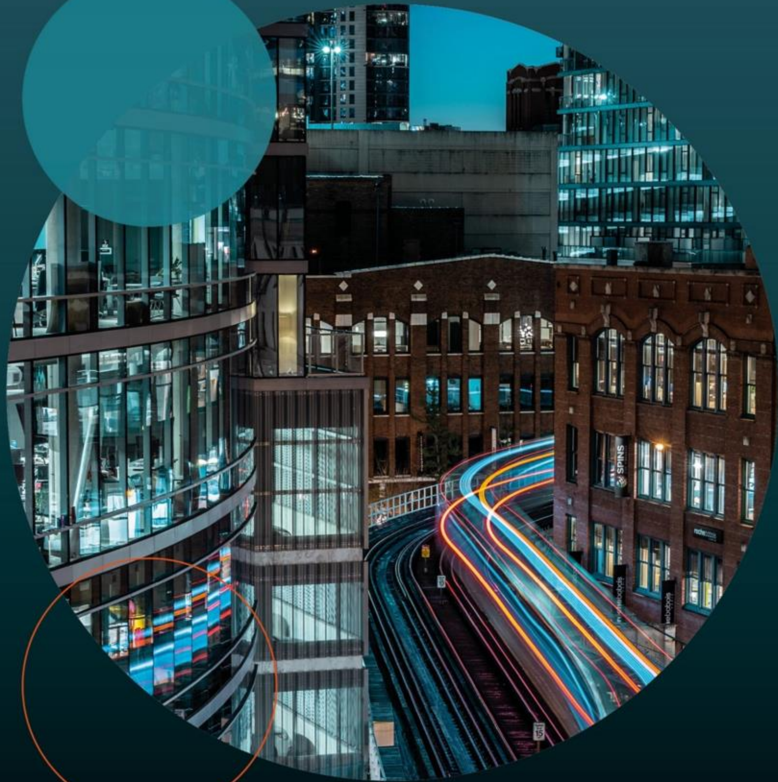
LDI Manager Watch™ Survey
for the month ending December 2024



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LDI MANAGER WATCH™ SURVEY

HOW TO INTERPRET AND USE THIS SURVEY

LDI is a complex area of investment. AF strongly recommends that investors obtain professional assistance in determining whether a specific LDI strategy or LDI manager is appropriate for them. The guide below is not sufficiently comprehensive to enable most investors to reliably choose an LDI manager without further assistance. The guide will help investors appreciate the drivers of differential performance between managers and strategies at specific times in the market.

General

The LDI survey reports on the outperformance LDI asset managers deliver relative to a liability based benchmarks. The survey provides simple numerical measures that encapsulate the risk these managers have exposed clients to as well as the outperformance they have acheived. The survey reports on the performance of 'composites', or groups of portfolios with similar characteristics.

Most LDI hedging techniques are based on algorithmic solutions (or rules based mathematical techniques), suggesting that ineffective hedging techniques will very rapidly show up in this survey. The skill set of managers offering low risk solutions, tracking liabilities closely with tight mandate restrictions will generally show up over even short periods such as one year. It is however always preferable to evaluate these managers over a longer period if this is available. The period used for analysis should include at least one large shift in yield curves. More than one large shift in yields has occurred during the last twelve months; the short history available in this survey is hence adequate for judging manager's ability to create effective hedges.

In addition to focusing on tracking liabilities, some managers target outperformance of liabilities by investing in riskier asset classes such as credit (and potentially view taking on the markets). An evaluation of the approach used and the skills of each manager is required to assess how likely these managers are to deliver alpha in the future. The past performance of these managers can be used as part of this evaluation. Longer periods will be required to accurately form a view of how good the manager is at choosing and managing credit. The exact length will depend on the strategy used, but may require five years or longer. Many LDI managers do not have a track record this long. It is useful in such cases to look at the manager's performance in ordinary credit portfolios.

Investors also need to consider the time frame over which they measure risk when choosing a manager and more importantly, in setting their mandates, mandate restrictions and portfolio targets. For example, listed companies may need to manage pension fund or other sinking fund risks over a very short period to match their reporting requirements. Pension funds that are valued once every three year, with a larger risk appetite and a desire to target growth could use a longer evaluation period such as three years.

Specific measures

Liability outperformance shows how much value, in excess of the growth in liabilities, the manager was able to add for their client. All else being equal, a larger outperformance is preferable. Investors should consider a sufficiently long performance period to smooth over interest, credit and inflation cycles if they are primarily concerned with the longer term performance of their liability hedging activities. For example, certain investors may require close tracking on a monthly basis, whilst others may be more concerned with longer term value add. Investors should therefore give adequate attention to manager performance over periods that match their own reporting, risk evaluation and risk tolerance frequency. Consideration should be given to all the stakeholders associated with the liability in reaching this decision.

Liability convexity and duration are technical measures of certain liability characteristics. In general, the larger these quantities are, the more difficult it is to create an effective hedge. These measures can hence be seen as one of the constraining factors governing managers' efficacy in hedging and adding outperformance. Performance is therefore not necessarily comparable between managers with vastly different liability durations and convexities. A typical defined benefit pensioner liability increasing with full inflation annually has a duration between nine and twelve years at current yields.

The % government bonds shows the portion of the manager's portfolios invested in government issued bonds. All else equal, the lower this percentage is, the greater one would expect the long term outperformance of liabilities to be. This figure may also reflect mandate constraints regarding the inclusion of credit.

The % unlisted exposure shows the proportion of the portfolio which is invested in unlisted instruments. Unlisted instruments may (but are not necessarily) subject to poor valuations or infrequent valuations by the manager. Many unlisted instruments such as swaps may be valued independently by a counterparty bank, partially mitigating this risk.

A brief description of the benchmark used is given for each composite. Only similar composites should be compared directly. For example, swap based and bond based benchmarks are not directly comparable.

Portfolio as a percentage of liability shows the size of the assets managed by the manager relative to the size of the liability the manager is mandated to hedge. For example, a pension fund with a R100 liability that gives their LDI manager R50 and invests R50 into the equity market would have a proportion of 50%. All else being equal, the larger this portion is, the easier it is to hedge a liability. This is hence an additional constraining factor on managers. Portfolios in the survey have been grouped into bands expected to offer similar hedging efficacy.

The minimum funding level shows the lowest funding level that would have applied over various time periods, assuming the investor's liabilities and assets were equal at the start of the period. Assuming all else is equal, larger minimum funding levels are preferable. A minimum funding level is an important risk measure in evaluating how well a manager can manage downside risk relative to the investor's liability.

Tracking error shows the dispersion of portfolio returns relative to the investor's liability. All else being equal, a lower tracking error is preferable. Unfortunately tracking error captures outperformance (desirable) as well as underperformance (undesirable). Where close liability tracking is not essential, the minimum funding level is a superior measure of risk. For example, a manager providing a high degree of outperformance and high minimum funding levels may be a suitable choice even if this manager has a high tracking error.

The risk adjusted outperformance shows the extent to which managers outperform liabilities, adjusted for the tracking error or risk they have introduced. All else equal, a larger risk adjusted return is preferable. The risk adjusted return may however be an inappropriate measure for certain investors with specific liability objectives. For example some risk tolerant investors wish to maximise long term outperformance of liabilities. Such investors should focus on outperformance of liabilities in choosing a manager. Other risk averse investors may wish to track their liabilities as closely as possible. Such investors should focus on choosing a manager based on tracking error.

LDI MANAGER WATCH™ SURVEY

COMMENTARY

General

Longer-dated nominal bond yields generally rose during the fourth quarter ("Q4") of 2024. The increases are partly a result of lower prices, which were driven by low demand for local bonds over the quarter. More details on specific yield curve movements are in their dedicated sections below. The unfolding history of these yields influence Liability Driven Investment (LDI) performance over time. The key news items over the quarter are below:

- The current global economic environment is driven by high global inflation and the decisions made by central banks around the world.
- The year 2024 was a year of elections, with over half the world population being eligible to cast their votes across over 60 countries.
- South Africa's election, and subsequent formation of the Government of National Unity (GNU), had positive short-term impacts for financial markets.
- Inflation continued to be a major concern for global economies, including in South Africa. The South African Reserve Bank's (SARB's) main target is to keep local inflation between 3.0% and 6.0%. South African consumer price inflation (CPI, "inflation") was 7.2% over 2022, higher than the target band. The inflation rate was lower over 2023, totalling 5.1%.
- The total inflation rate over 2024 was 3.0%, which is at the bottom end of the SARB's target range. This low annual inflation includes Q4, which had quarterly inflation of zero.
- In response to slowing inflation, the SARB changed its stance from hawkish (where they focus on curbing inflation) to dovish (where they focus on economic growth).
- This change was signalled by the first reduction to repo rates in four years, by 25 basis points to 8.00%. This is still a higher rate of interest than the pre-pandemic rate of 6.50%.
- The SARB continued to reduce rates in November 2024, by implementing a further 25 basis point reduction to 7.75%.
- Inflation has become lower in many global economies because of higher, sustained interest rates. This quarter, many of the world's major central banks reduced their interest rates in response.
- Consumer Price Inflation in the USA ("US inflation") was 6.5% over 2022 and 7.0% in 2021. Both are high compared to the US Fed's target rate of 2.0% per annum.
- The US inflation index reduced in Q4 of 2023, bringing the total inflation to 3.4% over 2023. The large reduction in annual inflation over 2023 resulted from recent US Fed hawkishness.
- The pattern of reducing inflation continued into 2024, with annual inflation of 2.9%.
- The Fed Funds rate was 0.00% in January 2022 before twelve consecutive increases, ending in July 2023 at a rate of 5.50%.
- The Fed maintained their interest rate at 5.50% for over a year.
- In a response to lower levels of inflation, despite it still being higher than their 2.0% target, the Fed reduced its interest rate by 50 basis points to 5.00% in September 2024. This matches the actions and changing intentions of the SARB.
- A second and third decrease followed in November 2024 and December 2024, by 25 basis points each, to 4.75% and 4.50% respectively.
- Consumer Price Inflation (CPI) in the European Union ("EU") was 9.2% over 2022 and 2.9% in 2023. CPI in the United Kingdom ("UK") was 10.5% in 2022 and 4.0% in 2023. The progressive reductions to inflation in these areas also triggered reductions in interest rates.
- The Bank of England ("BoE") decreased its interest rate by 25 basis points from 5.25% to 5.00% in August 2024, before interest rates reduced in the USA and in South Africa.
- The BoE reduced the rate again in November 2024, like the USA and South Africa, by 25 basis points. The interest rate at the end of Q4 was 4.75%.
- The BoE previously increased their rate fourteen consecutive times since December 2021 when it was 0.15% and had maintained the high interest rate of 5.25% for a year.
- The European Central Bank (ECB) began its rating cutting cycle earlier than the UK, the USA, and South Africa.
- The ECB had increased its rates ten times from July 2022 to September 2023, after which it maintained the elevated rate of 4.50% for three consecutive quarters.
- The ECB has since lowered their interest rate four times, first in June 2024 to 4.25%. Then, a further decrease in September brought their interest rate to 3.65%. This quarter, two further decreases followed, first by 25 basis points to 3.40% and then by a further 25 basis points to 3.15%.
- The People's Bank of China ("PBOC") acted differently to the abovementioned central banks.
- Contrasting the local and global hawkishness, the PBOC lowered rates after the pandemic, despite rising global inflation.
- Since the global COVID shutdown, the PBOC has only decreased interest rates. With the need to protect future levels of economic growth being more concerning to the PBOC than the need to curb inflation.
- The PBOC reduced its interest rates in October 2024 by a further 25 basis points from 3.35% to 3.10%.
- The looser monetary policy is intended to help ease various short-term pressures in the local market caused by the Zero COVID-related lockdowns and continued challenges in property markets. In the longer term, the government's plan to achieve "common prosperity" may affect economic growth and markets.
- South African markets had a positive 2024, with 13.4% in returns from the JSE All Share Index and the Capped SWIX Index, and with 17.2% from the All Bond Index.
- Global markets also saw positive returns in Rand terms. The USA region has the highest return on equities at 29.4%, while Europe was more muted at 6.0%. Other noteworthy regions include China and the UK which had equity returns of 23.8% and 10.5% respectively.
- The continued military conflict in Ukraine involving Russia and Ukraine may continue to influence markets over 2024 and into 2025, with volatility in markets being exacerbated by the continued violent conflict in Israel and Palestine.
- Additionally, the return of President Donald Trump may impact markets as he begins to implement new global strategies and to introduce tariffs on trading partners.

Bond managers continue to face the challenges of a volatile market, where developed nation bonds have lower yields and emerging market bonds have higher risks.
Positive performance would be expected to have favourable effects for LDI hedging strategies, since many defined benefit funds have elected to combine interest- and inflation-hedging with growth assets (like SA and global equities).
Liabilities and their immunising bond (LDI) portfolios have performed similarly over the quarter, so the rising values of growth assets would, generally, lift funding levels, depending on the relative level of de-risking.

Inflation-linked bond section

Real yields (I2050) in the long end increased by 5 basis points from 4.85 % at the end of Q3 to 4.90% at the end of Q4 (December 2024). Yields generally increased across the long and short ends of the real yield curve.
High real yields present an opportunity for funds to hedge real liabilities, including those that have not been able to do so in the past. It may be worth re-visiting this topic if you are a decision-making agent for an entity with defined liabilities (such as a defined benefit retirement fund or an insurer) without existing LDI assets. However, this opportunity would need to contrast against to the potential loss of higher expected returns (due to reduced allocations to growth assets like equities and property). We recommend discussing this with an LDI expert or your valuator.
Higher yields also benefit funds transitioning unhedged active members into a hedged pensioner pool, as the transfer (and subsequent expansion of the LDI hedge) may occur at a higher yield than was previously possible.

Nominal bond section

Long-dated nominal bond yields increased over the quarter with bond yields of the R2040 rising by 36 basis points from 10.67% at the end of Q3 to 11.03% at the end of Q4 (December 2024).
Considering the 2030 maturity (R2030), the yields in the medium end of the curve also increased. Yields on the R2030 rose by 21 basis points from 8.83% at the end of Q3 to 9.04% at the end of Q4 (December 2024). The increases in yields occurred generally across the curve.

Conclusion

Manager returns were diverse over the quarter. Given the broad range of characteristics seen in the participants' composites, this is as expected. For example, the levels of allocations to credit and the benchmark durations vary notably.

BEE AND ESG DETAILS AS AT THE END OF DECEMBER 2024						
Manager	Empowerment Rating	Total empowerment Shareholding (%)	Empowerment Shareholding		We endorse/are signatories to:	
			Ownership/Partner(s)	Empowerment shareholding composition as a percentage of total empowerment ownership	CRISA (Code for Responsible Investing in South Africa)	PRI (United Nations Principles for Responsible Investing)
Ashburton	Level 1	30.10%	BEE Partners Shareholding Other Royal Bafokeng Holdings (Pty) Ltd	17.28% 70.76% 11.96%	Yes	Yes
Ninety One	Level 1	36.14%	Flow-through Ninety One Limited	100.00%	Yes	Yes
STANLIB	Level 1	35.75%	Liberty Holdings Limited	100.00%	Yes	Yes

LDI MANAGER WATCH™ SURVEY

Objective - The portfolios included in this survey represent liability-driven investment funds with benchmarks expressly referencing investor liabilities.

INVESTMENT DATA TO THE END OF DECEMBER 2024												
	3rd Party Assets	OUTPERFORMANCE OF LIABILITY					LIABILITY CHARACTERISTICS				PORTFOLIO CHARACTERISTICS	
		Month	Quarter	1 Year	3 Years (p.a.)	5 Years (p.a.)	Liability benchmark duration	Liability benchmark convexity	% exposure to credit assets	% unlisted exposure	Portfolio Size (R m)	Benchmark
INFLATION-LINKED BOND YIELD CURVE BENCHMARKING												
Ashburton	Yes	-0.12%	-0.14%	-0.64%	-0.44%	-0.29%	7.52	93.50	1.70%	0.00%	557.06	Liability benchmark, zero spread
STANLIB Composite 1	Yes	0.48%	0.83%	5.47%	6.82%	6.51%	7.51	95.64	100.00%	10.84%	1 550.95	Liability benchmark, zero spread
STANLIB Composite 3		0.00%	-0.04%	-0.01%	0.03%	0.22%	11.75	223.88	0.00%	0.00%	929.35	Liability benchmark, zero spread
NOMINAL BOND YIELD CURVE BENCHMARKING												
Ninety One	Yes	0.00%	0.00%	0.00%	0.00%	0.00%						Liability benchmark, zero spread
STANLIB Composite 2	Yes	-0.04%	0.19%	0.06%	0.52%	0.68%	7.69	101.06		0.00%	555.87	Liability benchmark, -25bps spread
TOTAL											3 593.23	
INDICES												
All Bond Index		-0.35%	0.43%	17.18%	10.25%	9.56%						
JSE ASSA SA Gov ILB Index		0.77%	0.82%	7.83%	6.37%	7.69%						
STeFi		0.66%	2.01%	8.46%	7.23%	6.17%						

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INVESTMENT DATA TO THE END OF DECEMBER 2024												
RISK STATISTICS												
	LDI portfolio as a percentage of liability (P = Physical / E = Effective)				Minimum funding level assuming an artificial starting level of 100% at the start of the period				Tracking error (annualised)			
	<25%	25-50%	50-75%	>75%	Quarter	1 Year	3 Years	5 Years	Quarter	1 Year	3 Years	5 Years
INFLATION-LINKED BOND YIELD CURVE BENCHMARKING												
Ashburton			PE		99.86%	99.36%	98.68%	98.54%	0.72%	1.35%	0.98%	2.05%
STANLIB Composite 1			P	E	100.15%	100.68%	102.19%	100.39%	0.62%	1.67%	1.85%	1.74%
STANLIB Composite 3				PE	99.93%	99.97%	99.91%	99.74%	0.17%	0.16%	0.16%	0.59%
NOMINAL BOND YIELD CURVE BENCHMARKING												
Ninety One				PE	100.00%	100.00%	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%
STANLIB Composite 2				PE	100.18%	99.87%	100.00%	99.30%	0.38%	0.50%	0.45%	0.64%

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INVESTMENT DATA TO THE END OF DECEMBER 2024			
	1 Year	3 Years (p.a.)	5 Years (p.a.)
INFLATION-LINKED BOND YIELD CURVE BENCHMARKING			
Ashburton	-0.47	-0.45	-0.14
STANLIB Composite 1	3.27	3.69	3.74
STANLIB Composite 3	-0.04	0.20	0.37
NOMINAL BOND YIELD CURVE BENCHMARKING			
Ninety One	Zero tracking error	Zero tracking error	Zero tracking error
STANLIB Composite 2	0.13	1.17	1.05

LDI MANAGER WATCH™ SURVEY

EXPLANATORY NOTES

General Disclaimers :

Performance figures are shown gross of fees and taxes. Past history is not necessarily a guide to future performance.

Quantitative figures are calculated on three year performance returns.

General :

Managers are ranked from highest to lowest active return. In some cases rankings may be different due to return differences disguised by the rounding. Rankings are purely for illustrative purposes.

Statistical Definitions :

The Median is the value above or below which half the managers fall.

The Upper Quartile is the value above which one quarter of the managers fall.

The Lower Quartile is the value below which one quarter of the managers fall.

Risk Analysis Definitions :

"Active return" is the return earned by the manager in excess of the benchmark, measured geometrically.

"Active Return" is a measure of the value that the manager has added or detracted over the benchmark return.

"Risk adjusted return" is the annualised standard deviation of the monthly "Active Returns".

"Risk adjusted retun" is a measure of the variability of the manager's returns relative to the benchmark returns.

"Minimum funding level" is the minimum cummulative active return during the measurement period added to one.

"Tracking Error" is a measure of the manager's ability to manage funding level risks.

"Prescribed Duration Measure" is the average of the time at which liability cashflows are paid, weighted by the proportion of present value paid at each time.

Prescribed Duration Measure = $\dfrac{\sum_{t \ in \ T} PV(t) * t}{\sum_{t \ in \ T} PV(t)}$

"Prescribed Duration Measure" is one of many factors affecting the difficulty of hedging a liability or adding outperformance. In general, the larger this value, the more challenging the mandate will be.

"Prescribed Convexity Measure" is the average of the squares of the times at which liability cashflows are paid, weighted by the proportion of present value paid at each time.

Prescribed Convexity Measure = $\dfrac{\sum_{t \ in \ T} PV(t) * t^2}{\sum_{t \ in \ T} PV(t)}$

"Prescribed Convexity Measure" is one of many factors affecting the difficulty of hedging a liability or adding outperformance. In general, the larger this value, the more challenging the mandate will be.