



CONSTANT MATURITY INDICES

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By guest contributor **Terry Toohey**, *Consultant*, [Atchison Consultants](#)

Traditionally investment portfolios are measured against indices in order to gauge the relative success or failure of the portfolio. However, there is a problem with this approach. While comparing one portfolio against a standard portfolio makes a lot of sense in theory, in practice it comes with some problems, especially in the bond market.

The problem can be reduced to one of how the indices are weighted. What type of bonds are included. AAA? High yield? What about the duration of the bonds included in the indices? The solution to these questions is to use constant maturity indices.

Fixed interest portfolios offer the prospect of a relatively high degree of clarity with respect to cash flows. This is why insurance companies, superannuation and pension funds often hold portfolios of bonds

An insurance company providing cover for personal injuries will have a clear perspective of the time frame for payment of benefits which might be five years. An “immunisation” strategy can be introduced which matches durations of expected liabilities and investment assets.

A perfect immunisation strategy establishes a “minimal-impact environment” on an organisation’s cash flows/net asset position. Interest rate movements have virtually no impact on the net asset position of an investor as the impacts on liability and asset values are nearly identical. That is where constant maturity indices come in.

Constant maturity indices maintain stable terms to maturity, durations, coupons and aggregate credit ratings. They are most beneficial as a benchmark for investors with a liability profile which is well-defined. Typical investors of this sort include insurance companies with both long and short term liabilities, variable-rate mortgage providers, defined-benefit superannuation funds and individuals with specific personal requirements in self-managed superannuation funds.

Constant maturity indices have certain strengths over traditional bond indices. Rising debt levels around the world raise fundamental questions about the construction methodology of traditional bond indices. Traditional indices are weighted according to the value of securities on issue.

There are several conceptual reasons why issuance-weighted indices may face a systemic performance drag.

Highly-Indebted Issuer Bias: An issuance index gives the highest weighting to issuers with the greatest amount of outstanding debt. This carries the risk indices are weighted by entities that may be issuing excessive obligations, thereby undermining the entity's creditworthiness.

Historical Bias: An issuance index measures outstanding stocks of debt, which are principally a reflection of historical issuance patterns. It may be biased towards new issuance by borrowers taking advantage of conditions which have been attractive to the borrowers rather than investors.

Constant maturity indices measure the change in value of notional fixed interest portfolios which have a constant term. These notional portfolios may be constructed to have terms of one month to twenty years. These indices are term weighted rather than debt issue weighted.

Constant maturity indices address the shortcomings of issuance weighting. In contrast to issuance weighting, a constant maturity index is term-weighted and therefore it is not impacted by new issues which add to the number of securities.

Atchison Consultants has developed a series of constant maturity indices. The principal purposes of these indices is to provide measures of market returns as well as for use as benchmarks by investment managers and investors.

Constant maturity indices may have a range of available terms. The key elements of the Atchison Consultants Constant Maturity Index with 5 year maturities are as follows:

Index Inception Date: 31 December 2010

Credit Duration: 2.48 Years

Interest Rate Duration: 2.48 Years

This index is based on a universe of interest rate swap contracts out to five years as well securities with different credit ratings. The index is constructed by establishing a series of portfolios based on the interest rate swap curve. It measures the average change in value of portfolios with a constant maturity.

Table 1: Performance of 5 Year Constant Maturity Index – to 31 October 2017

	AAA Return %	AA Return %	A Return %	BBB Return %	Composite Return %
1 Year	1.81	2.72	3.19	3.59	2.90
3 Years (p.a.)	3.04	3.33	3.25	4.26	3.36
5 Years (p.a.)	3.44	3.68	3.94	6.30	4.02

Source: Atchison Consultants

Over the five years to 31 October 2017 the return from the highest credit rating (AAA) portfolio has been the lowest of the various portfolios and the return from the lowest credit rating (BBB) portfolio has been the highest. Given standard risk-return theory, this conforms with the expected reward structure.