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ASSESSING BENCHMARK APPROPRIATENESS IN INDIA'S SPECIALIZED INVESTMENT FUNDS

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Abstract
SEBI's Specialized Investment Fund (SIF) framework, launched in 2025, permits fund managers to use long-short and hybrid strategies with time-varying net equity exposure. This, I suppose is a mismatch with conventional fixed-weight benchmarks, which risk misattributing exposure timing to manager skill. This paper estimates realized net equity exposure for 14 SIF long-short/hybrid strategies via a rolling 30-day beta against NIFTY 50 TRI. Further the study constructs an exposure-adjusted shadow benchmark from each fund's realized beta. Then it compares Jensen's alpha against this shadow benchmark to alpha against a fixed-weight (50:50 equity: debt) naive benchmark. A pooled one-sided test lays down that naive-benchmark alpha is significantly inflated (t=3.30, p=0.003, mean annualized gap +0.76%). This result reverses sign at a 60-day window. This was traced to a genuine market regime shift just to confirm that NIFTY 50 TRI rallied through February 2026, then sold off through July 2026. This interacted with each strategy's realized beta relative to the benchmark's fixed 50% weight. Importantly, below-benchmark-exposure strategies show the alpha inflation effect across every window tested while the above-benchmark-exposure strategies show an effect and the sign depends on which regime the window samples. So, it was recommended as subgroup distinction and not a single pooled estimate.

1. Introduction

Mutual fund performance is conventionally benchmarked against a fixed-weight index matched to fund category. This works when net market exposure stays roughly constant. It may not work for strategies that vary exposure over time like the mandate for SEBI's Specialized Investment Fund category grants. A long-short SIF running 30% net equity in one quarter and 70% in the next will appear skilful under a fixed 50:50 benchmark, whenever its exposure exceeds the benchmark's exposure during a rally. It will appear to underperform when the reverse holds irrespective of the genuine security-selection skill.

This paper asks a specific question. Is Jensen's alpha for SIF long-short and hybrid strategies systematically inflated when measured against a fixed-weight benchmark, especially when there is a time-varying exposure? Accordingly, an exposure-adjusted shadow benchmark from rolling-window realized beta was constructed. It is further tested for the difference in a paired, one-sided framework. Significant result was obtained in the primary specification, when exposed to standard robustness checks. It was found that it is not uniformly robust. This instability was an identifiable cause for this paper and is reported un-biasedly.

2. Literature Review

Benchmarking exposure-varying strategies against fixed-weight indices is a long-recognized problem in the hedge fund literature. Sharpe (1992) established returns-based style analysis for inferring a fund's effective exposure, laying the foundation to this paper's rolling-beta approach. Fung and Hsieh (1997, 2001) showed dynamic trading strategies produce returns those are poorly captured by linear, buy-and-hold benchmarks. Jaeger and Wagner (2005) argued that exposure-based benchmarks are needed instead of a single fixed index. Jensen's alpha remains the standard measure adopted in the

current study, although Agarwal and Naik (2004) show linear factor models often misrepresent hedge-fund-style exposure. Getmansky, Lo, and Makarov (2004) document serial correlation from overlapping return series so the paper moves ahead with Newey-West correction.

Within India, Sehgal and Babbar (2017) found conditional multi-factor models outperform simple index benchmarking for equity mutual funds. Manian and Kayal (2025) argue fund performance should be measured against a fund's own confirmed benchmark rather than a generic index. No SIF-specific literature yet exists, since the category launched only in 2025; this paper should be among the first empirical treatments of benchmark adequacy relevant to SIF.

3. Institutional Background: The SIF Framework

SEBI's Specialized Investment Fund framework was notified in 2025. It permits strategies such as long-short equity and dynamic hybrid allocation under the same regulatory and disclosure umbrella as mutual funds. This includes daily NAV disclosure, a distinct SIF-specific NAV portal at AMFI. It also mandated risk and TER disclosures. As of the data pull for this paper (July 2026), 111 SIF schemes across 17 fund families were live. Because the category is new, the universe is dominated by very recently launched schemes. 60 of the 111 schemes in the pull had under four months of NAV history, and even the longest-running schemes have at most approximately ten months of history. This immaturity attracted few limitations further discussed in the study.

4. Data

The full SIF scheme master (111 schemes, 17 fund families) and daily NAV history from 01-Oct-2025 to 31-Jul-2026 with 9,763 scheme-days are observed.

Schemes with under 120 days of history were excluded, leaving 51 schemes. Only Direct-Plan-Growth series, the cleanest total-return measure is used for all schemes.

The natural benchmark for hybrid strategies, the Nifty 50 Hybrid Composite Debt 50:50 Index, has no free downloadable series. So, it was reconstructed from its two legs, NIFTY 50 TRI and NIFTY Composite G-Sec Index. Weights are rebalanced to 50:50 monthly, matching the real index's disclosed methodology.

5. Methodology

For each of the 14 panel strategies, study estimated an OLS regression of daily fund return on NIFTY 50 TRI's daily return over a trailing 30-day window and further re-estimated at every date. The resulting slope, beta(t), is the fund's realized net equity exposure at time t. The 30-day window is the primary specification; 20-day and 60-day windows are used for robustness checks.

For each date with a valid rolling beta, a shadow benchmark return was constructed:
$R\_shadow(t) = beta(t) \times R\_equity(t) + (1 - beta(t)) \times R\_debt(t)$.
For each fund, over the same sample window, two single-factor regressions of excess fund return on excess benchmark return was then constructed. One uses the naive benchmark; one uses the shadow benchmark and thus producing alphanaive and alphashadow. Standard errors are Newey-West (HAC), not OLS, since overlapping rolling windows creates serial correlation that would may understate uncertainty.

H1: naive-benchmark alpha is systematically inflated relative to shadow alpha, i.e. mean(alpha_naive − alpha_shadow) > 0. this is tested with a one-sample, one-sided paired t-test on per-fund alpha differences.

6. Results: Primary Specification

Table 1 reports the 30-day-window, with HAC-corrected results for all 14 panel strategies which is sorted by naive−shadow alpha gap. The data is pooled across all 14 strategies where the mean daily alpha difference is 0.000030 (annualized +0.76%), with a one-sample one-sided t-statistic of 3.30 (df = 13, p = 0.0029). This resulting the rejecting of the null at conventional significance. Twelve of 14 strategies show that the H1 is consistent.

Strategy	n	avg β	α naive (ann.)	α shadow (ann.)	diff (ann.)	p(naive)	p(shadow)
DynaSIF active asset allocator L-S	53	0.32	1.98%	-0.46%	+2.44%	0.770	0.946
Altiva hybrid L-S	159	0.17	11.57%	9.74%	+1.83%	<0.001	0.001
Apex hybrid L-S	54	0.19	14.32%	12.66%	+1.66%	0.023	0.111
qsif hybrid L-S	161	0.30	12.92%	11.36%	+1.57%	0.041	0.076
qsif equity L-S	169	0.65	16.38%	15.07%	+1.30%	0.099	0.115
iSIF hybrid L-S	89	0.78	18.82%	17.59%	+1.23%	0.008	0.005
qsif equity ex-top-100 L-S	146	0.74	31.15%	30.20%	+0.95%	0.042	0.038
iSIF equity ex-top-100 L-S	89	0.71	21.16%	20.38%	+0.79%	0.020	0.014
Magnum hybrid L-S	156	0.26	3.78%	3.02%	+0.76%	0.131	0.293
Titanium hybrid L-S	122	0.53	3.56%	3.02%	+0.54%	0.346	0.418
Arudha hybrid L-S	87	0.02	3.81%	3.70%	+0.12%	0.068	0.034
Diviniti equity L-S	132	0.39	-12.78%	-12.85%	+0.07%	0.058	0.031
Arudha equity L-S	54	0.54	4.32%	4.73%	-0.41%	0.494	0.450
DynaSIF equity L-S	73	0.71	10.81%	11.80%	-1.00%	0.354	0.303

Table1. Primary specification (30-day rolling window, HAC standard errors), sorted by naive−shadow alpha gap.

7. Robustness Checks

Primary result is then checked with five robustness parameters: standard-error estimator, debt-leg proxy, risk-free rate level, rolling-window length, and sample restriction to schemes with at least 120 days of history which is presented in Table 2. Three of five replicate the primary result without material change. Rolling-window length and sample-inclusion threshold both overturn significance, and at a 60-day window the point estimate reverses sign entirely. The reason is investigated in this study later.

Check	Result	Verdict
HAC vs. OLS standard errors	Pooled test unchanged (t=3.30, p=0.0029)	Robust
Debt-leg proxy (G-Sec variants)	t=3.60, p=0.0016, mean diff +0.81% ann.	Robust
Risk-free rate level (±50bps)	p = 0.0038 / 0.0029 / 0.0022 — negligible sensitivity	Robust
Rolling-window length (20/30/60d)	20d: p=0.264. 30d: p=0.0029. 60d: p=0.901, sign reverses	NOT robust
Full 111-scheme universe	t=0.065, p=0.475 (fail to reject)	NOT robust

Table 2. Robustness Check Summary.

8. Diagnosing the Window-Length Instability

The window-length instability is not common noise. NIFTY 50 TRI shifted regime at the sample midpoint (02-Mar-2026): a mild rally gave way to a selloff with ~70% higher volatility (Table 3). Short fund histories mean longer windows oversample the selloff period.

Period	Equity (NIFTY 50 TRI)	Debt (G-Sec composite)
Early: 03-Oct-2025 to 27-Feb-2026	+4.6% ann., 10.1% vol	+3.8% ann., 2.8% vol
Late: 02-Mar-2026 to 31-Jul-2026	−4.6% ann., 17.2% vol	+5.1% ann., 4.1% vol

Table 3. Equity/debt return and volatility, split at sample midpoint.

Table 4 splits strategies at average realized beta = 0.5. Low-beta strategies show the H1-consistent gap at every window. While, high-beta strategies drive the instability, swinging from −0.20% to +0.49% to −1.73% across the windows. The reason is the selloff: the naive benchmark holds less equity than these funds' true exposure, so it falls less during the downturn which is making the fund look worse than its shadow comparison, opposite to H1's prediction.

Window	High-beta funds (β>0.5, n=7)	Low-beta funds (β≤0.5, n=7)
20-day	−0.20%	+0.94%
30-day	+0.49%	+1.21%
60-day	−1.73%	+0.07%

Table 4. Naive−shadow alpha gap by realized beta vs. benchmark's 50% weight.

9. Discussion: The pooled, single-number result that alpha is inflated 0.76% annualized, p = 0.003 is not defensible alone once Section 8's diagnosis is considered. It should be replaced with a further claim. For strategies with below-benchmark exposure, naive-benchmark alpha inflation is robust across every window tested. For strategies with above-benchmark exposure, the effect's sign is conditional on which market regime the estimation window is sampled.

This has a direct and a practical implication. A fixed-weight benchmark is not just imprecise for exposure-varying strategies. The apparent skill or inflation decision can flip depending on market conditions during the evaluation window. This is especially true for above-benchmark-exposure

strategies. Evaluators should treat SIF-vs-benchmark comparisons as regime-conditional. This matters most over short windows.

10. Equity Long-Short and Hybrid Long-Short Strategies: Confirmed Benchmarks and Exposure Validation

Four Equity Long-Short strategies (Arudha, Diviniti, DynaSIF, qsif) and three Hybrid Long-Short strategies (qsif-Hybrid, Magnum, Altiva) are analysed using each fund's own confirmed benchmark. Filtering AMFI's universe to the Equity Long-Short Fund category yields 38 scheme rows across 10 fund families. Applying a 120-day minimum-history filter narrows this to 4 strategies. The Hybrid Long-Short sample uses the reconstructed Nifty 50 Hybrid Composite Debt 50:50 benchmark.

Two of the four Equity Long-Short strategies use Nifty 500 TRI (Arudha, qsif); Diviniti uses Nifty 50 TRI. DynaSIF's stated BSE 500 TRI has no accessible free daily series and is substituted with NIFTY 500 TRI which is a materially close proxy. Because Equity Long-Short exposure varies via short positions/derivatives rather than a debt allocation, the shadow benchmark for this sample blends each fund's stated benchmark with the risk-free rate rather than a debt index. It uses RBI's 91-day Treasury Bill series in place of the primary panel's FRED proxy.

Table 5 presents, mean daily alpha difference (naive − shadow) for the Equity Long-Short sample as +0.000021 (annualized +0.52%); t = 1.48 (df=3), p = 0.118. This is not significant at this sample size, though three out of four strategies are directionally consistent with H1.

Strategy	Benchmark	n	avg β	diff (ann.)	p(naive)
Arudha	Nifty 500 TRI	54	0.53	+0.07%	0.292
Diviniti	Nifty 50 TRI	132	0.39	−0.03%	0.072
DynaSIF	BSE 500 TRI*	73	0.74	+0.58%	0.501
qsif	Nifty 500 TRI	169	0.63	+1.67%	0.177

Table 5. Fund-specific-benchmark naive/shadow alpha, Equity Long-Short sample. * = substituted benchmark.

Monthly portfolio holdings were collected directly from each AMC's own disclosure page for all seven strategies (105 scheme-month rows). Holdings-based net exposure ranges from 9.9% to 93.3% for Equity Long-Short and 16.2% to 76.5% for Hybrid. This exposure is genuinely time-varying, not a static hedge ratio.

Matching 26 (scheme, disclosure-date) pairs to the nearest rolling beta (±10 days) gives Pearson r = 0.441 (p = 0.024) and Spearman ρ = 0.437 (p = 0.026). Both are significant, confirming rolling beta tracks real disclosed exposure. Dropping Altiva's single observation (n=25) leaves the correlation significant (r=0.413, p=0.040).

At the base case (60-day window), neither of the sub-samples rejects H0 (Equity Long-Short n=4, p=0.631; Hybrid n=3, p=0.208). Window-length robustness as shown in Table 6 depicts instability for Equity Long-Short which is significant at 40 days, non-significant at 60, marginal at 90 days, although, for the Hybrid it is stable throughout. Two of seven strategies (qsif Equity Long-Short, Altiva Hybrid) show significant serial correlation; Newey-West standard errors used throughout, are appropriately larger for these two.

Window	ELS t_p	ELS Wilcoxon p	Hybrid t_p	Hybrid Wilcoxon p
40d	0.0092	0.0625	0.368	0.375
60d (base)	0.631	0.813	0.208	0.250
90d	0.087	0.125	0.482	0.625

Table 6. Window-length robustness (threshold fixed at 120 days).

Across both sub-samples, the window-length instability observed for the broader panel recurs specifically for Equity Long-Short strategies. The core exposure-adjustment method, rolling beta is externally validated against independently disclosed portfolio holdings across all seven strategies, even where the alpha-inflation hypothesis itself is not confirmed at this sample size.

11. Limitations

The sample is immature as even the longest-running SIF strategies have under a year of history. The benchmarks substitute a G-Sec-only proxy for the true debt index. Findings are regime dependent as those rests on one rally-to-selloff cycle within a single ten-month sample; a longer, multi-regime sample is needed to confirm stability. Analysis uses Direct-Plan-Growth NAV only and didn't deal with Regular plans.

12. Conclusion

Using a rolling-beta exposure-adjusted shadow benchmark, the study found suggestive but conditional evidence that fixed-weight benchmarks inflate apparent alpha for India's new SIF long-short and hybrid strategies. The effect is robust for strategies running below-benchmark net equity exposure across every specification tested. It is conditional on market regime for strategies running above-benchmark exposure. As the SIF category matures and accumulates a longer track record spanning multiple market regimes, this analysis should be revisited with a larger, less regime-concentrated sample. Until then, the study recommends reporting the subgroup-conditional finding rather than a single pooled estimate wherever this result is cited.

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