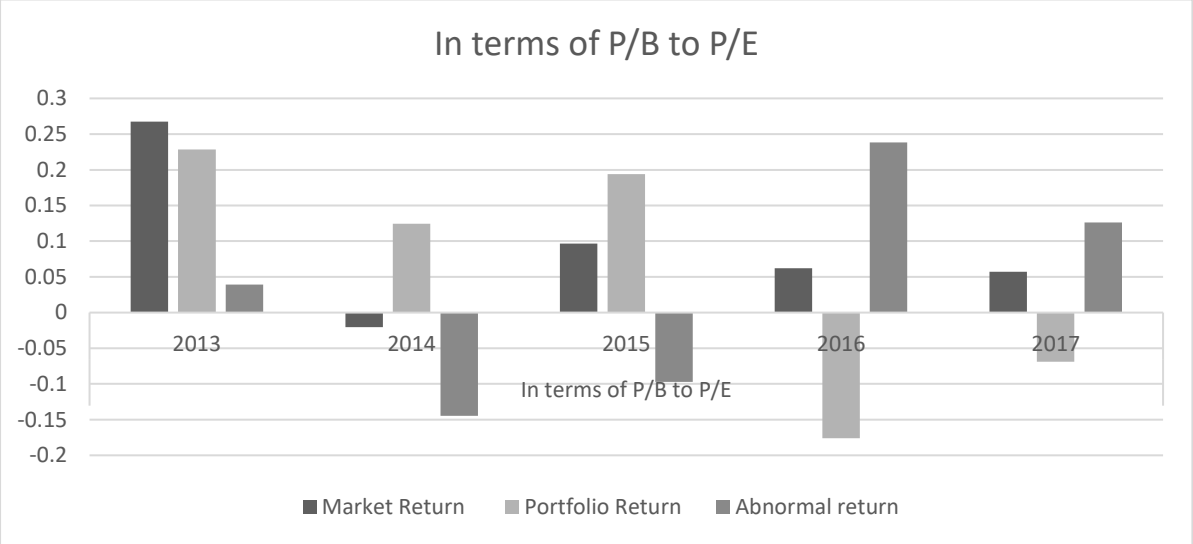
inside and out the perspective of the market. This improved the situation of both P/E proportion to P/BV proportion and the other way around. This is the procedure to screen out the best stock in any portfolio. Along these lines, the irregular return was figured to see that if numerous screening portfolio returns were sufficiently useful to beat the market return.

Screening through P/B ratios to P/E ratios

There is an illustration of the abnormal returns from those stocks that screened out according with highest P/B to P/E and lowest P/B to P/E.

	In terms of P/B to P/E				
	2013	2014	2015	2016	2017
Market Return	0.26759	-0.02044	0.096442	0.062198	0.057049
Portfolio Return	0.228505	0.124433	0.193771	-0.17604	-0.06903
Abnormal return	0.039085	-0.14487	-0.09733	0.238235	0.126079



In 2013, market returns are slightly higher than portfolio returns. That's why scope of abnormal return is not that much. In the year 2014 the market return was not as much as the portfolio return. In 2016 the portfolio return was considerably higher than the market return. 2017 could give an irregular return, however in 2013 the arrival was certain yet not as high as the market return which prompted a negative unusual return**.**

Screening through P/E ratios to P/B ratios

Illustration of the abnormal returns from those stocks that screened out according with highest P/E to P/B and lowest P/E to P/B ratios.

	In terms of P/E To P/B				
	2013	2014	2015	2016	2017
Market Return	0.26759	-0.02044	0.096442	0.062198	0.057049
Portfolio Return	0.312973	0.135052	-0.07691	0.060159	0.122521
Abnormal return	-0.04538	-0.15549	0.173356	0.002039	0.046657

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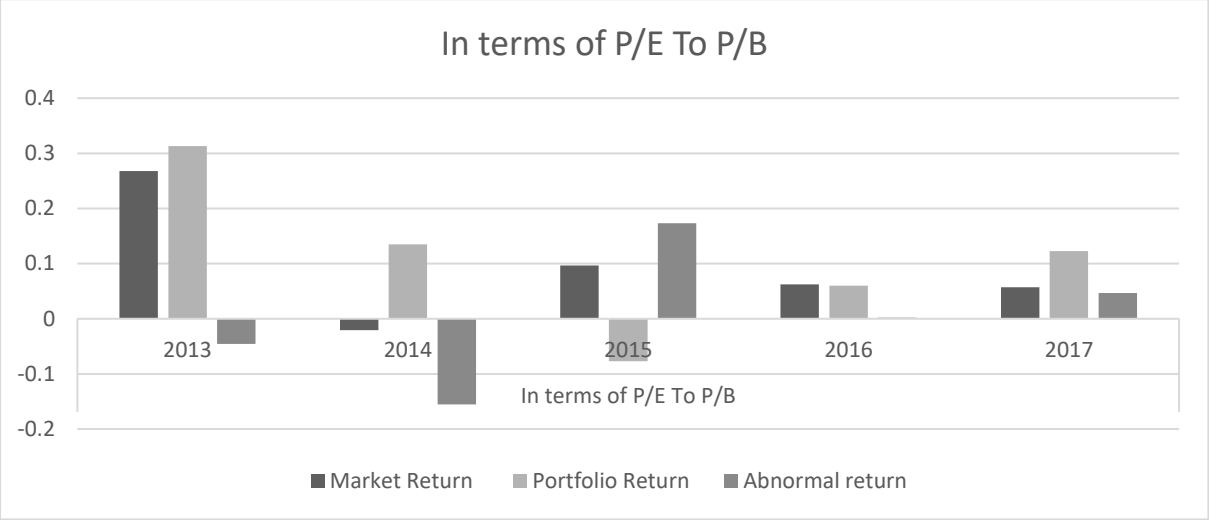

In 2013, portfolio returns are slightly higher than the market return. That's why scope of abnormal return is not that much, that is negative as portfolio beats the market. In the year 2014 the market return was not as much as the portfolio return. In 2015 the portfolio return was considerably lower than the market return. 2016 could give no irregular return as market return and portfolio return quite similar. However, in 2017 the arrival was certain, yet portfolio return is higher than market return.

Test of hypotheses

In this part, introducing the outcomes from the observational investigation. This section is separated into four areas where the initial three segments display and talk about the outcomes from the previously stated hypotheses. The section's last an area will display and talk about how the strength of the outcomes is tried and the consequences of the test.

After getting the arrival of every year return, utilizing the t-test measurement to test the speculation that measures the noteworthiness of each return contrasted with the return 60 manufacturing stock for this exploration, essentialness of the arrival of portfolio is tried by the one tailed t-test to get the confirmation to dismiss or not to dismiss the theory. In this exploration, the return of 12 portfolio compares with market return. A means is utilized to test the speculation. Subsequently every speculation is as per the following:

Having the certainty interim set to 95%, the T-test would need to compare to either positive 1.96 or above, or negative 1,96 or underneath to be viewed as critical. Level 1.96 is found in the table of ordinary circulation to relate to a certainty level of 95%. In this examination, the essential tests are worried about the arrival given distinctive proportions of risk. Standard Deviation and Beta as risk measures are utilized here, given that they are the most widely recognized proportions of risk for subsidize portfolios In this way, the speculation tests are fundamentally worried of the outcomes got in the multivariate analysis for the reliant factors Return (Risk: Standard Deviation) and Return (Risk: Beta).All tests were directed utilizing the measurable investigation programming Stata 12 as well as excel.

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Source	SS	df	MS	Number of obs =	12
				F(2, 9) =	0.19
Model	.052820147	2	.026410073	Prob > F =	0.8266
Residual	1.22217189	9	.135796877	R-squared =	0.0414
				Adj R-squared =	-0.1716
Total	1.27499204	11	.115908367	Root MSE =	.36851

return	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
pe	-.0009102	.0020331	-0.45	0.665	-.0055094	.003689
pb	.0062413	.0556489	0.11	0.913	-.1196451	.1321278
_cons	.1488273	.1724793	0.86	0.411	-.2413479	.5390026

This regression analysis is done between dependent variable which is return and independent variables which are P/E and P/B. Multivariate regression analysis is conducted Using *Stata 12.* In this test, Annualized return is used as dependent variable, with independent variables P/E and P/B.

Hypothesis 1:

Null ($H0$) ≠ there is no significant impact of multiple screening on portfolio performance.

Alternative **(**$H1$) = There is a significant impact of multiple screening on portfolio performance

In the table below the first hypothesis test results are shown for the year 2013 and rest of the year also give same result. The first hypothesis tests whether there is no significant impact of multiple screening on portfolio performance. The results are derived from the data shown in the appendix. As the t-values are high, all differences are significant at the 5 % level and the difference in P/B is also significant at the stronger 5 % level. If a t-test is significant the null hypothesis is rejected, hence there is a significant impact of multiple screening on portfolio performance. Therefore, it can be concluded that multiple screenings have a greater impact on portfolio performance s. These results imply that there might be 1) differences in screening techniques and/or 2) differences in portfolio management.

	Variable 1	*Variable 2*
Mean	0.094041	67.73653
Variance	0.073866	9842.735
Observations	12	12
Hypothesized Mean Difference	0	
Df	11	
t Stat	-2.36184	
P(T<=t) one-tail	0.018846	
t Critical one-tail	1.795885	
P(T<=t) two-tail	0.037691	
t Critical two-tail	2.200985	

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Hypothesis 2:

Null ($H0$) ≠ P/E screening does not have effect on portfolio performance.

Alternative **(**$H1$) = P/E screening does have an effect on portfolio performance

In the table beneath the third theory result is introduced. The hypothesis tests is P/E screening and return, in this manner holding the portfolio administration variable steady and testing for potential return. Be that as it may, since the t-values are not low, can't reject the null hypothesis along these lines not dismiss the null hypothesis. These outcomes show that there are no distinctions in valuation products between P/E and P/B.

	return	*P/E*
Mean	0.094041	67.73653
Variance	0.073866	9842.735
Observations	12	12
Hypothesized Mean Difference	0	
Df	11	
t Stat	-2.36184	
P(T<=t) one-tail	0.018846	
t Critical one-tail	1.795885	
P(T<=t) two-tail	0.037691	
t Critical two-tail	2.200985	

Hypothesis 3:

Null ($H0$) ≠ P/E screening does not differ from P/B screening

Alternative **(**$H1$) = P/E screening does differ from P/B screening

In the table beneath the third theory result is introduced. The speculation tests are the distinctions in different screenings, thereby holding the portfolio administration variable steady and testing for potential contrasts in chance. Be that as it may, since the t-values are low, none of the distinctions are huge and we can not dismiss the invalid speculation. These outcomes show that there are no distinctions in valuation products between P/E and P/B.

	P/B	*P/E*
Mean	8.808009	67.73653
Variance	124.2619	9842.735
Observations	12	12
Pooled Variance	4983.498	
Hypothesized Mean Difference	0	
Df	22	
t Stat	1.04472	
P(T<=t) one-tail	0.026515	

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t Critical one-tail	1.717144
P(T<=t) two-tail	0.053029
t Critical two-tail	2.073873

FINDINGS

Based on the analysis in the paper, several key observations were made regarding the performance of manufacturing firms through multiple screening techniques (P/E and P/B ratios). Below is a summary of the significant findings:

P/E Ratio Screening

- For most years (2013, 2014, 2015), the abnormal returns were negative, implying that the market return outperformed the portfolio return.
- Only in 2013, the market return was similar to the portfolio return, but in the subsequent years, the portfolio return underperformed in comparison to the market.

P/B Ratio Screening

- Similar to the P/E ratio screening, the abnormal returns were inconsistent.
- In some years (2014 and 2017), the portfolio returned positive abnormal returns even when market returns were negative.
- In 2016, however, the portfolio returned negatively, while the market returned positively, resulting in a negative abnormal return.

Screening with Combined P/E to P/B and P/B to P/E Ratios:

- The combination of P/E and P/B ratios provided mixed results.
- In 2013, both the market and portfolio returns were positive but not enough to show a significant abnormal return.
- 2014 demonstrated a better portfolio return than the market return, while 2016 showed better performance from the portfolio.

Multivariate Regression and Hypothesis Testing:

- Hypothesis 1 was supported, as the results showed a significant impact of multiple screening on portfolio performance.
- Hypothesis 2 indicated that P/E screening alone did not significantly affect the portfolio return.
- Hypothesis 3 showed that there was no significant difference between the effects of P/E screening and P/B screening on portfolio performance.

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CONCLUSION

This research investigated different stock screening aspects or mechanisms and their effects on the financial performance of the manufacturing companies of Bangladesh. Results confirmed that P/E and P/B are two of the most useful filters for stocks with potentially abnormal returns yet holding both filters at the same time was not always successful in identifying potential abnormal in different years. Such a series of multiple screening procedures provided an even more comprehensive and systematic process that could be used to enhance portfolio performance, even though none of the single screening procedures would always beat the market.

Moreover, the regression analysis and hypothesis testing confirmed that double screening has a positive effect on securities selection, but no strong evidence was found that either the P/E or P/B strategy contributed independently to portfolio returns.

This study suggests constructing relatively more dependable portfolios in emerging markets including Bangladesh by employing cross-sectional screening processes, while market inefficiency could cause stock mispricing. However, the research also says how well or poorly a company has done in the past doesn't necessarily predict future performance, so investors should tread carefully when selecting shares.

REFERENCES

Baker, M., & Wurgler, J. (2006). Investor sentiment and the cross-section of stock returns. *Journal of Finance, 61*(4), 1645–1680.

Basu, S. (1977). Investment performance of common stocks in relation to their price-earnings ratios: A test of the efficient market hypothesis. *Journal of Finance, 32*(3), 663–682.

Black, F. (2000). Stock and option valuation. *Journal of Financial Economics*, 58(3), 29-61.

Brahmana, R. and Hooy, C. (2011). The Equity Valuation Accuracy among Multiple Screening Models: A Study from an Emerging Stock Market. *International Business Management*, 5(2), pp.50-57.

Canbaz, B. and Marle, F. (2016). Construction of project portfolio considering efficiency, strategic effectiveness, balance and project interdependencies. *International Journal of Project Organisation and Management*, 8(2), p.10

Chen, M. H., Hsu, Y. C., & Lin, L. (2009). A hybrid approach for stock selection based on financial ratios and optimization models. *Expert Systems with Applications, 36*(3), 5945–5955.

Damodaran, A. (2002). *Investment valuation: Tools and techniques for determining the value of any asset*. Wiley.

Dechow, P., Ge, W., & Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants, and their consequences. *Journal of Accounting and Economics, 50*(2-3), 344-401.

Downing, C., Madhavan, A., Ulitsky, A. and Singh, A. (2015). Portfolio Construction and Tail Risk. The Journal of Portfolio Management.

Downing, C., Madhavan, A., Ulitsky, A. and Singh, A. (2015). Portfolio Construction and Tail Risk. *The Journal of Portfolio Management.*

Dreman, D. (2013). *Contrarian investment strategies: The next generation*. Free Press.

Article DOI: 10.52589/AJAFR-UUIYI1BE
DOI URL: https://doi.org/10.52589/AJAFR-UUIYI1BE

Elton, E. and Gruber, M. (2002). Optimal Centralized Portfolio Construction With Decentralized Portfolio Management. *SSRN Electronic Journal*.
Fama, E. F. (1991). Efficient capital markets: II. *Journal of Finance, 46*(5), 1575–1617.
Fama, E. F., & French, K. R. (2004). The capital asset pricing model: Theory and evidence. *Journal of Economic Perspectives, 18*(3), 25–46.
Goetzmann, W. N. (2002). *The origins of value: The financial innovations that created modern capital markets*. Oxford University Press.
Graham, B. (2005). *The intelligent investor: The definitive book on value investing*. HarperBusiness.
Graham, B., & Dodd, D. (2009). *Security analysis: Sixth edition*. McGraw-Hill Education.
Greenwald, B., Kahn, J., & Sonkin, P. (2001). *Value investing: From Graham to Buffett and beyond*. Wiley.
Guy, A. (2014). Upside and Downside Beta Portfolio Construction: A Different Approach to Risk Measurement and Portfolio Construction. SSRN Electronic Journal.
Islam, M. R., & Alam, K. (2020). Financial performance of the manufacturing sector in Bangladesh: A case study of selected companies. *Asian Economic Policy Review, 15*(2), 213-235.
Kumar, S., & Ranjan, R. (2020). Financial performance of companies listed in the Bombay Stock Exchange: A study using financial ratios. *Indian Journal of Finance, 14*(4), 42–53.
Lakonishok, J., Shleifer, A., & Vishny, R. W. (1994). Contrarian investment, extrapolation, and risk. *Journal of Finance, 49*(5), 1541-1578.
Lement, J. (2006). Portfolio Construction and Uncertainty. *SSRN Electronic Journal*.
Lhabitant, F. (2017). Hedge funds: Quantitative insights. *John Wiley & Sons*.
Lynch, P., & Maughan, L. (2000). *One up on Wall Street*. Simon & Schuster.
Miller, M. H. (2017). The information content of the price-earnings ratio: A reappraisal. *Journal of Financial Economics*, 8(3), 309–333.
Miller, M. H., & Modigliani, F. (1961). Dividend policy, growth, and the valuation of shares. *Journal of Business, 34*(4), 411-433.
Mokhtari, M. (2015). Stock screening based on value and growth factors: Evidence from the Tehran Stock Exchange. *Journal of Investment Analysis and Portfolio Management*, 23(2), 47-55.
Penman, S. H. (2013). *Financial statement analysis and security valuation*. McGraw-Hill.
Poterba, J. M., & Summers, L. H. (1995). The persistence of volatility and stock market fluctuations. *Journal of Business*, 68(1), 25-38.
Rahman, M. A., & Ahmed, M. A. (2019). Stock market efficiency in Bangladesh: A review of recent trends. *Bangladesh Journal of Financial Economics, 10*(2), 121–138.
Rahman, M. M. (2018). The role of the Dhaka Stock Exchange in the economic development of Bangladesh. *Bangladesh Journal of Business Administration, 16*(1), 54–68.
Roche, C. (2016). Understanding Modern Portfolio Construction. SSRN Electronic Journal.
SEVASTJANOV, P. and DYMOVA, L. (2009). Stock screening with use of multiple criteria decision making and optimization. Omega, 37(3), pp.659-671.
Shiller, R. J. (2000). *Irrational exuberance*. Princeton University Press.
Tam, K., Kiang, M. and Chi, R. (1991). Inducing Stock Screening Rules for Portfolio Construction. The Journal of the Operational Research Society, 42(9), p.747.
Valuation Advisors (2005). *The method of comparables*. Financial Valuation Journal, 2(3), 110-120.
Wang, H. (2016). Portfolio optimization and risk management in emerging markets: A case study of Bangladesh. *Financial Research Letters, 19*, 195-202.

Article DOI: 10.52589/AJAFR-UUIYI1BE
DOI URL: https://doi.org/10.52589/AJAFR-UUIYI1BE

Welc, J. (2010). The Effectiveness of Fundamentally-Adjusted Price-to-Sales Multiple in Stock Valuation: The Case of Warsaw Stock Exchange. SSRN Electronic Journal.

Xia, H., Min, X. and Deng, S. (2015). Effectiveness of earnings forecasts in efficient global portfolio construction. International Journal of Forecasting, 31(2), pp.568-574.

Zopounidis, C., & Doumpos, M. (2002). Multicriteria decision aid in financial decision making. *Springer*.

Article DOI: 10.52589/AJAFR-UUIYI1BE
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