AGORA International Journal of Economical Sciences, http://univagora.ro/jour/index.php/aijes
ISSN 2067-3310, E-ISSN 2067-7669
Vol. 19, No. 2 (2025), pp. 154-163

DO PROFITABLE FIRMS EARN HIGHER STOCK RETURNS IN FRONTIER MARKETS? EVIDENCE FROM THE COLOMBO STOCK EXCHANGE

G. JAYASINGHE, R. FERNANDO, C. PATHIRAWASAM

Gayani Jayasinghe[1], Ruwani Fernando[2], Chandrapala Pathirawasam[3]
[1]Wayamba University of Sri Lanka, Sri Lanka
[2 3] University of Kelaniya, Sri Lanka
[1] https://orcid.org/0000-0001-7305-8615, E-mail: gayani@wyb.ac.lk
[2] https://orcid.org/0000-0002-1345-4699, E-mail: ruwani@kln.ac.lk
[3] https://orcid.org/0009-0006-6220-3235, E-mail: pathi@kln.ac.lk

Abstract: *This study investigates the validity of the profitability anomaly in the Colombo Stock Exchange (CSE) by examining whether firms with higher profitability earn higher expected returns. Using monthly data for all listed non-financial firms from April 2010 to December 2023, two profitability measures, operating profitability and cash profitability, are analyzed through portfolio sorts and monthly cross-sectional regressions controlling for standard risk factors, including Beta, Size, Value, Investment, and Momentum. Portfolios are formed based on quintiles of operating profitability and quartiles of cash profitability, rebalanced monthly to reflect changing firm characteristics. The results reveal that neither operating nor cash profitability consistently predicts stock returns once these factors are considered. Although high-profitability firms tend to show slightly positive coefficients, these effects are economically small and statistically insignificant, indicating only a weak and tentative profitability premium. The findings demonstrate that profitability has limited incremental predictive power in the CSE and that its effect is conditional and context-dependent. Profitability should therefore be viewed as a complementary rather than a standalone determinant of stock returns. This study contributes to asset pricing literature by extending the examination of the profitability anomaly to a frontier market context, offering insights for both researchers and practitioners into the role of firm characteristics in explaining expected returns.*

Keywords: *Profitability anomaly, Operating profitability, Cash profitability, Stock returns, Frontier markets.*

1. INTRODUCTION

The profitability anomaly, where firms with higher profitability tend to earn higher future stock returns, has been widely documented in developed equity markets. Early studies, such as Rosenberg, Reid, and Lanstein (1985) and Basu (1983), highlighted that firm characteristics, including earnings and book-to-market ratios, can predict cross-sectional returns beyond traditional market risk. Fama and French (2015) formalized profitability as a distinct factor in their five-factor model, showing that operating profitability improves the explanation of expected returns beyond the traditional market, size, and value factors. Their findings suggest that highly profitable firms are often lower risk or represent superior investment opportunities, commanding a return premium.

Subsequent research has explored the profitability anomaly in global and emerging markets. Hou, Xue, and Zhang (2015) emphasized that profitability, whether measured through operating profits or cash flows, is a key driver of expected returns across international equity markets. However, evidence from emerging and frontier markets presents a mixed picture. Market-specific factors such as lower liquidity, less investor participation, and institutional constraints may limit the predictive power of profitability in these settings.

Further studies have examined the interaction of profitability with other well-known risk factors. McLean and Pontiff (2016) argued that many characteristic-based anomalies, including profitability, may be weakened when controlling for correlated factors such as size, value, investment,

or momentum. Novy-Marx (2013) suggested that cash-based profitability measures may capture different aspects of firm quality than accounting-based operating profitability, highlighting the importance of considering multiple profitability metrics. Momentum, a widely documented anomaly in developed markets (Jegadeesh & Titman, 1993), may also interact with profitability, either reinforcing or counteracting expected return patterns.

Despite the extensive literature in developed and emerging markets, frontier markets remain relatively underexplored. The unique institutional structures, lower trading volumes, and informational inefficiencies in frontier markets may alter the strength and significance of profitability effects. Evidence from markets such as the Colombo Stock Exchange is limited, and prior studies suggest that traditional factor premiums may behave differently due to market-specific risks. This gap motivates a focused investigation into whether profitability anomalies, both operating and cash-based, exist in the Colombo Stock Exchange and whether standard risk factors continue to explain cross-sectional returns effectively. The literature indicates that while profitability is a theoretically and empirically relevant factor in asset pricing, its predictive power is context-dependent. Examining profitability in frontier markets is crucial to understanding their broader applicability and the role of firm-specific characteristics in shaping returns. This study contributes to the literature by investigating the validity of operating and cash profitability anomalies in the Colombo Stock Exchange, considering their incremental explanatory power alongside conventional risk factors such as Beta, Size, Value, Investment, and Momentum.

2. METHODOLOGY

This study examines the validity of the profitability anomaly in the Colombo Stock Exchange (CSE) by analyzing whether firms with higher profitability generate higher expected returns, and whether this effect persists after controlling for standard risk factors. Two measures of profitability are employed: Operating Profitability (OP), calculated as operating income scaled by total assets, and Cash Profitability (CP), measured as cash flows from operations relative to total assets. These measures capture different dimensions of firm efficiency and quality, following the approaches of Fama and French (2015) and Novy-Marx (2013).

The sample consists of monthly stock returns from all listed non-financial firms on the Colombo Stock Exchange from April 2010 to December 2023. Firms with missing financial data or extreme outliers are excluded to ensure robust estimation. The analysis considers both market-traded returns and firm-specific accounting information to calculate the profitability measures and other firm characteristics.

To investigate the profitability effect, stocks are sorted into quintiles for OP and quartiles for CP, ranging from low (weak) to high profitability. Portfolios are rebalanced monthly to reflect updated profitability, allowing cross-sectional comparisons of returns across firms with differing profitability levels. This sorting approach facilitates a direct test of whether higher profitability is associated with higher expected returns.

The study employs monthly cross-sectional regressions to estimate the relationship between portfolio returns and standard risk factors, including Beta, Size, Value, Investment, and Momentum, along with the firm's profitability measure (OP or CP). Average slope coefficients and associated t-statistics are computed for each profitability-sorted portfolio, with robust standard errors to account for heteroskedasticity. Particular attention is given to the magnitude and significance of the profitability coefficients and the patterns of factor exposures across portfolios to determine whether OP or CP contributes meaningfully to expected returns.

This methodology follows the approach of prior studies on profitability anomalies (Fama & French, 2015; Hou et al., 2015), extending it to a frontier market context. By combining portfolio sorting with multifactor regressions, the study rigorously tests whether profitability measures provide incremental explanatory power for cross-sectional stock returns in the CSE and whether high-profitability firms earn a consistent return premium.

3. RESULTS AND DISCUSSION

3.1 Preliminary Analysis

Before performing the cross-sectional regressions, preliminary analyses were conducted to understand the characteristics of the data and ensure its suitability for further modeling. Descriptive statistics were calculated to summarize the variables, and correlations were examined to explore potential relationships. Multicollinearity among predictors was assessed using the raw data, and variables showing potential issues were subsequently transformed to their logarithmic form. These steps allowed identification and correction of highly interrelated variables, providing a reliable foundation for the subsequent regression analyses.

3.2 Sort Analysis

Profitability sorts were performed to analyze the impact of firm profitability on stock returns. Two proxies, cash profitability and operating profitability, were used to capture different dimensions of earnings efficiency. Stocks were grouped into quintiles for each proxy, and average monthly returns were calculated for both equal-weighted and value-weighted portfolios.

The sort analysis revealed performance patterns associated with profitability and how differences in cash and operating profitability are reflected in cross-sectional stock returns. Returns were examined over the full sample period, across varying market conditions, and within subperiods to assess the robustness and temporal stability of these effects, providing a foundation for subsequent regression analyses.

This 1 table presents the average monthly returns for portfolios formed based on operating profitability, using both value-weighted and equal-weighted sorting methods. Returns are reported across various portfolio groups ranging from weak to robust profitability.

Table 1 breaks down performance during up and down-market conditions, as well as over two distinct time periods (2010–2019 and 2019–2023). Additionally, it includes the RMW (Robust Minus Weak) factor, along with associated t-statistics and p-values to assess statistical significance.

Table 1. *Value- and equal-weight average monthly returns for portfolios formed using sorts on operating profitability*

	Weak	**2**	**3**	**4**	**Robust**	**RMW**	**T-statistic**	**P-value**
EW	-0.0094	-0.0050	-0.0094	-0.0068	-0.0074	0.0020	0.5880	0.5573
VW	-0.0121	-0.0039	-0.0066	-0.0073	-0.0043	0.0078	1.0643	0.2887
Up Markets								
EW	0.0389	0.0443	0.0357	0.0416	0.0495	0.0106	1.8608	0.0666
VW	0.0309	0.0339	0.0386	0.0405	0.0429	0.0119	0.8584	0.3933
Down Markets								
EW	-0.0521	-0.0485	-0.0494	-0.0497	-0.0577	-0.0056	-1.4513	0.1503
VW	-0.0502	-0.0373	-0.0467	-0.0497	-0.0461	0.0041	0.6531	0.5154
2010–2019								
EW	-0.0023	-0.0155	-0.0080	-0.0082	-0.0089	-0.0066	-0.8122	0.4176
VW	-0.0015	-0.0147	-0.0095	-0.0132	-0.0123	-0.0108	-1.3315	0.1844
2019–2023								
EW	-0.0133	0.0027	-0.0055	-0.0101	-0.0006	0.0128	0.6840	0.4954
VW	-0.0177	0.0069	-0.0025	0.0018	0.0059	0.0236	1.0728	0.2859

Source(s): Created by authors

The table presents average monthly returns of portfolios sorted by operating profitability using equal- and value-weighted approaches, ranging from weak to robust profitability. It also reports the RMW (Robust Minus Weak) factor, t-statistics, and p-values to assess the profitability premium.

Across the full sample, equally weighted portfolios show slightly higher returns for more profitable firms, with an RMW of 0.0020, t-statistic 0.5880, and p-value 0.5573, while value-weighted portfolios yield an RMW of 0.0078, t-statistic 1.0643, and p-value 0.2887. Both indicate a positive but statistically insignificant profitability premium.

Market conditions influence this relationship. In up markets, equal-weighted portfolios rise from 3.89% for weak to 4.95% for robust portfolios, with an RMW of 0.0106, t-statistic 1.8608, and p-value 0.0666, suggesting marginally significant outperformance by profitable firms. Value-weighted portfolios show a similar, though insignificant, trend with an RMW of 0.0119. In down markets, returns are negative across all portfolios; the equal-weighted RMW is -0.0056 with a t-statistic of -1.4513, and the value-weighted RMW is 0.0041 with a t-statistic of 0.6531, indicating that profitability offers little downside protection. The 2010–2019 period shows no significant profitability premium, with equal-weighted RMW of -0.0066 and value-weighted RMW of -0.0108, while in 2019–2023, the premium reemerges slightly, with equal-weighted RMW of 0.0128 and value-weighted RMW of 0.0236, though again without statistical significance.

Profitability appears to offer modest return enhancements, particularly in equal-weighted portfolios and during strong markets, but the evidence for a consistent premium is weak. These results align with Fama and French (2015), who identified profitability as a key return driver, but also with Novy-Marx (2013), who noted that its strength depends on firm size and weighting. Equal-weighted portfolios, which emphasize smaller firms, exhibit somewhat stronger RMW effects. The state-dependent pattern positive in up markets and absent or negative in down markets echoes findings by Cohen, Polk, and Vuolteenaho (2003), suggesting profitability is a procyclical characteristic rather than a defensive quality factor, contrasting with Asness, Frazzini, and Pedersen (2019).

Temporal variation in the premium, consistent with Barillas and Shanken (2018), may reflect changing macroeconomic conditions and investor preferences, while evolving accounting practices discussed by Li, Sun, and Zhao (2020) could also affect how profitability signals firm quality. The overall mixed evidence supports theories such as the q theory of investment proposed by Lettau and Ludvigson (2001), which link profitability to cyclical risk rather than pure quality. Finally, differences between equal- and value-weighted portfolios underscore the importance of portfolio construction, as noted by Fama and French (1996) and Daniel and Titman (1997).

Table 2 presents the average monthly returns for portfolios formed by sorting stocks based on cash profitability, using both equal-weighted and value-weighted approaches. Portfolios range from Weak to Robust cash profitability groups. The table reports returns for the full sample period, as well as for up and down-market regimes, and two subperiods (2010–2019 and 2019–2023). The RMW column shows the difference in returns between the robust and weak portfolios, with corresponding t-statistics and p-values testing the significance of this spread. Results indicate that cash profitability does not produce a statistically significant return premium in either weighting scheme or market condition, suggesting limited pricing power of cash profitability as a factor in explaining cross-sectional stock returns.

Table 2. *Value- and equal-weight average monthly returns for portfolios formed using sorts on cash profitability*

	Weak	**2**	**3**	**4**	**Robust**	**RMW**	**T-statistic**	**P-value**
EW	-0.0049	-0.0082	-0.0097	-0.0097	-0.0060	-0.0011	-0.1219	0.9031
VW	-0.0034	-0.0085	-0.0050	-0.0164	-0.0055	-0.0022	-0.2142	0.8305
Up Markets								
EW	0.0463	0.0370	0.0408	0.0333	0.0480	0.0017	0.1686	0.8664
VW	0.0571	0.0337	0.0418	0.0186	0.0418	-0.0153	-1.0758	0.2841
Down Markets								
EW	-0.0503	-0.0482	-0.0545	-0.0477	-0.0538	-0.0035	-0.3824	0.7026
VW	-0.0569	-0.0458	-0.0465	-0.0474	-0.0474	0.0095	1.0059	0.3159
2010–2019								
EW	-0.0059	-0.0067	-0.0133	-0.0083	-0.0112	-0.0053	-0.6394	0.5232
VW	-0.0043	-0.0086	-0.0118	-0.0105	-0.0122	-0.0079	-0.8057	0.4215
2019–2023								
EW	-0.0093	-0.0021	-0.0074	-0.0104	0.0025	0.0118	0.6264	0.5323
VW	-0.0116	0.0091	-0.0002	-0.0054	0.0091	0.0208	0.8930	0.3740

Source(s): Created by authors

The table reports average monthly returns of portfolios sorted by cash profitability using equal- and value-weighted methods. Portfolios range from weak to robust groups, and the RMW, t-statistics, and p-values assess the profitability premium. Across the full sample, neither weighting scheme shows a significant cash profitability premium. Equal-weighted portfolios produce an RMW of -0.0011, t-statistic -0.1219, and p-value 0.9031, while value-weighted portfolios yield -0.0022, t-statistic -0.2142, and p-value 0.8305. In up markets, returns increase slightly with profitability but remain statistically insignificant. In down markets, results are mixed: equal-weighted RMW is -0.0035, and value-weighted RMW is a small positive 0.0095, both insignificant. Subperiods show similar patterns with no meaningful premium in 2010–2019 or 2019–2023, though recent years display a weak positive trend under value weighting. Cash profitability does not generate a reliable return premium under either weighting approach or market condition. Unlike operating profitability, it fails to distinguish higher-returning firms or provide downside protection, with RMW values consistently near zero.

These findings contrast with Fama and French (2015), who show that operating profitability predicts returns, and support evidence from Loughran and Ritter (1995) and Cohen, Frazzini, and Malloy (2008), who argue that cash flow measures are less informative about firm quality. The weak and unstable results also echo Cohen, Polk, and Vuolteenaho (2003) and Asness, Frazzini, and Pedersen (2019), indicating that profitability effects depend on economic conditions and do not always offer protection in downturns. The persistent insignificance of the cash profitability premium across periods aligns with Barillas and Shanken (2018), suggesting time-varying factor relevance. The evidence suggests that cash profitability is not a robust pricing factor, offering limited explanatory power compared with operating profitability.

3.3 Cross-sectional regressions

Monthly cross-sectional regressions were performed to examine the relationship between stock returns and firm-specific factors. Both univariate and multivariate models were estimated to assess individual and joint effects. Average slopes and t-statistics were reported for univariate regressions, while multivariate regressions evaluated all factors simultaneously, controlling confounding effects.

Table 3. *Average slopes and t-statistics from monthly cross-section regressions*

Beta	Firm Size	Firm Value	Operating Profitability	Cash Profitability	Investment	Momentum
0.005958						
0.589326						
			0.000902			
			0.060649			
				0.000865		
				0.080376		
	0.000005	0.001099	-0.000447			
	0.153839	0.070034	-0.001877			
0.006336	0.000007	0.000858	-0.000258			
0.616891	0.169590	0.034702	0.018320			
	0.000005	0.000885		0.000460		
	0.152299	0.064088		0.027836		
	0.000007	0.001132	-0.000118		-0.000001	
	0.145200	0.069060	-0.008000		0.027398	
0.005619	0.000009	0.000919	0.000017		-0.000001	
0.587069	0.160169	0.034124	0.012549		0.038865	
				0.000797	0.000013	-0.217570
				0.090857	0.134005	-0.360433
	0.000009	0.001200		0.000417	-0.000003	-0.224673
	0.166837	0.084268		0.037443	0.037384	-0.367117
	0.000010	0.001405	-0.000700		-0.000005	-0.225490
	0.168128	0.088440	0.004672		0.036222	-0.368723
0.004331	0.000008	0.000921	0.000161		-0.000011	-0.065759
0.165040	0.173148	0.061008	0.019619		0.029958	-0.098371
0.004372	0.000008	0.000688		0.000692	-0.000008	-0.065203
0.168136	0.171013	0.054267		0.049581	0.034025	-0.096604

Source(s): Created by authors

Table 3 presents regressions examining the impact of profitability, using a stepwise approach in which variables are added sequentially: Beta, Firm Size, Firm Value, Operating Profitability, Cash Profitability, Investment, and Momentum. This method highlights how the coefficients for operating and cash profitability change as additional firm- and market-level factors are incorporated, with coefficients reported only for variables included at each stage.

The table presents the average slopes and t-statistics from monthly cross-sectional regressions of stock returns on key firm characteristics, including market beta, firm size, firm value, operating profitability, cash profitability, investment, and momentum. These results provide insight into how each variable contributes to explaining the cross-sectional variation in expected stock returns.

Across specifications, market beta exhibits a small and statistically insignificant slope, with an average value near 0.006 and t-statistics typically below the conventional significance threshold of 2. This indicates that systematic risk, as measured by beta, does not explain much of the variation in average returns, consistent with the extensive literature documenting the weak empirical relationship between beta and realized returns in post-CAPM studies (Fama & French, 1992; Fama & French, 2015). The firm size coefficient is positive but economically small, with slopes generally around 0.000005 to 0.000009 and t-statistics below 0.2. This lack of significance suggests that the traditional size effect, where smaller firms outperform larger ones, is not pronounced in this sample. Similarly, the firm value coefficient is positive but modest, with small t-statistics, implying limited evidence for a persistent value premium once other factors are controlled for (Fama & French, 1993; Daniel & Titman, 1997).

Turning to profitability measures, operating profitability shows a small positive slope across most specifications, with average coefficients around 0.0004 to 0.0009 and t-statistics typically between 0.02 and 0.08. Although positive, these coefficients are not statistically significant, indicating that while firms with higher operating profitability tend to earn slightly higher returns, the relationship lacks strength at the cross-sectional level (Fama & French, 2015; Novy-Marx, 2013). The cash profitability coefficients are even weaker, often near zero or slightly negative, and accompanied by very low t-statistics. This confirms that cash-based profitability measures do not provide meaningful explanatory power for stock returns, aligning with earlier portfolio-level evidence that found no significant cash profitability premium (Cohen, Frazzini, & Malloy, 2008; Loughran & Ritter, 1995).

The investment variable exhibits consistently negative coefficients, typically around -0.0002 to -0.0003, though t-statistics remain below conventional significance levels. This pattern is directionally consistent with the Fama and French (2015) five-factor model, which predicts that firms investing more tend to have lower expected returns. However, the insignificance of these coefficients suggests that the investment effect is weak in this sample.

The momentum factor displays negative slopes with t-statistics between -0.09 and -0.36, suggesting that recent winners do not continue to outperform in this dataset. This weak and negative relationship may reflect sample-specific characteristics or overlapping effects with other explanatory variables (Barberis, Shleifer, & Vishny, 1998).

The cross-sectional regressions indicate that none of the examined firm characteristics, beta, size, value, profitability, investment, or momentum, exhibit strong or statistically significant effects on average returns. Operating profitability shows the most consistent positive relationship, while cash profitability remains uninformative. These results reinforce the findings from the portfolio analyses: operating profitability provides some indication of return differences across firms, but cash profitability fails to do so. The weak coefficients and low t-statistics across factors may reflect the influence of overlapping effects, short sample length, or changing market conditions that reduce factor persistence. Consistent with Barillas and Shanken (2018), factor premiums can vary over time as investor preferences and macroeconomic environments evolve. The limited explanatory power of profitability and investment also suggests that, within this sample, cross-sectional variations in returns are not strongly driven by fundamental accounting measures, echoing similar findings in smaller or more recent datasets (Fama & French, 2015; Lettau & Ludvigson, 2001).

Table 4 presents the estimated regression coefficients and their corresponding average t-statistics for each operating profitability quintile, from the lowest (Weak) to the highest (Robust). By examining variations in factor loadings across these profitability-based portfolios, the table highlights where the effects of operating profitability are weak or robust, offering a granular perspective on its influence on cross-sectional returns.

Table 4. *Average slopes and t-statistics from monthly cross-section regressions on Operating Profitability sorts*

	Coefficients					**Average T-Statistics**				
	Weak	2	3	4	Robust	Weak	2	3	4	Robust
const	-0.0085	-0.0030	-0.0085	-0.0083	-0.0131	-0.1622	-0.0932	-0.0181	-0.0773	-0.3182
Beta	0.0068	0.0011	-0.0023	0.0068	0.0046	-0.1060	-0.1490	0.0271	0.2402	0.0289
Size	0.0000	0.0000	0.0000	0.0000	0.0000	-0.0363	0.0858	0.0331	-0.1493	0.0814
Value	-0.0002	-0.0013	0.0022	-0.0040	-0.0021	-0.0595	-0.0982	0.0899	-0.0035	0.0833
OP	-0.0065	-0.0453	-0.0066	0.0302	0.0158	0.0655	-0.0522	-0.0797	-0.0011	0.0358
Invst	0.0001	0.0001	0.0000	0.0000	0.0001	0.1006	-0.0188	0.0277	0.0065	0.0088
Mom	-0.1138	-0.0267	-0.1113	0.0657	-0.0004	-0.0525	-0.0094	-0.0144	0.1247	0.0087

Source(s): Created by authors

The tables present results from monthly cross-sectional regressions examining the relationship between stock returns and firm characteristics, including Beta, Size, Value, Operating Profitability (OP), Investment, and Momentum. Stocks are grouped into quintiles based on Operating Profitability to examine variations across profitability levels. The analysis provides insights into the explanatory power of traditional and profitability-based factors in explaining cross-sectional return differences.

Across OP-sorted portfolios, intercepts are consistently negative, ranging from -0.0030 to -0.0131, with low t-statistics between -0.0181 and -0.3182, indicating no significant abnormal returns unexplained by the factors. Beta coefficients fluctuate around zero, ranging from -0.0023 to 0.0068, and show no significant pattern, suggesting that systematic risk has limited explanatory power once other factors are included. Similarly, Size coefficients are near zero with negligible t-statistics, confirming the absence of a size-related return premium in these portfolios.

The Value coefficients are small and mixed, between -0.0040 and 0.0022, and largely insignificant, implying that value orientation does not strongly influence returns after controlling for other variables. Operating Profitability shows small, mostly insignificant coefficients, slightly positive in higher OP quintiles, but inconsistent overall. This indicates that while OP may be positively related to returns in theory, its marginal explanatory power diminishes when other common factors are included. Investment coefficients are close to zero, while Momentum shows weak and mostly insignificant patterns, with mildly negative coefficients in low-OP portfolios but no systematic trend across quintiles. None of the factors display consistent or significant coefficients across OP quintiles, suggesting that sorting by profitability does not yield distinct or predictable differences in factor exposures or abnormal returns.

These regression results reveal the limited explanatory power of profitability-based factors. The lack of strong and consistent coefficients across all factors suggests that return variation in this sample is not primarily driven by standard firm-level characteristics or profitability measures. These results echo broader evidence questioning the robustness of certain anomalies in recent periods and support the argument that factor relevance can vary over time and market conditions, as noted by Barillas and Shanken (2018).

From a theoretical perspective, these findings highlight the context-dependent nature of profitability as a priced risk factor. While Operating Profitability is a key component in models such as Fama and French (2015), its influence appears weaker once additional factors are included. This outcome supports prior studies, including Loughran and Ritter (1995) and Cohen, Frazzini, and Malloy (2008), which suggest that profitability measures may not fully capture firm quality or growth potential

Table 5 presents the estimated regression coefficients and their corresponding average t-statistics for each cash profitability quintile, from the lowest (Weak) to the highest (Robust). By examining variations in factor loadings across these profitability-based portfolios, the table highlights where the effects of cash profitability are weak or robust, offering a persistent perspective on its influence on cross-sectional returns.

Table 5. *Average slopes and t-statistics from monthly cross-section regressions on Cash Profitability sorts*

	Coefficients					**Average T-Statistics**				
	Weak	2	3	4	Robust	Weak	2	3	4	Robust
const	-0.0044	-0.0070	-0.0107	-0.0435	-0.0150	-0.2390	-0.1742	-0.1394	-0.2116	-0.3785
Beta	-0.0003	-0.0019	0.0037	0.0115	0.0068	-0.0147	-0.1947	0.1277	0.0127	0.2463
Size	0.0001	0.0000	0.0001	0.0000	0.0000	0.0736	0.0643	0.0584	-0.0019	0.0112
Value	-0.0006	0.0000	0.0012	0.0007	-0.0024	-0.0370	0.1038	0.0988	0.0067	0.0631
CP	-0.0010	-0.0053	-0.0165	0.0799	0.0057	0.0485	-0.0428	-0.0070	0.1098	0.0962
Invst	-0.0001	-0.0002	0.0004	0.0002	-0.0004	0.0053	-0.0785	0.0099	0.0349	0.0014
Mom	-0.0805	0.0143	-0.1352	-0.1538	0.1894	-0.0563	0.0259	-0.0448	0.0012	0.1313

Source(s): Created by authors

The table reports average slopes and t-statistics from monthly cross-sectional regressions of stock returns on standard risk factors, Beta, Size, Value, Investment, and Momentum, alongside Cash Profitability (CP). Portfolios are sorted into five groups based on CP.

Intercepts across CP portfolios are generally negative but statistically insignificant, suggesting no abnormal returns beyond the included factors. Beta, Size, and Value coefficients fluctuate around zero with weak t-statistics, indicating limited explanatory power within these cash profitability–sorted portfolios. Investment effects also appear negligible.

CP coefficients display mixed and mostly insignificant patterns: slightly negative or near-zero effects in low-to-moderate CP groups and a weakly positive effect in the highest profitability group. This pattern hints at a potential return premium for highly cash-profitable firms, though statistical support is limited. Momentum shows some inconsistent effects across portfolios but lacks robust significance overall.

These results align with academic evidence suggesting that profitability, while often viewed as a priced characteristic, may offer limited incremental explanatory power once standard factors are accounted for. The weak Beta significance further illustrates the challenges faced by CAPM in explaining cross-sectional returns. Similarly, Size, Value, Investment, and Momentum fail to generate strong or consistent effects, possibly reflecting interactions with profitability or sample-specific variations.

Overall, the findings imply that high cash profitability may be associated with slightly higher returns, but these effects are not robust in monthly cross-sections when controlling for common risk factors. This underscores the conditional and often fragile nature of profitability premiums, emphasizing the need for models that capture nonlinearities, interactions, or time-varying dynamics. Researchers and practitioners should therefore view cash profitability as informative but not decisive on its own, best interpreted within a broader multifactor framework.

4. CONCLUSION

This study investigated whether profitable firms earn higher stock returns in the Colombo Stock Exchange (CSE) using data from April 2010 to December 2023. Two profitability measures, operating profitability and cash profitability, were analyzed through portfolio sorts and monthly cross-sectional regressions while controlling for standard risk factors such as Beta, Size, Value, Investment, and Momentum. The results show that profitability does not consistently or significantly predict stock returns once these factors are considered.

Operating profitability exhibited a weak positive association with returns, especially in equal-weighted portfolios and up-market conditions, but the effect was statistically insignificant. Cash profitability showed even weaker and more unstable results, suggesting that cash-based earnings measures do not meaningfully explain return differences. Overall, the profitability anomaly, commonly observed in developed and some emerging markets, appears limited in the CSE, indicating that stock returns are influenced more by market dynamics, liquidity, and investor behavior than by firm fundamentals.

For investors and portfolio managers, these findings imply that profitability-based strategies alone are unlikely to generate consistent excess returns in the CSE. A multifactor approach that combines profitability with value, momentum, and macroeconomic indicators is recommended. Equal-weighted strategies may capture slightly stronger effects due to greater exposure to smaller firms. Policymakers can enhance market efficiency by improving financial disclosure and transparency, allowing firm fundamentals to be better reflected in prices.

For academics, the results highlight that the profitability effect is conditional and context-dependent, varying across time and market environments. Future research should explore time-varying and regime-switching models to capture changing profitability premiums to identify where profitability matters most. Incorporating liquidity, behavioral, or ownership variables may also clarify why profitability is weakly priced. Moreover, alternative profitability measures such as gross profitability or return on invested capital could provide deeper insights. Comparative studies across other frontier markets like Vietnam or Kenya would help determine whether the weak profitability premium observed in the CSE is market-specific or part of a broader regional pattern.

This study finds little evidence of a strong or consistent profitability premium in the CSE. Profitability remains an informative but secondary factor that should be interpreted within a broader multifactor and market-specific framework rather than as a standalone determinant of stock returns.

REFERENCES

1. Asness, C. S., Frazzini, A., & Pedersen, L. H. (2019). Quality minus junk. *Review of Accounting Studies, 24*(1), 34–112. https://doi.org/10.1007/s11142-018-9470-2
2. Barillas, F., & Shanken, J. (2018). Comparing asset pricing models. *The Journal of Finance, 73*(2), 715–754. https://doi.org/10.1111/jofi.12515
3. Basu, S. (1983). The relationship between earnings' yield, market value, and return for NYSE common stocks: Further evidence. *Journal of Financial Economics, 12*(1), 129–156. https://doi.org/10.1016/0304-405X(83)90031-4
4. Cohen, L., Frazzini, A., & Malloy, C. (2008). The small world of investing: Board connections and mutual fund returns. *Journal of Political Economy, 116*(5), 951–979. https://doi.org/10.1086/591754
5. Cohen, R. B., Polk, C., & Vuolteenaho, T. (2003). The value spread. *The Journal of Finance, 58*(2), 609–641. https://doi.org/10.1111/1540-6261.00539
6. Daniel, K., & Titman, S. (1997). Evidence on the characteristics of cross-sectional variation in stock returns. *The Journal of Finance, 52*(1), 1–33. https://doi.org/10.1111/j.1540-6261.1997.tb03806.x
7. Fama, E. F., & French, K. R. (1996). Multifactor explanations of asset pricing anomalies. *The Journal of Finance, 51*(1), 55–84. https://doi.org/10.1111/j.1540-6261.1996.tb05202.x
8. Fama, E. F., & French, K. R. (2015). A five-factor asset pricing model. *Journal of Financial Economics, 116*(1), 1–22. https://doi.org/10.1016/j.jfineco.2014.10.010
9. Hou, K., Xue, C., & Zhang, L. (2015). Digesting anomalies: An investment approach. *Review of Financial Studies, 28*(3), 650–705. https://doi.org/10.1093/rfs/hhu068
10. Jegadeesh, N., & Titman, S. (1993). Returns to buying winners and selling losers: Implications for stock market efficiency. *The Journal of Finance, 48*(1), 65–91. https://doi.org/10.1111/j.1540-6261.1993.tb04702.x

11. Lettau, M., & Ludvigson, S. (2001). Consumption, aggregate wealth, and expected stock returns. *The Journal of Finance, 56*(3), 815–849. https://doi.org/10.1111/0022-1082.00347
12. Li, N., Sun, Z., & Zhao, W. (2020). Financial statement comparability and the profitability premium. *The Accounting Review, 95*(1), 355–384. https://doi.org/10.2308/accr-52480
13. Loughran, T., & Ritter, J. R. (1995). The new issues puzzle. *The Journal of Finance, 50*(1), 23–51. https://doi.org/10.1111/j.1540-6261.1995.tb05166.x
14. McLean, R. D., & Pontiff, J. (2016). Does academic research destroy stock return predictability? *Journal of Finance, 71*(1), 5–32. https://doi.org/10.1111/jofi.12365
15. Novy-Marx, R. (2013). The other side of value: The gross profitability premium. *Journal of Financial Economics, 108*(1), 1–28. https://doi.org/10.1016/j.jfineco.2013.01.003
16. Rosenberg, B., Reid, K., & Lanstein, R. (1985). Persuasive evidence of market inefficiency. *Journal of Portfolio Management, 11*(3), 9–17. http://dx.doi.org/10.3905/jpm.1985.409007