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Sectoral Analysis Of Key Sectors Of Indian Markets Using Discounted Cashflow Valuations

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ABSTRACT

This study looks into the use and application of the discounted cash flow (DCF) method for valuing firms across various industries. When valuing a company using the DCF method, future cash flows are predicted and a risk-adjusted discount rate is applied to estimate intrinsic value. However, the effectiveness of this method is highly dependent on the industry in question. The study analyzes DCF valuations and market price comparisons across sectors including Banking and Financial Services, Healthcare and Pharmaceuticals, Information Technology, Fast-Moving Consumer Goods (FMCGs), and Automobiles. It is also worth mentioning that Healthcare and especially the IT industry are sectors with stable revenues and, thus, more predictable cash flows. In contrast, the FMCG and Automobile industries contain more intangible assets and exhibit more volatile cash flows on a cyclical basis. The Financial Services industry also has cash flow volatility due to direct dependence on regulatory and economic cycles. The primary conclusion of such studies published is that while DCF can capture value, the precision with which they do so is industry specific and in certain industries, a multi-model approach including other models will be necessary to capture the value of the firm.

KEYWORDS: Discounted Cash Flow (DCF), Intrinsic Valuation, Sectoral Analysis, Valuation Accuracy, Sensitivity Analysis

INTRODUCTION

The DCF method established itself in the world of finance as the first analytic approach to valuing companies, investments, and projects. The basic concept involves determining an asset's worth based on projected cash flows and discounting these future cash flows at an appropriate risk-adjusted rate. Discounted Cash Flow analysis also captures the time value of money. DCF analysis became more popular in finance literature after the work of Michel and Shaked in 1985, followed by Steiger in 2010. Since then, the DCF methodology has been ubiquitous and allows for valuing companies in mergers and acquisitions, stock pricing, cash flows on infrastructure assets, and real estate. Its emphasis on actual anticipated cash flows minimizes theoretical risk, and makes valuation more precise in absolute terms (Begović, Momčilović & Jovin, 2013; Silva, 2023).

There are critics of DCF and its theory. These mostly come from misplaced assumptions. Estimations of future cash flows, selection of discount rates, and terminal value calculations affect valuation accuracy. Outputs can be major and wildly inaccurate due to errors in even the most minor of inputs (Steiger, 2010; Huang et al., 2023). Both academia and practice underline the focus on forecasting discount rates, the calibration of sector risk-adjusted discount rates, and scenario analysis description. More recent studies even recommend advanced

forecasting methods, such as machine learning (Karatas, Klinkert & Hirsa, 2021).

Differing industries also have different applications of DCF. In some industries like real estate, capitalization rates even substitute for point-of-fact growth assumptions to produce more authentic results (Bayfield, 2025). In mergers and acquisitions, the models tend to be calibrated for synergies, incremental revenues, or breakup multiples (Gélinas, 2025). Nevertheless, high intangible assets or high cyclicality-based industries are found to expose the limitations of the DCF approach with the necessity for adjustments or additional valuation methods.

This article synthesizes scholarly studies with practical illustrations to critically assess the merits and demerits of DCF valuation. By examining sectoral uses, it attempts to discern where DCF yields sound insights and where other methods might be more appropriate to meet the challenges of today's financial decision-making.

LITERATURE REVIEW

Discounted cash flow (DCF) model remains unmatched in modern theory of valuation, premised on time value of money and interplay of future free cash flows, discount rates, and terminal value. Damodaran (2006) declares DCF is the core technique of intrinsic valuation wherein small changes in terminal growth or in discount rates

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manifest in drastic value changes. Fernández (2002) goes further to classify that DCF is the only conceptually correct valuation model if deployed with accurate and consistent forecast, with Silva (2023) reasserting its validity in case of strict adherence to theoretical discipline in estimation of discount rates and cash flows. Jennergren (1998) illustrates the mechanics of DCF in tedious detail, illustrating how forecast accounts are calculated from past ratios to estimate free cash flows discounted using weighted average cost of capital (WACC) measure. Steiger (2008) shows that perpetuity value is usually more than half of the company's entire value, highly sensitive to assumption variations. To this, Einstein (2025) mathematically describes the DCF model for application in equity valuation in using forecasted free cash flow to equity (FCFE), discounting using cost of equity, and extrapolating terminal value using the Gordon Growth Model.

Historically and pedagogically, the evolution of DCF reflects a shift from conceptual theory to widespread practice. Parker (1968) provides one of the earliest systematic accounts of DCF history, tracing discounting from early compound-interest principles to its emergence in corporate finance in the 1950s. Keef and Roush (2001) examine how NPV and IRR are taught in finance texts and reveal a widespread misstatement of the "reinvestment assumption," arguing that conflicts between NPV and IRR rankings stem from project scale differences rather than reinvestment rates. These studies reinforce that pedagogical clarity is vital for understanding DCF's theoretical consistency and practical teaching. Empirical research comparing DCF to the price-earnings (P/E) multiple reveals mixed results. Berkman, Bradbury, and Ferguson (2000) show that the two models produce equally accurate IPO prices on the New Zealand Stock Exchange, with median absolute errors of about 20 percent. Demirakos, Strong, and Walker (2010) can confirm that P/E multiples offer lower prediction errors for established companies, while DCF offers lower errors for riskier or less similar companies. Sayed (2017) analyzes seven emerging Asian markets and concludes that analysts tend to use the simpler P/E model due to limited data, though DCF precision is on par. Rainsy Sam (2025) adds to that by comparing Gordon Growth Model and Potential Payback Period to DCF and concludes that, though DCF remains dominant, other payback-based models can be instrumental in improved interpretability. Refinements in capital structure theory and discount rates add to the analytical equivalence of DCF. Inselbag and Kaufold (1997) compare the WACC and APV methods and arrive at the conclusion that both yield equivalent results under equal assumptions of leverage. An extension covering four DCF frameworks APV, CCF, CFE, and FCF arrives at equivalence when debt rebalancing policies are applied consistently. Vlaović Begović, Momčilović, and Jovin (2013) contrast FCFE and FCFF valuations, which illustrate the potential of FCFE to reflect changing financing conditions versus the convenience but potentially misleading nature of FCFF in constant debt assumptions. Jennergren (2006)

addresses the ongoing-value component of DCF, focusing on appropriate treatment of capital expenditures and equipment life, and Steiger (2008) reinforces this with empirical sensitivity analysis on terminal value estimation.

DCF relies on its context flexibility that is detectable across sectors and company types. De Heer and Koller (2000) apply DCF to cyclical sectors such as airlines and chemicals, introducing probabilistic scenarios in order to deal with cyclical fluctuations in earnings. Haertler and Seeber (2020) subject the standard DCF to high-growth firms and suggest flexible three-stage projections and Monte Carlo simulations to adapt to fluctuating inputs. Tan (2017) shows that calibrated DCF appraisals of Walmart are strongly correlated with real market prices when the assumptions are realistic. Bonazzi and Iotti (2016) use a particular DCF technique on building refurbishments, integrating energy savings, tax benefits, and terminal value to estimate feasibility. Gomes, Jorge, and Pereira (2025) use DCF for private Portuguese SMEs by comparing the adjusted CAPM, the AECA threecomponent model, and Ibbotson's build-up method to arrive at an estimate of cost of equity in trading-historylacking firms.

Researchers have also been interested in augmenting the ability of DCF to handle uncertainty and behavioral bias. Ruback (2011) demonstrates that ignoring lowprobability negative events causes optimistic bias and suggests differential adjustments for temporary and permanent shocks. Huang, Tan, Wang, and Yu (2023) note that analysts resort more to DCF when there is uncertainty and that the market responds more strongly to target changes made on DCF when assumptions are transparent. Karatas, Klinkert, and Hirsa (2021) combine machine learning with DCF estimation of private-equity fund cash flows and demonstrate that LSTM and GRU models improve upon deterministic methods. Such advantage factors locate DCF in an uncertain, real life fact-based world where credibility is augmented by transparency and scenario analysis.

Another addition to DCF is taking into account the Synergy and Ownership structures. Assessing probabilistic ownership and DCF-Synergies and DCF-Segmented models considering if new owners would generate positive cash flow and/or reduce risk is documented in Gélinas (2025). Applying this to Velan Inc. shows that segmenting areas based on the impact of different owners can enha (2025) on synergy in SME valuations and produces comparable results. This is a remarkable development in DCF scholarship, as it shifts the framework from static ownership to dynamic, strategic models that closely replicate M&A activity in practice, unlike the traditional strategic frameworks that dominate the literature. Most sources show consistency in their narrative. From the historical account Parker (1968) provided to the more theoretical Damodaran (2006) and to the more recent work of Gélinas (2025), assuming the conditions of openness, uniformity in financing, and confirmation of observation, the DCF technique is the most valuable method to approximate intrinsic worth.

Versatility in sources is valuable as long as the information is accurate. A rational ending value, the estimation of the risk the value is to be downgraded, the risk statistical tests, blended with the other approaches, and new methods all provide strength. Future avenues of research should be DCF models based on synergy and machine learning, formal codification of the model input disclosure, and empirical research on asset economic lifecycle data to estimate the terminal value and strengthen the model's theory and practical value.

RESEARCH GAP

India lacks empirical studies examining and contrasting the reliability assessments and across industries with varying revenues, assets, and risks. Most studies highlight the sensitivity concerning assumed discount and growth rates, but the unequal and disproportionate divergence of these parameters across various industries, such as banking, FMCG, IT, automobiles, and healthcare, has largely been overlooked. Failure to consider how the various industries can influence a study while evaluating the context of DCF applicability is a major gap. Bridging this gap would enhance the understanding of the DCF precision used in different industries.

RESEARCH HYPOTHESIS

This study sets out to check if DCF valuations really differ a lot from one industry sector to another. The research does that by testing the null hypothesis, H₀. That hypothesis says no statistically significant differences exist in the accuracy of those DCF-based valuations across Indian sectors. In the end, evaluating this helps figure out whether the DCF approach delivers consistent results no matter the industry or if certain factors tied to specific sectors end up affecting how reliable it is.

RESEARCH METHODOLOGY

The study used the discounted cash flow method. We picked the Free Cash Flow to Equity approach over Free Cash Flow to the Firm, on purpose. FCFE lines up better with valuing equity, since it directly represents cash flows just for shareholders. Unlike FCFF which requires estimating WACC, or tax shields and net debt,

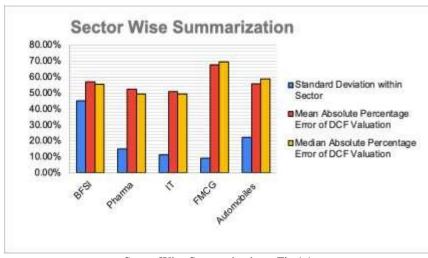
introducing additional uncertainty, FCFE involves fewer assumptions. FCFE uses way fewer variables, and it sticks closer to what market prices actually show for equity value. Plus, there's justification from older research papers like Damodaran back in 2006 that said that FCFE works great for equity-focused work. Then, Begovic and others in 2013, along with Jennergren in 2011, all pushed it as better for research that's all about shareholders. So, they projected FCFE out over several years. Discounted it using the cost of equity to get those intrinsic equity values. Compared them to real market prices after that. To check how accurate the valuations were, they set up the Error Measurement Framework which used these 3 matrices, Mean Absolute Percentage Error for the average deviation, Median APE to reduce outliers impact, and Standard Deviation to gauge error volatility. Finally, a one-way ANOVA test was conducted to statistically examine whether the valuation accuracy differed significantly across the five sectors analyzed.

DATA ANALYSIS

The sector-wide aggregated result is that valuations by DCF yield comparable performance qualities with mean Mean Absolute Percentage Error (APE) averaging 56.79% and mean Median APE averaging 56.51% across observed five sectors (see Fig. 1.0). With standard deviation averaging 20.66%, reflecting moderated variability in changeability in precision estimation, it thus becomes clear that sector variability in prediction error is moderated and controllable (see Fig. 1.0). The coefficient of variation of Mean APE demonstrates 10.4%, which indicates controllably moderated variability disparity across sectors (see Fig. 1.1). The whole dataset estimation demonstrates that precision variability in DCF ranges from 50.81% to 67.65% Mean APE across sectors and exhibits variability range breadth of 16.84 percentage points or 29.7% deviation from mean level of functionality (see Fig. 1.1). Though such variability is respectable per se, it falls in predictable statistical boundaries for financial purposes in models and demonstrates that DCF indicates acceptable uniformity across highly diversified segments despite highly differential fundamental business models.



DCF Accuracy Analysis - Fig 1.0



Sector Wise Summarization - Fig 1.1

Statistical test finds all industries are in the 57% \pm 12% performance bracket, i.e., sector-related traits influence the validity of measures by DCF to some degree, but their approach maintains baseline levels of reliability across diversified conditions across industries.

Information Technology sector exhibits the best DCF performance with 50.81% Mean APE and 49.30% Median APE, which is a 6.0% better performance than the sectoral average (see Table 1.0; Fig. 1.0 and Fig. 1.1). The consistency score of 11.44% standard deviation for the sector indicates highly predictable DCF results and it

is the most consistent sector suitable for use with DCF (see Fig. 1.2). This best performance is due to predictable revenue streams, high margins, and consistent cash flows that closely meet assumptions in DCF models (see Table 1.0). Intrinsic revenue models of technology industries with relatively low capital intensity whose measures how they actually perform are quantifiable make it appropriate to forecast cash flow. There are particular revenue growth models of expansion, margin expansion models, and technology industries business models whose patterns are described exactly by revenue models of DCF.

Скиралу	FCFE I (in Ba)	FCFE 2 (in Be)	FCFE 3 (in Ba)	FCFE 4 (in Ba)	FCFE 5 (in Bn)	Discounting Factor	Equity Value	No. of Shares	Target Price	Share Price	Price Variation
Infosys Limited	285	308	333	356	373	10.58%	3.401	4.10B	819.65	1469.00	44.205
Tata Consultancy Services Limited	518	559	604	645	673	10.58%	6.101	3.608	1694.95	3083.80	45.04%
Wipro Limited	107	116	122	13)	138	10.58%	1307	10.50B	121.36	249.30	51.32%
HCL Technologies Limited	189	211	227	243	254	10.58%	2301	2,708	851.85	1453.70	41.409
Tech Mahindra Limited	65	80	91	97	101	10.58%	908.508	979.20M	927.74	1486.00	37.57%
Mphasis Ltd.	21	23	26	25	30	10.50%	0.297	0.19B	1537.41	2788.00	44.865
Coforge Ltd.	21	24	28	31	32	10.59%	0.271	0.33B	807.54	1724.30	53.17%
KPIT Technologies Ltd.	10	12	14	16	17	10.56%	0.161	0.27B	603.65	1190.76	49.30%
Persistent Systems Ltd.	26	25	29	32	35	10.60%	322.208	155.50M	2072.45	5305.50	60.945
Lursen & Toubro-Infotech (LTI)	188	225	261	292	315	9.79%	31	1.48	2211.00	5134.00	56,93%
Mindree Ltd.	39	46	53	55	64	10.58%	570.9B	296.4M	1926.23	3434.00	43.915
Oracle Financial Services Software Ltd.	25	28	30	33	34	10.58%	310.38	86.9M	3570.43	8293.50	56,95%
Birlasoft Ltd.	3		- 6		7	10.58%	61.98	277.9M	222.6	368.10	39,535
Happiest Minds Technologies Ltd.		1	1	(1	2	10.58%	13.78	150.2M	91,43	565.05	83,82%
Zenser Technologies Ltd.		6			9	10.58%	81.78	227.2M	359,61	768.10	53.18%

Information Technology - Table 1.0

Healthcare & Pharmaceuticals sector exhibits 52.43% Mean APE and 49.43% Median APE and hence leads by 4.4% on average performances (see Table 1.1; Fig. 1.0 and Fig. 1.1). With standard deviation of 14.93%, sector exhibits good uniformity in accounting inherent uncertainties arising out of patent risks and regulatory approbations (see Fig. 1.2). Sector's moderate precision

mature sector firms.

for DCF is due to balanced predictable revenue from matured drugs and binary event-driven revenue from drug developmental pipeline (see Table 1.1). Long time lags and regulatory agency approval result in controlled volatility amenable to good estimates in DCF. Despite patent cliff risks and regulatory reforms inducing volatility, intrinsic nature and cyclical revenue patterns in the sector permit predictable estimation of cash flows by

Company	FCFE-1 (in Ba)	FCFE 2 (in Ba)	FCFE 3 (in Ba)	FCFE 4 (in Bo)	ECFE 5 (in Bu)	Discounting Factor	Equity Value	No. of Shares	Target Price	Share Price	Price Variation
Sus Pharmacourical Industries Limited	124	340	154	163	371	10.48%	1.901	2.40B	774.51	1594.65	51.41%
Dr. Reddy's Laboratories Limited	54	47	54	51	61	14.67%	617,208	X32.40M	741.47	1263.00	41.29%
Cipla Limited	52	34	59	63	66	18.47%	726,908	807.80M	899.82	1589.40	43.39%
Lupin Limited	49	47	48	- 50	51	10,35%	483.308	456,80M	1658.13	1994.90	44,16%
Apollo Hospitals Enterprise Limited	35	- 20	26	30	32	10.17%	294.68	143.8M	2049.02	7610.00	73,07%
Autobindo Pharma Ltd.	39	45	48	51	33	10.45%	0.491	0.58B	846.74	1027.70	17.61%
Biocon Ltd.	18	26	32	35	38	19.36%	0.201	1.308	151.19	348.35	56,60%
Glennark Pharmicourisals Ltd.	19	- 23	29	31	31	10.45%	0.300	0.289	1059.46	1924.00	44.93%
Zytha Lifesciences Ltd.	36	45	89	51	52	10,56%	0.54E	1.008	534,42	981.05	45.53%
Torrent Pharmaceuticals Ltd.	33	38	43	40	45	10.49%	0.43T	0.348	1284,74	3559.80	63.91%
Alken Laborataries Ltd.	23	26	29	30	32	10.49%	0.34T	6.12B	2823.99	5303.50	46.75%
Divi's Laberptories Ltd.	28	35	42	47		11,24%	0.467	0.278	1719.48	6132.00	71.96%
Natos Pharma Ltd.	14	8	4		4	10.41%	0.08T	0.188	435.88	862.00	49,43%
Abbott India Ltd.	14	16	18	19	20	10.45%	0.197	9.02H	8761.03	31620.00	72.29%
Pfizer Ltd. (India)	7		- 9			10.45%	0.087	0.05B	1849,17	5156.00	64.14%

Healthcare & Pharmaceuticals - Table 1.1

Automobile Industry has Mean APE of 55.94% and Median APE of 58.73% and diverges slightly below sectoral average by 0.8% (see Table 1.2; Fig. 1.0 and Fig. 1.1). A standard deviation value of 22.38% implies moderate level of consistency reflecting need for cyclical nature and capital intensity of business (see Fig. 1.2). Through the process of DCF, the sector's performance implies high variability with sensitivity to shift in movement of cyclical economy shift, change in prices of

commodity, and operating level of efficiency by segments in the economy (see Table 1.2). Car makers face increasing complexity as they gradually transition from conventionally powered car models to all-electric models by shifting customer demand and change in emission standards regulation. With such complexities, the car industry maintains adequate precision levels by DCF if models include cyclical movement and adaptive strategic developments.

Company	FCFE 1 (in Bu)	FCFE 2 (in Bu)	FCFE 3 (in Ba)	FCFE 4 (in Bn)	FCFE 5 (in Bu)	Discounting Factor	Equity Value	No. of Shares	Target Price	Share Price	Price Variation
Tain Motors Ltd.	271	312	338	149	354	10.95%	3.11	3.7H	839,04	669.50	25.329
Mohindra & Mahindra Ltd.	24	31	35	44	32	10.95%	453.28	1.28	377,74	3200.00	88.20%
Maruti Sunski India Ltd.	130	.138	143	186	223	14.95%	1.91	314.4M	6103.56	14790.00	58.731
Bujuj Auto Ltd.	69	- TK	84	95	303	10.95%	894.18	279.2M	3202.34	8632.00	62,909
Hero MotoCrop Ltd.	43	47	49	52	54	10.95%	478.4B	200M	2391.77	5109.50	33.199
Arbok Leyland Ltd.	39	43	. 48	52	35	10,58%	498.98	5.9B	84,94	126.98	33.119
Eicher Motors Ltd. (Royal Enfield)	38	G43	47	5)	34	10.94%	664.38	274.3M	2422.04	6103.00	60.315
TVS Motor Company Ltd.	II.	15	19	22	15	10.95%	209.48	474.6M	441.21	3276.60	86.535
Escerts Kubota Ltd.	10	- 11	13	15	16	10.61%	209.68	110M	1905.59	3567.80	46.595
Force Motors Ltd.		6	- 7		- 5	10,58%	788	13.2M	5920.41	19477.00	69.605
SML Isuzu Ltd.	. 0	0		1	1	14,58%	138	14.5M	897,09	4197.40	78,635
Schaeffler India Ltd	10	12	14	1.5	- 13	10.58%	148.28	156.3M	947.95	3867.40	75.499
Exide Industries Ltd.	13	14	16	12	- 18	19,50%	161.68	R50M	190.06	396,25	52,645
MRF Ltd.	26	30	35	37	. 38	10.62%	380.18	4.2M	89657.80	140955.00	36,395
Apollo Tyrus Ltd.	2)			28	2.5	10,50%	258.68	635.1M	407.20	462.95	12,045

Automobiles - Table 1.2

Banking & Financial Services registers 57.11% Mean APE and 55.49% Median APE with only 0.3% over sectoral average but highest volatility registering 45.26% standard deviation (see Table 1.3; Fig. 1.0 and Fig. 1.1). Volatility excess is a consequence of the sector's distinct nature such as capital adequacy standards, regulatory interventions, and exposure to credit risks whose nature generates grave difficulty in DCF forecast (see Fig. 1.2).

Financial institutions' interest rate sensitivity, business cycles, and regulatory policy change render uncertain future cash flows highly changeable upon assumption change (see Table 1.3). Highly advanced calculation by sector's risk-adjusted returns and regulatory capital requirements build sophisticated tailoring by use of DCF models resulting in variability in bank business models by various performances.

Computy	FCFE I (in Bu)	PCFE 2 (in Ba)	FCFE 3 (in Bir)	FCFE 4 (in Bu)	FCFE 5 (in Ba)	Discounting Factor	Equity Value	No. of Shares	Target Price	Share Price	Price Variation
HDFC Bank Ltd.	675	917	527	613	881	9,54%	7.401	7,700	966.63	951,45	1,605
ICECI Bank Ltd.	372	636	673	103	926	9.34%	9,107	7.100	1274.86	1398,00	8,815
State Bank of India	723	807	922	1020	1093	9,54%	11,007	9.208	1182.01	800.33	47,948
Kotak Malaisdes Bank	222	367	306	365	412	9.54%	4.191	2,008	3949,70	3960.00	4,589
Bajaj France	-35	-1	43	100	313	10.04%	1.807	6.208	289.25	877,60	£T.059
Axis Bask Ltd.	249	336	383	464	323	9,34%	5,207	3.108	1679.07	1045.55	90,025
Industric Bank Ltd.	38	33		. 28	. 91	9.54%	0.841	0.789	1079.08	739,98	45,545
Bandhay Bank Ltd.	28	- 38	43	49	51	9,54%	0.537	1,608	328.97	161.85	103,199
IDFC Fire Back Ltd.	26	47	39	79	90	9.34%	0.781	7.300	198.73	18.00	35,495
Punjab National Bank	160	122	192	213	221	9,50%	2.30T	11,500	199.17	100.88	97.435
Bank of Baroda	182	201	233	261	282	9.58%	2,807	5.200	546.44	267.15	108.451
Federal Bank Ltd.	40	11	61	24		9.56%	0.82T	1.508	335,37	191,71	74,959
Cataria Bank	173	195	210	225	233	9.50%	2.407	9.106	264.80	103.83	155,099
Yes Bask Ltd.	31	- 44	56	65		9.54%	0.717	31.406	22.59	26.33	11.129
LIC Housing Finance Ltd.	12	. 14	- 17	- 22	27	10.04%	0.261	0.358	471.55	555.20	15.075

Banking & Financial Services - Table 1.3

Fast-Moving Consumer Goods sector offers 67.65% Mean APE and 69.61% Median APE with lower

precision performance by 10.9% above sectoral average (see Table 1.4; Fig. 1.0 and Fig. 1.1). Nonetheless the

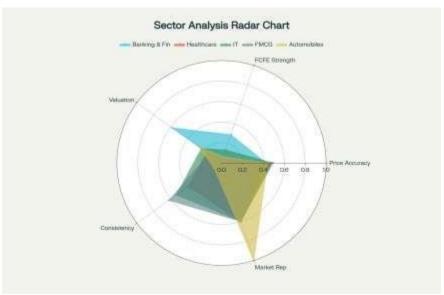
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sector offers distinct uniformity with standard deviation of mere 9.31%, maintaining it in an inconsistent status where error remains perpetually high although systemically predictable across FMCG firms (see Fig. 1.2). Such systematic underperformance occurs owing to excessive dependability by FMCG industries on intangible value drivers in form of brand equity, customer

loyalty, and sentiment in the marketplace unable to meet physical models of cash flows (see Table 1.4). Value is built in the sector through brand development and effectiveness in marketing and not through financials per se, and hence fundamental misalignment with DCF approach built on physical cash generating capabilities.

	PCFE I (in Bu)	FCFT. 2 (in flu)	FCFE 3 (in Bit)	FCFE 4 (in Bu)	FEFE 5 (in the)	Discounting Factor	Equity Value	No. of Shares	Target Price	Share Price	Price Vertation
Finduston Unitever Limited (HUL)	116	123	139	149	156	9.92%	1.27	2.30	542.22	2660.00	75.965
FFC Limited	181	202	220	340	299	9.88%	2.57	12.5B	199.33	409.50	51.579
Nostle India Limited	22	531	35	28	-40	9,54%	100.08	1.98	207.41	1154.20	82,004
Debur India Litrited	13	. 13		19	30	9.92%	197.58	1300	113.36	521.55	78.60
Drittonia Industries Lincined	27	.10	35	34	33	9.56%	406.50	240,954	1667,76	3819.00	71,008
Cotgono-Pulmedree (Iralia) Ltd.	16	.17	18	19	. 20	9.92%	302.88	272M	345.63	2331.8	66.025
Proeter & Gamble Hygiene and Health Ca	. 9	. 10	£ 31	3.2	. 13	9.92%	115.68	32.5M	3562,14	17086	72,785
Errans Ltd.		9		. 9	10	9.92%	103.58	436.5M	237,13	573.6	58,665
Merco Ltd.	10	- 30	22	23	15	9.58%	254.68	3.39	197.94	725.85	72.775
Godej Consumer Products Ltd.	27	. 11	. 55	37	. 16	9,93%	414.30	[111	405.12	1262.6	67.409
Patangali Foodis Ltd.	13	19	22	22	11	9.54%	209.18	362.5M	852.8	1777.6	52.031
Jyothy Labs Ltd.	- 4	4	- 3			9,93%	54.98	362.7M	149:48	340.4	56,095
Badico Khuitin Ltd.			10	11	12	9.73%	1168	[33.8M	\$66,93	2852.5	69.619
Vanan Bewinges Ltd.	39	45	49	33	336	9,74%	5718	3:48	368.85	487.15	85.345
Tata Consumer Products Ltd.	17	- 11	25	27	- 16	9.58%	294.29	989.1M	287.06	1005.4	73.055

Fast-Moving Consumer Goods - Table 1.4



Sector Analysis Radar Chart - Fig 1.2



DCF Accuracy vs Consistency by Sector - Fig 1.3

Anova: Single Factor						
SUMMARY						
Groups	Count	Sum	Average	Variance		
Banking and Financial Services	15	8.5660601	0.57107067	0.20487022		
Healthcare & Pharmaceuticals	15	7.86475208	0.52431681	0.02229411		
Information Technology	15	7.62108442	0.50807229	0.0130883		
Fast Moving Consumer Goods	15	10.1479437	0.67652958	0.00867295		
Automobiles	15	8.39077358	0.55938491	0.05009596		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.26042687	4	0.06510672	1.08866267	0.36890888	2.50265646
Within Groups	4.18630154	70	0.05980431			
Total	4.44672841	74				

Single Factor Anova Test - Table 1.5

The one-way ANOVA test performs sector-wide analysis on the statistical differences on how the sectors differ in DCF accuracy (see Table 1.5). The result showed an Fstatistic of 1.09 and a critical F value of 2.50 at the 95% confidence interval, with a p-value of 0.369, confirming no statistically significant differences across the sectors. Hence, mean DCF valuation errors, as proposed under the null hypothesis, holding all else constant, demonstrates the method's consistency across reliability and multi-sector application. Even when DCF predictability, and business risk differences across sectors, a null statistical result demonstrates the DCF precision differences are not significant enough to invalidate its use for comparative valuation. Hence, the ANOVA result in the practical DCF use case demonstrates its theoretical and practical reliability across all sectors in the study.

FINDINGS

Despite seeming heterogeneity in sectoral DCF performance, statistical evidence indicates the divergence of these differences, while important for practical purposes, fails to indicate statistically significant differences that theoretically disqualify DCF methodology in the various sectors. Moderate rather than extreme variation is indicated by the 10.4% coefficient of variation of Mean APE, which suggests sector-specific influences bear upon but do not overwhelm DCF accuracy outcomes.

Range analysis shows that the 16.84% spread between best and worst performing sectors represents less than 30% of average performance, a variation level consistent with expected modeling uncertainty in financial applications. Furthermore, four of the five sectors perform within 6% of the sectoral average, with only Fast-Moving Consumer Goods showing substantial deviation, suggesting that DCF reliability is more consistent across sectors than initially apparent.

The statistical findings corroborate that although the practitioners need to take into account sector-specific

features while utilizing DCF models, these do not represent caveats limiting methodology validity but refinements towards enhanced accuracy. The existence of variations merely reflects differences in business models, which can be addressed by suitable model calibrations without undermining the DCF's general applicability across all sectors examined.

This convergence to statistically equivalent performance levels across a wide variety of sectors reflects the strength of DCF as a valuation method, affirming that while sector knowledge contributes to the accuracy, the underlying technique remains valid over the wide range of industry uses reflected in this extensive review.

Finally, as we conclude, we prove through this analysis that there is no statistically significant disparity in DCF valuation precision between sectors, and therefore we affirm the null hypothesis that DCF valuation is just as precise in all sectors.

FUTURE RESEARCH AREAS

The study shows DCF valuations hold up pretty well across different sectors. Still, theres room for more research to dig deeper into that. One thing, looking at even more industries and spreading out the data over several years might turn up how big economic shifts or up-and-down cycles mess with DCFs reliability. Another idea, bringing in stuff like behavioral finance and market quirks, the kind Ruback talked about back in 2011 or what Huang and others said in 2023, that could help make sense of why things vary due to analyst biases or uneven info flow. Then too, trying out AI-boosted or mixed valuation methods, like Karatas, Klinkert, and Hirsa suggested in 2021, might prove if better predictions sharpen up DCFs accuracy. And last, studies across countries or tied to ESG in specific sectors would clear up how rules in different places or green factors play into DCFs dependability. All in all, pushing these ideas forward would help pin down exactly when and why DCF stays solid amid changing finance and business scenes.

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APPENDIX

1. Companies considered in the analysis

Banking and Financial Services	Healthcare & Pharmaceuticals	Information Technology	Fast Moving Consumer Goods	Automobiles
HDFC Barris Ltd.	Sun Pharmaceutical Industries Limited	Infosys Limited	Hindustan Uniterer Limited (HUL)	Tata Motors Ltd.
ICICI Bank Ltd.	Dr. Reddy's Laboratories Limited	Tata Consultancy Services Limited	ITC Limited	Mahindra & Mahindra Ltd.
State Bank of India	Cigita Limited	Wpro Limited	Neetle India Limited	Manuti Sugaki India Ltd.
Kolak Mahindra Bank	Lopin Limited	HCL Technologies Limited	Datrur India Limited	Başaj Auto Lid.
Baja; Finance	Apolio Hospitats Enterprise Limited	Toch Mahindra Limited	Britannia Industries Limited	Hero MotoCrop Ltd.
Axis Bank Ltd.	Aurobindo Pharma Ltd.	Mphasis Ltd.	Colgate-Palmolive (India) Ltd.	Ashok Leytand Ltd
Indusind Bank List	Biocon Lid	Colorge Lttl	Procter & Gamble Hygiene and Health Care Ltd.	Eicher Motors Ltd. (Royal Enfield)
Bendhan Bank List.	Glenmerk Pharmaceuticals Ltd.	KPIT Technologies Ltd.	Emans Ltd.	TVS Motor Company Ltd.
IDFC First Bank Ltd.	Zydus Lifesciences Ltill.	Persistent Systems Ltd.	Marioo Ltd.	Escorts Kultiota Ltd.
Punjab National Bank	Toment Pharmaceuticals Ltd.	Larsen & Toubito Infotech (LTI)	Godres Consumer Products Ltd.	Force Motors Ltd.
Bank of Baroda	Alkem Laboratories Ltd.	Medites Ltd.	Patanjali Foods I,ttl.	SMC Invato Clid.
Federal Bank Ltd.	DW's Laboraturies Ltd.	Oracle Financial Services Software Ltd.	Jyothy Laba Ltd.	Schaeffer India Ltd
Canara Bank	Natoo Pharma Ltd.	Birlasoff Ltd.	Radice Khaltan Ltd.	Exide Industries Ltd.
Yes Bank Lid	Abbott India Ltd	Happiest Minds Technologies Ltd.	Varum Beverages Ltd.	MRF Lid
LIC Housing Finance Ltd.	Pfiper Ltd. (India)	Zensar Technologies Ltd.	Tata Consumer Products Ltd.	Apolio Tyres Ltd.

	(sibri) his regif			hnologies Ltd.	Te	ila Consumer Produ	cts:Ltd.	Apo	At Tyres Ltd.		
2. Data of companie	es conside	ered in th	e analysi	S							
Null Hypothesia: DCF Valuation										(all f	igures are in INI
Banking & Financial Services	m reprairie accura	are account and an								100.1	Carre are in a se
Соправу	FCFE I dis Bio	SCPE 2 (to Ba)	PCPE 3 (in Bu)	PUFE 4 (in Bu)	PCFE 5 (to But	Discounting Factor	Equity Value	No. of Shares	Target Price	Shars Price	Print Variation
IDEC Bask Ltd.	675	912	527	633	2001	9.5954	7.401	7,700	566.13	951.45	1,6
CICL Black Ltd.	172	525	671	833	926	9,56%	W.10T	7,700	1274.84	1394.00	8.3
tion Bank of India	723	897	922	1920	1093	9,54%	13.000	9.208	111(7,6)	902,35	47,9
Cotak Materialis Bank	222	263	300	365	.412	9,24%	4,100	2,008	2045,78	1990.00	43
Tajaj Pinonor	-35	4	42	306	193		1.807	6,208	289.25	877.80	67.8
kaze Runk Ltd.	249	330	385	464	527	9.34%	5,207	5.108	1673,07	1045.55	60.0
ndurind Bank Lot.	36	55	.69	78	86		GRAT	0,788	1079,98	739.90	45.8
Fanchum Bunk Ltd.	38		- 0	- 0	53		9.537	1:608	328.87	161.85	103,1
DFC First Bank Link	26	40.	. 29		80		G, TRT	7,308	108.73	48.00	55.4
Sarjah National Bank	160	175	191	252	127		2,301	11.500	399.57	100.00	97.4
lank of Haroda	183	20	233	261	282		2,807	5,200	346,44	262.15	108.4
referré Bank Ltd.	40		6)	74			0.621	2.508	335,37	191,70	74,5
Jensey Blenk	173		210	225	.237		2.401	9,108	264,86	193.83	155.6
for Bank List	31	46	36	45	72		0.717	31,400	22.58		10.1
AC Housing Firance Ltd.	12			22	27	10.04%	9.267	0.558	AT1.55	555.20	15.6
lealthcare & Pharmaceuticals	-	Ca 13							1		11
impany	Terres a section	SCOT THE BUT	server since part	server a servery	SCHOOL SECTION	Discounting Factor	Warner Voters	No. of Shares	Turget Price	Share Price	Price Variation
on Plannacatical Industries Limited	(24	140	154	160 160	171		1.901	2.408	774.51	1594.05	51.4
R. Roddy's Laboratoria Limited	24	. 47	34	39	61	19.67%	417.208	832,4066	241,42	1263.00	41.3
ipla Limited	22	54	19	13	99	10,47%	726.968	807.40M	359.62	1589.40	41.7
agin Limited	40	47	- 4	39.	51	10,32%	483,300	456,80M	1958.12	1894.90	44.
apollo Hospitala Emprise Limital	15	29	26	36	32		294.68	143,856	2949.62	7610.00	73.1
contrado Pluma Led.	39	45	46	31	55		0.497	0.588	846,74	1927,70	17.5
liscon Ltd.	18	28	32	25		10.30%	0.201	1,300	351.15	148,33	36.1
Formark Phornwootsala Ltd.	10	23.	29.	31	13	16,42%	0.101	0.280	1009.46	1924.00	44.1
Sylve Liferomon Ltd.	51	- 45	49	31	52		0.347	1,009	134.42	941.05	45.3
error Phenacuticals Ltd.	33	28	40	42	49		0.437	0.140	1284,74		63.5
Alker Laboratorics Ltd.	23	24	29		52		0.347	0.128	2123,59	1303.50	46.7
Nyi's Laboratorius Ltd.	28	33	42	47	- 0	11.26%	0.46T	0.279	1719.48	6132.00	713
Seco Flores Ltf.	14		-	4	- 4	10,41%	0.08T	0.000	435.88	862.00	49.4
Abbett Italia Ltd.	14		18	19	20		0.197	0.028	8791,83	31420.00	72.7
State Ltd. (Statio)	7		9				0.087	0.688	1849.17	3155.00	64.3
nformation Technology											
Company	FCFE I (in Its)	FCFE I do Buy	FCFE 3 (in Bu)	FCFE 4 (in Ru)	FCFE S (in Bu)	Discounding Factor	Equity Value	No. of Shares	Target Price	Share Price	Price Variation
aform Limited	285	300	733	356	378	10.50%	3.40T	4.108	819,65	1469.00	44,2
ata Connellancy Services Limited	518	559	604	645	673	10,58%	6,100	3.608	1694.95	3983.30	45.5
Migro-Limited	107	116	122	101	138	10,58%	1,300	10.508	321.36	249.36	31.3
ICL Technologies Limited	189	201	227	243	254	10,28%	2.300	2.708	851.89	1413.70	\$3.4
Firsh Milhinday Linciped	65	80	. 91	97	101	10.58%	905 SIB	979.26M	927,74	1495.00	373
dphoris Ltd.	21	23	26	28	30	10,50%	0.297	0.398	1537.41	2788.00	66.5
centry Lot	21	24	.18	31	32	10,59%	0,277	0.339	807,54	1724.30	. 53.3
CPIT Technologies Ltd.	10	12	14		17		0.167	0.278	663,63	1190.70	49.3
Smister Systems Ltd.	20	25	29	32	35	10.60%	322.208	(55.5066)	2072.49	3305.50	60.5
arsen & Touriss Intinois (LTI)	1100	225	261	292	313			1.48	2211.00	3134.00	56.5
dindras Lid.	39 25	46 28	21 30	39	- 69 34	10,58%	270.90 310.39	296,4M 86,9M	3570.43	3434.00 8293.50	43.5 56.5
Pitcle Fittencial Services Software Ltd. Birlanoff Ltd.		3	- 20	23	20	10,58%	41.78	277.956	222.6	368.10	39.5
Speriest Minds Technologies Ltd.	0	1	Ĭ.		2	10.58%	13.78	150,256	91.43	565.05	83.8
Censur Trafacologies List.	3		7	. 1	9	10.30%	81.78	22T.2M	339.60	768.10	23:1
	177	<u> </u>					**				
Fast-Moving Consumer Goods	laway a control	BETTER A CO. T.	MATERIAL PROPERTY.	ACTOR A COMPANY	BUTTON & CO. M.	Prince of the Pr	Washington Co.		Front Fil	Phone But	Park No. of St.
Computer Gadastan Chileson Linerad (SEIL)	PCFE 1 (to Be)	PCPE 2 (in Bu) 129	139 139	340 340	136 136	Discounding Factor 9.92%	Equity Value	No. of Shares 2.38	Target Price 642.22	Share Price 2660.00	Price Variation. 75.1
TC Limited	181	382	220	340	255	9.88%	2.51	12.58	198,33	400.50	51.3
Sotle Indu Linead	37	31	33	26.	40	9.56%	393.90	1.99	207,41	1154.20	92.1
Julius Dedia Limited	- 3	. 13	217	. 19	20	9.92%	197.58	1,18	31134	521.55	.783
leinneia Inhastries Limited	37			36	37	9,56%	#86.5B	246,956	1685.76	5879.00	.703
Colgate Palmeting Chellan Ltd. Voccor & Clamble Hygime and Health Car	16	17	18		30 12	9.92%	392.69	27256	745.63	2331.8	68,1
rosser & Gamble Hygiene and Health Car branni Lisk		10	- 11	32	19		115.40	32.150 436.550	3362.14 237.13		72.1
Service Ltd.	- 01				10			4/0,/86	227.13	725.88	- 20
	17	29	. 21	23	24	9.54%	256.6B				67
	8 17 27	21	22	23	25	30,070	256,68 414,58		405.12	1242.6	67.4
odio Common Products Ltd. Storgeli Foods Ltd.	17	20 31 19	21 25 22	37 22	51.	9.93%	4)4,58 309,LB	362.5M	157,4	1777.6	
odini Common Products Ltd. Stanjali Foods Ltd. yothy Late Ltd.	17 27 15 4	29 31 19 4	12	27 22 3	51, 3	9.99% 9.54% 9.99%	414.58 309.18 34.98	362.5M 362.7M	169,46	1777.6 349.4	52.5 56.5
odie Concour Products Lid stargali Foods Ltd. yothy Lefs Ltd. ador Khatas Ltd.	17 27 15 4 6	29 31 19 4	22 5 10	27 27 5	51. 3 12	9.90% 9.54% 9.90% 9.70%	414.59 309.00 34.30 1148	362.5M 362.7M 133.8M	852,8 149,48 866,53	1777.6 349.4 2832.3	52. 56. 69.
iodos Comonos Products End. starquit Foods Ltd. synthy Lein Ltd. gabor Khatar Ltd. jann Be-trago Ltd.	17 27 15 4 6	21 31 19 4 4 45	32 5 10 49	37 22 5 11 33	51 3 12 56	9.93% 9.54% 9.93% 9.73% 9.75%	414,538 309,18 54,58 1168 5718	362 SM 362 7M 133 AM 3.48	852,4 349,48 866,33 166,83	1777.6 348.4 2852.5 447.15	52.6 56.1 69.5 65.5
icatos Comunium Products End. sturgidi Foods Ltd. synthy Lelin Ltd. gabor Khatas Ltd. gator Borragos Ltd.	17 27 15 4 6	21 31 19 4 4 45	22 5 10	27 27 5	51. 3 12	9.93% 9.54% 9.93% 9.73% 9.75%	414.59 309.00 34.30 1148	362 SM 362 7M 133 AM 3.48	852,4 349,48 866,33 166,83	1777.6 348.4 2852.5 447.15	52.6 56.1 69.5 65.5
indes Common Products Ltd. stated Foods Ltd. stated Foods Ltd. sides Kinds Ltd. sides Common Products Ltd. side Common Products Ltd.	17 27 15 4 6	21 31 19 4 4 45	32 5 10 49	37 22 5 11 33	51 3 12 56	9.93% 9.54% 9.93% 9.73% 9.75%	414,538 309,18 54,58 1168 5718	362 SM 362 7M 133 AM 3.48	852,4 349,48 866,33 166,83	1777.6 348.4 2852.5 447.15	52.6 56.1 69.5 65.5
codes Comonom Products Ltd. staged Front Ltd. staged Front Ltd. spice Shorter Ltd.	17 27 45 4 6 39	20 31 19 4 6 43 21	22 5 10 10 49 21	27 22 3 111 53 27	51 5 12 56 29 POTE S Ha Rej	9 09% 9 24% 9 99% 9 77% 9 75% 9 54%	414 59 200 ch 34 38 1148 5748 244 28	362 5M 363 7M 133 8M 3 48 385 5M	852,4 149,48 866,53 168,85 287,16	1777.6 349.4 2852.5 447.15 1965.4	52.4 56.3 69.4 65. 73.4 Price Variation
Società Communer Producta Listi namigli Facoli Listi spetto Latta Listi spetto Kinatan Listi sara Recenza Listi star Communer Producta Losi Automobilles intra successioni Listi settimoni Listi	17 27 15 4 6 39 17	20 31 19 4 4 45 21 FCPE 2 (In Pa)	22 1 10 20 21 PCFE 3 (in Be)	27 22 3 11 53 27 FURK 4 din Rej).	51, 3 12, 50, 29 PC FE S (In Re). 354	0 07% 9 54% 9 07% 9 75% 9 75% 9 54% Disconsiding Parties	414 529 209 (III 34:39 11:48 57:18 244:28 Equaty Value 2.17	362 SM 363 7M 133 AM 3 AB 995 SM No. of Sharm 3 78	857,4 149,48 866,93 105,85 287,16 Target Price 509,64	1777.6 349.4 2852.5 447.15 1963.4 59am Priss 449.50	52.4 56.3 69.5 65. 73.1 Price Variation 25.
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