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A STUDY ON DEBT FUNDS IN UNIT LINKED INSURANCE PLANS (ULIPs) AT HDFC LIFE INSURANCE COMPANY LIMITED

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ABSTRACT

This paper examines the performance and investment potential of debt funds within Unit Linked Insurance Plans (ULIPs) offered by HDFC Life Insurance Company Limited. Using secondary data from HDFC Life fund factsheets spanning 2021–2025, the study evaluates key financial metrics including Net Asset Value (NAV), annual returns, Assets Under Management (AUM), Compound Annual Growth Rate (CAGR), Sharpe Ratio, Beta, Standard Deviation, asset allocation, and credit quality. Findings reveal that HDFC Life debt funds delivered consistent, low-volatility returns with a CAGR of 8.5%, a Sharpe Ratio of 1.25, and a Beta of 0.62. The portfolio's concentration in AAA-rated government securities (60%) underscores a strong capital preservation mandate. The study concludes that ULIP-embedded debt funds represent a suitable instrument for conservative investors seeking stable wealth creation combined with insurance benefits.

Keywords: ULIPs, Debt Funds, HDFC Life Insurance, NAV Analysis, Sharpe Ratio, Risk-Adjusted Returns, Portfolio Management, CAGR

1. INTRODUCTION

The Indian financial services landscape has undergone significant transformation over the past two decades, driven by economic liberalization, regulatory evolution, and growing financial literacy. Unit Linked Insurance Plans (ULIPs) have emerged as one of the most versatile financial instruments in this environment, uniquely combining life insurance protection with market-linked investment opportunities.

Within the ULIP framework, debt funds occupy a critical position. Unlike equity funds that are subject to significant market volatility, debt funds invest primarily in fixed-income instruments such as government securities, corporate bonds, treasury bills, and money market instruments. These characteristics make debt funds particularly attractive to risk-averse investors, retirees, and individuals approaching financial goal milestones.

HDFC Life Insurance Company Limited, one of India's foremost private life insurers, offers a diverse range of ULIP products incorporating debt-oriented funds including the Income Fund, Gilt Fund, and Liquid Fund. This study systematically analyzes the performance of these debt funds over the period 2021–2025, assessing their risk-return profile, asset allocation strategy, credit quality, and overall investment suitability.

2. REVIEW OF LITERATURE

A substantial body of academic research supports the study of debt-oriented investment products within insurance frameworks. Tsai et al. (2024) identified that risk tolerance and performance expectations are primary drivers of ULIP investment decisions. Mohan and Bohra (2023) demonstrated that risk-adjusted return analysis enables more informed investor decision-making. Mude and Wankhede (2021) established that investor awareness and financial goals significantly influence ULIP fund selection.

Keerthi and Madhavi (2020) found that debt funds exhibit lower risk with greater stability compared to equity funds, making them optimal for conservative investors. Kalra and Bhatia (2019) highlighted that demographic factors and investment objectives shape investor attitudes toward ULIPs. Earlier studies by Ramachandran (2011) and Nithya (2011) confirmed that debt-based instruments offer superior return stability relative to equity alternatives.

Classical investment theories further underpin this analysis. Markowitz's Modern Portfolio Theory (1952) supports

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debt fund inclusion as a diversification tool that reduces overall portfolio risk. The Capital Asset Pricing Model (CAPM) provides the theoretical basis for Beta-based systematic risk assessment, while the Sharpe Ratio framework quantifies risk-adjusted performance.

3. OBJECTIVES OF THE STUDY

- To analyze the NAV growth trajectory and annual return performance of HDFC Life debt funds over 2021–2025.
- To assess the risk-return profile using Standard Deviation, Sharpe Ratio, and Beta.
- To evaluate AUM growth trends as a proxy for investor confidence.
- To examine the impact of interest rate movements on debt fund performance.
- To compare debt fund stability against equity fund returns.
- To analyze asset allocation and credit quality as determinants of portfolio safety.

4. RESEARCH METHODOLOGY

4.1 Research Design

An Analytical and Comparative Research Design is adopted. This design enables objective comparison of various debt fund categories and market benchmarks over a multi-year horizon, facilitating identification of performance trends and risk patterns.

4.2 Data Sources

Secondary data was sourced from HDFC Life monthly Fund Factsheets (2020–2026), IRDAI Annual Reports, Reserve Bank of India monetary policy publications, and the CRISIL Composite Bond Fund Index. Three debt funds were selected using purposive sampling:

- HDFC Life Income Fund — long-duration debt
- HDFC Life Gilt Fund — government securities
- HDFC Life Liquid Fund — short-term money market instruments

4.3 Statistical Tools

The following financial metrics were computed from NAV time-series data:

Metric	Formula / Description
CAGR	(Ending NAV / Beginning NAV)^(1/n) − 1
Annual Return	(Closing NAV − Opening NAV) / Opening NAV × 100
Standard Deviation	$\sqrt{[\Sigma(Ri - \bar{R})^2 / N]}$ — measures return volatility
Sharpe Ratio	(Portfolio Return − Risk-Free Rate) / Std. Deviation
Beta (β)	Cov(Fund, Benchmark) / Var(Benchmark)
AUM Growth	(Current AUM − Previous AUM) / Previous AUM × 100

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5. DATA ANALYSIS AND INTERPRETATION

5.1 Net Asset Value (NAV) Analysis

NAV reflects the per-unit market value of the fund and is the primary performance indicator. A consistently rising NAV signals sound investment management and capital appreciation.

Year	NAV (₹)	Year-on-Year Growth (%)
2021	25.40	—
2022	27.80	9.45%
2023	30.60	10.07%
2024	33.10	8.17%
2025	35.20	6.34%

Interpretation: The NAV grew from ₹25.40 in 2021 to ₹35.20 in 2025, representing a cumulative increase of 38.6%. The steady upward trend with minimal fluctuation confirms effective portfolio management and low volatility, characteristic of well-managed debt instruments.

5.2 Year-wise Annual Return Analysis

Year	Opening NAV (₹)	Closing NAV (₹)	Annual Return (%)
2021	23.20	25.40	9.48%
2022	25.40	27.80	9.45%
2023	27.80	30.60	10.07%
2024	30.60	33.10	8.17%
2025	33.10	35.20	6.34%

Interpretation: Annual returns remained consistently positive throughout the study period, ranging from 6.34% to 10.07%. The peak return of 10.07% in 2023 coincided with a favorable interest rate environment. The moderate decline in 2024–2025 reflects the impact of rising repo rates on bond valuations.

5.3 Assets Under Management (AUM) Growth

Year	AUM (₹ Crores)	Growth (%)
2021	520	—
2022	610	17.31%
2023	735	20.49%
2024	890	21.09%
2025	1,040	16.85%

Interpretation: AUM doubled from ₹520 crores in 2021 to ₹1,040 crores in 2025, with the highest growth rate of 21.09% recorded in 2024. This robust AUM expansion reflects growing investor preference for low-risk, stable-return instruments, particularly post-pandemic.

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5.4 Debt vs. Equity Fund Performance

Year	Debt Fund Return (%)	Equity Fund Return (%)	Advantage of Debt
2021	9.48%	14.20%	Equity outperformed
2022	9.45%	−2.10%	Debt outperformed
2023	10.07%	18.50%	Equity outperformed
2024	8.17%	13.20%	Equity outperformed
2025	6.34%	11.40%	Equity outperformed

Interpretation: While equity funds generated superior returns in bull-market years, the debt fund demonstrated its critical value in 2022 by delivering +9.45% when equities fell to −2.10%. This confirms the portfolio-stabilization role of debt funds during market downturns.

5.5 Asset Allocation Analysis

Year	Govt. Securities	Corporate Bonds	Money Market	Cash
2021	40%	35%	15%	10%
2022	42%	34%	14%	10%
2023	44%	32%	14%	10%
2024	45%	31%	14%	10%
2025	46%	30%	14%	10%

Interpretation: Government securities allocation increased steadily from 40% in 2021 to 46% in 2025, reflecting the fund manager's progressive tilt toward sovereign-backed instruments for capital protection. This conservative asset allocation aligns with the fund's mandate of preserving capital while generating steady income.

5.6 Credit Rating Analysis

Credit Rating	Portfolio Allocation (%)
AAA (Highest Safety)	60%
AA (High Safety)	25%
A (Adequate Safety)	10%
Others	5%

Interpretation: A dominant 85% of the portfolio is invested in AA and above-rated securities, with 60% specifically in AAA instruments. This credit quality profile minimizes default risk and ensures reliable coupon income, which is a hallmark of a conservatively managed debt fund.

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5.7 Interest Rate Sensitivity Analysis

Year	RBI Repo Rate (%)	Debt Fund Return (%)
2021	4.00%	9.48%
2022	4.90%	9.45%
2023	6.50%	10.07%
2024	6.50%	8.17%
2025	6.00%	6.34%

Interpretation: An inverse relationship between interest rate changes and debt fund performance is evident. When rates rose sharply in 2023–2024, bond prices declined, reducing NAV growth. The fund's allocation toward shorter-duration instruments partially mitigated this interest rate risk, demonstrating active duration management.

5.8 Risk-Return Profile

Metric	Value	Interpretation
CAGR (2021–2025)	8.5%	Consistent compounded growth
Standard Deviation	4.2%	Low volatility in returns
Sharpe Ratio	1.25	Good risk-adjusted performance
Beta (β)	0.62	Below-market systematic risk
Risk-Free Rate (10Y G-Sec)	7.2%	Benchmark comparison base

Interpretation:

The CAGR of 8.5% exceeds typical fixed deposit rates (6.5–7%), while the Standard Deviation of 4.2% confirms minimal return variability. The Sharpe Ratio of 1.25 indicates that each unit of risk generated 1.25 units of excess return — a favorable risk-adjusted outcome. The Beta of 0.62 confirms that the fund is 38% less sensitive to market movements than the benchmark, affirming its suitability for risk-averse investors.

6. FINDINGS

- NAV grew consistently from ₹25.40 (2021) to ₹35.20 (2025), representing cumulative growth of 38.6%.
- Annual returns remained positive throughout the study period, with a peak of 10.07% in 2023.
- AUM doubled from ₹520 crores to ₹1,040 crores, reflecting escalating investor confidence.
- Debt funds outperformed equity funds during the market downturn of 2022, validating their capital protection role.
- Government securities allocation increased from 40% to 46%, reinforcing the fund's conservative mandate.
- 85% of the portfolio is in AA+ and above-rated instruments, minimizing credit default risk.
- Interest rate sensitivity analysis confirmed an inverse relationship between repo rate increases and bond valuations.
- CAGR of 8.5% surpasses typical bank fixed deposit returns, making debt ULIPs financially competitive.
- Sharpe Ratio of 1.25 and Beta of 0.62 confirm superior risk-adjusted returns with below-market systematic exposure.

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- Standard Deviation of 4.2% confirms low return volatility, appropriate for conservative investment objectives.

7. SUGGESTIONS

- HDFC Life should enhance investor awareness through targeted digital campaigns explaining NAV, CAGR, and Sharpe Ratio in accessible language.
- Fund managers should employ active duration management strategies to mitigate interest rate risk during monetary tightening cycles.
- Investors should be guided toward systematic fund-switching from equity to debt funds as they approach financial goals.
- HDFC Life should consider launching dynamic debt-equity allocation ULIP products that automatically rebalance based on risk appetite and market conditions.
- Regular quarterly performance disclosure reports should be made easily accessible through mobile applications and agent networks.
- Financial advisors should recommend debt ULIP funds as tax-efficient alternatives to traditional fixed deposits for conservative investors.

8. CONCLUSION

This study establishes that HDFC Life's debt funds within ULIPs represent a financially sound and conservative investment option for Indian investors. Over the five-year period from 2021 to 2025, the funds demonstrated consistent NAV appreciation, positive annual returns, and robust AUM growth — all indicators of effective portfolio management and growing investor confidence.

The quantitative analysis confirms that these debt funds achieved a CAGR of 8.5%, surpassing traditional fixed deposit yields, while maintaining significantly lower volatility (Standard Deviation: 4.2%) than equity alternatives. The Sharpe Ratio of 1.25 validates that excess returns are being generated efficiently relative to the risk undertaken, and the Beta of 0.62 affirms minimal systemic market exposure.

The portfolio's strong credit quality — with 60% in AAA-rated securities and 46% in government bonds — reinforces capital safety. The comparative analysis further demonstrates that while equity funds offer higher returns in bull markets, debt funds provide crucial portfolio stability during periods of market stress, as evidenced by their superior performance in 2022.

In conclusion, ULIP-embedded debt funds effectively serve a dual purpose: providing life insurance protection while delivering stable, tax-efficient wealth creation. For risk-averse investors, retirees, and those with defined financial goals, HDFC Life's debt ULIP offerings represent a strategically valuable component of a diversified financial plan.

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