Education

The rise in popularity of decrement indices

April 2022

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Introduction

Unprecedented dividends cuts in 2020 due to the coronavirus pandemic have triggered the demand for a new type of underlying index that allows issuers to offset dividend risk, while addressing the challenge of providing yield in a low interest rate environment. This formed the backdrop for the growing popularity of decrement and other overlay strategies applied to equities indices, ranging from single stock and market cap to alternatively weighted, sector and ESG indices. The best product innovation typically happens during times of significant market events.

1. What is a decrement index?

A decrement index is a type of equity index, where a constant markdown, or 'decrement', is applied to the index. This decrement reflects the reinvestment of dividends implied by the dividend yield of the underlying equity index. The decrement can be calculated in different ways, either as a fixed number of dividend points or a fixed percentage, and applied to any equity exposure.

In Exhibit 1, we illustrate how a decrement index works.

We start with a price index (blue line), which increases over a five-year period from 100 to 115.

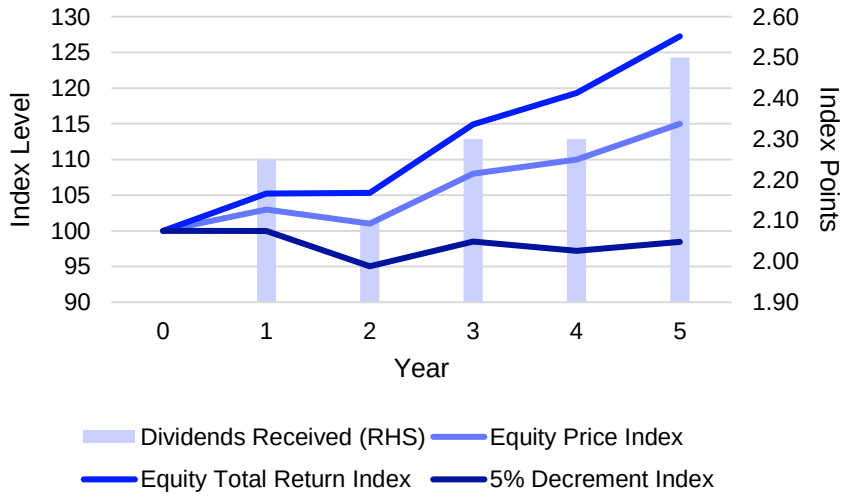
The dividends collected from the index constituents (the green bars, expressed in index points) are shown on the right scale.

A total return index (grey line) measures the performance assuming that all dividends are reinvested. Given the rise in the price index and the compounding effect of the reinvested dividends, this index increases from 100 to 127.26 over the five-year period.

The decrement index (brown line) is calculated from the total return index and includes an annual markdown. For the purpose of this example, the annual markdown used is 5%. As can be seen, the 5% annual markdown exceeds the index dividend yield (which is between 2-2.5%). As a result, the decrement index trails the price index over the period which illustrates the importance of applying a realistic markdown.

A decrement index offers a structured product issuer a constant cash distribution to offset dividend risk.

Exhibit 1: Decrement index example



Year	0	1	2	3	4	5
Equity price index	100.00	103.00	101.00	108.00	110.00	115.00
Dividends received (RHS)		2.25	2.10	2.30	2.30	2.50
Equity total return index	100.00	105.25	105.31	114.90	119.33	127.26
5% Decrement index	100.00	99.99	95.04	98.52	97.20	98.47

Source: FTSE Russell, for illustrative purposes only. For simplicity, the realized dividends and decrement are applied to the index calculation only once, at the end of each period.

2. How do standard equity indices treat dividends?

In price indices such as the FTSE 100 Index and Russell 2000 Index, dividends are ignored. The index level reflects only the prices of the underlying constituents.

In total return indices, dividends are reinvested proportionally across the index constituents, usually on the ex-dividend date, without any deduction for withholding tax. The index level therefore mirrors the experience of an investor holding the constituents and reinvesting the dividend income.

In net total return indices, dividends are reinvested proportionally across the index constituents, usually on the ex-dividend date, after a deduction for withholding tax. The index level therefore mirrors the experience of an investor holding the constituents and reinvesting dividend income after deducting dividend taxes.

3. Who uses decrement indices?

Decrement indices are used primarily by issuers of equity-linked structured products, which are debt obligations with an embedded equity derivative. As well as providing exposure to the performance of the equity market, structured products can offer investors specific features such as downside protection and a constant income stream.

Decrement indices give issuers of structured products the opportunity to offer an investment solution to their end clients.

4. Why is there increased interest in decrement indices?

One reason for the increased interest in stock decrement indices is the low level of interest rates seen since the 2008 financial crisis. This has presented structured product issuers with a challenge as the income desired by retail investors has become more expensive to produce. As mentioned, a decrement index offers a structured product issuer a constant cash distribution to offset dividend risk.

Low interest rates and the benefit of risk management in the current fiscal climate have led to the increased popularity of decrement indices.

A structured product can be seen as a zero-coupon bond with an added equity derivative. So, other things being equal, a structured product costs more to create in a low interest rate regime because the present value of the future redemption payment on the bond is higher.

Another reason for the recent popularity of decrement indices is that they enable issuers to offset dividend risk. When an issuer sells a structured product to investors, it hedges its short equity exposure by buying the index, or stocks, embedded in the structured product.

This leaves issuers exposed to dividend risk during the life of the structured product—a risk that became a reality in 2020 when multiple European companies cut their dividends.

5. What are fixed point and fixed percentage decrement indices?

A decrement can be applied either as a number of fixed points or as a fixed percentage to the underlying index. For example, a fixed 50 points decrement on an index value of 10,000 equals a 5% dividend yield.

However, the difference between the two options could result in a different performance profile: other things being equal, a fixed-point decrement index will outperform a fixed percentage index in *rising* markets, but underperform in a *falling* market. A fixed point deduction will take away less of a rising index value, but more of a declining index's value.

In case the index value of 10,000 in the example mentioned above grows to 20,000–a 50 points decrement equals a 2.5% dividend yield versus 100 points when a 5% decrement is applied.

6. How is a decrement index calculated?

FTSE Russell calculates fixed point and fixed percentage decrement indices using the following formulas.

The inputs for the calculation are the total return value of the underlying equity index and the fixed point (or fixed percentage) decrement. The decrement indices are then calculated daily. In the formulas shown in Exhibit 2, the day count convention is actual/365, but FTSE Russell also calculate indices with an actual/360 day count convention.

In the formulas below IL(t) = index level on day t and IL(t-1) = index level on day t-1.

Exhibit 2: FTSE decrement index calculation

Fixed points of index

$$IL(t) = IL(t-1)x\ UTR(t)/UKTR(t-1) -\ FP\ x\ ACT(t-1,t)/365$$

Fixed percentage of index

$$IL(t) = IL(t-1)x\ ((UTR(t)/UTR(t-1) -\ FD\ x\ ACT(t-1,t)/365))$$

where,

UKTR(t)	=	Closing total return value of the underlying index on calculation date (t)
UKTR(t − 1)	=	Closing total return value of the underlying index on calculation date (t − 1)
FP	=	Fixed points
FD	=	Fixed percentage
ACT(t− 1,t)	=	The number of calendar days between Calculation Date (t− 1) (excluded) and Calculation Date (t) (included).

For further information on the FTSE decrement index calculation methodology, see the index ground rules.

7. Which decrement indices does FTSE Russell calculate?

FTSE Russell currently calculates the decrement indices on various exposures, including single stock, market cap, alternatively weighted, sector and synthetic indices. Examples of decrement indices are shown in the table below.

We are able to launch decrement versions of any index in which a client has an interest. From a risk perspective, decrement indices are important, even away from an ultra-low interest rate environment, as they provide issuers the opportunity to develop investment solutions and minimize the dividend risk.

The best products are typically innovated during times of significant market events.

Exhibit 3: FTSE Decrement Indices

Index name	Fixed cost	Underlying index	Day count
FTSE 100 4% Fixed Dividend Act-360 Net Tax Index	4.0%	FTSE 100 Net of Tax Index	Act/360
FTSE 100 Synthetic 4% Fixed Dividend Act-365 Index	4.0%	FTSE 100 Synthetic Index	Act/365
FTSE 100 Equally Weighted 4% Fixed Dividend Act-360 Net Tax Index	4.0%	FTSE 100 Equally Weighted Index Net Tax Index	Act/360
Russell 2000 2% Decrement Index	2.0%	Russell 2000 Total Return Index	Act/365
Russell 2000 ESG Enhanced Target Exposure 3% Decrement Index	3.0%	Russell 2000 ESG Enhanced Target Exposure Total Return Index	Act/365

See our website for further details.

Exhibit 4: FTSE Single Stock Decrement Indices

Index name	Decrement level	Underlying index	Day count
FTSE Total Energies SE 2.54 Points Fixed Dividend Index	2.54	FTSE Total Energies Total Return 2021Aug25 Index	Act/365
FTSE BP PLC 0.155 Points Fixed Dividend Index	0.155	FTSE BP PLC Total Return 2021Aug25 Index	Act/365
FTSE GSK 0.76 Points Fixed Dividend Index	0.76	FTSE GSK Total Return 2021Aug25 Index	Act/365
FTSE Novartis 3 Points Fixed Dividend Index	3	FTSE Novartis Total Return 2021Aug25 Index	Act/365
FTSE Swisscom 22 Points Fixed Dividend Index	21	FTSE Swisscom Total Return 2021Aug25 Index	Act/365

See our website for further details.

8. What price is used?

Decrement indices use closing mid-market prices (or last trade prices, where available, for securities with local market quotations). The indices are calculated once daily at approximately 21:30-22:00 London time, shortly after the close of North American securities markets.

9. How are corporate actions treated?

The FTSE decrement index series follow the same corporate actions and events treatment as the underlying index. If a constituent in the underlying index has a stock split, stock consolidation, rights issue, bonus issue, a change in the number of shares in issue or a change in free float, the constituent's weighting in the index series will remain unchanged pre and post such an event.

Full details of changes to constituent companies due to corporate actions and events can be accessed in our Corporate Actions and Events Guide for Market Capitalization Weighted Indices.

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