

**ORDER FORM
MOODY'S B&H SCENARIO SETS**

Client:	The Government Actuary's Department	Moody's Rep:	Elena Ognivtseva
Terms of Agreement:	Terms of Agreement between and Moody's Analytics UK Limited, dated January 1, 2019 (Moody's Agreement No. 00114898.0) (the "Terms of Agreement")		
Order Form Effective Date:	January 7, 2022		

Pursuant to the Terms of Agreement and any additional terms set forth in this Order Form, the undersigned Client hereby agrees to license, and Moody's Analytics UK Limited ("Moody's") agrees to furnish, the Scenario Sets detailed below. Capitalized terms not otherwise defined in this Order Form shall have the meanings given to such terms in the Terms of Agreement. By signing this Order Form, the parties below agree to incorporate by reference the Terms of Agreement herein and to be bound thereby. The term "Client" used in this Order Form shall be interchangeable with and have the same meaning ascribed to the defined term "Subscriber" if that term is used in the Terms of Agreement.

Products and Services Ordered:

1. Description of Service	Annual Fee as at Order Form Effective Date
<p>Customized data deliverables ("Custom Service")</p> <p><i>As detailed in the Scenario Set Specification attached to this Subscription Order Form (the "Scenario Sets") (see Exhibit A), and the following materials ("Supporting Materials"):</i></p> <ul style="list-style-type: none"> ▪ Standard Scenario Generator calibrations notes will be provided with the Scenario Sets (relating to the relevant economies for the Scenario Sets); and ▪ Calibration Summary reports for each quarter-end. <p><i>In the case of one-time data deliveries having a perpetual license term only, Client's license to the Information provided as part of the Custom Service shall continue for an indefinite term and Client shall have no obligation to purge any such Information from its systems, except where the license is terminated due to Client's breach of the Terms of Agreement or this Subscription Order Form.</i></p>	<p>Year 1: £51,432.46</p> <p>Year 2: £56,926.00</p> <p>Year 3: £58,917.38</p>
<p>Total Year 1 (January 7, 2022 through January 6, 2023)</p> <p>Total Year 2 (January 7 2023 through January 6, 2024)</p> <p>Total Year 3 (January 7 2024 through January 6, 2025)</p> <p>TOTAL UNDER THIS AGREEMENT</p>	<p>£51,432.46</p> <p>£56,926.00</p> <p>£58,917.38</p> <p>£170,843.38</p> <p>(excluding applicable taxes)</p>

Additional Terms and Conditions:

1. **License.** License is limited to use of the Scenario Sets and the Supporting Materials to assist with the Client's internal risk management purposes. Client's license shall expressly exclude the use of Scenario Sets or anything derived from them for: (i) the creation of any form of marketing material; or (ii) providing any form of retail financial planning or investment advice.

The Initial Term of this Order Form ends on the first anniversary of the Initial Delivery Date with subsequent Renewal Terms running to the next anniversary of the Initial Delivery Date.

2. **Fees** All Annual Fees for annual subscriptions to the Custom Service are to be invoiced quarterly from the Order Form Effective Date. Notwithstanding the fees set out in this Order Form and without prejudice to Moody's rights to increase fees as stated in Section 6 of the Terms of Agreement, any Annual Fee shall increase automatically on each anniversary of the Initial Delivery Date in a percentage amount equal to any increase in the (UK) Retail Price Index for the previous twelve month period.

3. **Delivery.** For subscription deliveries of the Custom Service, the first delivery of Scenario Sets will be in the scenario delivery cycle for quarter end December 31st, 2021 (the "**Initial Delivery Date**").

* * *

By executing this Order Form, Client and Moody's each agree to, and confirm their intent to be bound by, all the terms hereof, including the Terms of Agreement entered into between Moody's Analytics UK Limited and The Government Actuary's Department dated effective January 1, 2019 (Moody's Agreement No. 00114898.0) which shall be incorporated herein and shall govern the provision of all Information hereunder. Each party agrees that facsimile, digitally scanned or other electronic copies of signatures shall be valid and binding as originals.

SIGNED BY:

The Government Actuary's Department

Finlaison House
15-17 Furnival Street
London, EC4A 1AB
United Kingdom

ACCEPTED BY:

Moody's Analytics UK Limited

Signature: 
Steve Humphrey (Jan 17, 2022 11:12 GMT)

Signature: 
Matt Furniss (Jan 17, 2022 11:18 GMT)

Print Name: Steve

Print Name: Matthew Furniss


Title: Humphrey

Title: Sales Director

Date: Jan 17, 2022

Date: Jan 17, 2022

Please review the billing information below and update or correct if necessary.
By initialing here, you confirm the billing details below are complete and accurate.



Purchase Order Required? YES NO Purchase Order Number _____
Payment Terms: Net 30

Current Billing Information	Update Billing Information (if needed)
<p>The Government Actuary's Department Finlaison House 15-17 Furnival Street London EC4A 1AB United Kingdom</p> <p>ATTN: Andrew Jinks Email: andrew.jinks@gad.gov.uk Billing Cycle: Quarterly VAT ID: 888814557</p>	<p>Company _____</p> <p>Billing Address: _____</p> <p>ATTN: _____</p> <p>Billing Email: steve.humphrey@gad.gov.uk</p> <p>VAT ID: _____ (If Applicable)</p>

EXHIBITS.

Exhibit A: Scenario Set Specification

EXHIBIT A

Scenario Set Specification

Supporting materials will include the following:

Calibration Summary Report – this contains key risk and return metrics for both economic variables and asset returns. These metrics are driven by stochastic scenarios using Moody's Scenario Generator. The calibrations of these models are based on Moody's standard 'Best Views' model structure and calibrations which are suitable for long-term projection purposes.

Custom Service will include delivery of:

A .csv files with simulations of economic indicators, asset returns and standard deviations. Further details are set out below.

Generic Setting for the simulations:

10,000 trials
Based on quarter-end market conditions
50 year time horizon
Annual time step for the csv files

Moody's standard Best View calibration will be used to produce the simulations

Economic Indicators (yield curves, credit spreads, inflation):

Economic Indicators	
1.	Government Interest Rates (nominal gilt curve)
2.	Nominal Swap Rates (nominal swap curve)
3.	AA corporate bond curve
4.	National Average Earnings calibration
5.	RPI Inflation (UK RPI Index)
6.	CPI Inflation (derived from RPI-CPI swap spreads)
7.	Government Real Rates (real gilt curve)
8.	Credit Spreads (AA credit spread curve)

Required terms of the below interest rates to be confirmed by the Client:

UK government nominal yield curve, with tenors up to 120 years
UK government real yield curve, with tenors up to 120 years
UK swap nominal yield curve, with tenors up to 120 years
UK AA credit spread, with tenors up to 60 years

Asset Returns:

Asset returns, and asset return indices will be delivered

Asset class	Description
Cash	1-year GBP-denominated nominal government bonds. The modeled asset class has similar characteristics to Money Market investments
Global government bonds, hedged and unhedged	Global portfolio of Government bonds. This portfolio has similar characteristics to the Global Sovereign Broad Market Plus Index. The rebalancing strategy maintains the initial average bond term. Economies included: AUD, CAD, EUR, GBP, JPY, USD.
Global Corporate Bonds, unhedged	Global portfolio of Corporate bonds. The portfolio has similar characteristics to the Merrill Lynch Global Broad Market Corporate Index. The rebalancing strategy maintains the initial average bond term. Economies included: AUD, CAD, EUR, GBP, JPY, USD.
Global Hedge Funds, hedged and unhedged	Global Fund-of-Funds Hedge Fund investments denominated in USD. This asset class represents a well-diversified, generic multi-strategy hedge fund investments. It has similar characteristics to the Dow Jones Credit Suisse Tremont Hedge Fund index.
Global Private Equity, hedged and unhedged	Global, diversified investment in developed-market, listed Private Equity companies denominated in USD. Targets are based on target setting research.
Global High Yield	ICE Bank of America Merrill Lynch Global High Yield
Overseas Equities (MSCI World index) ex UK,	Global (ex UK) developed-market large/mid-cap equities with hedging. This asset class has similar characteristics to the MSCI The World (standard) index, excluding UK.

hedged and unhedged	
UK Corporate Bonds	GBP-denominated Corporate bonds. This is calibrated to the broad index characteristics of the Merrill Lynch Sterling Corporate Securities Index
UK Corporate Bonds 10+ Years	GBP-denominated Corporate bonds. This is calibrated to the broad index characteristics of the Merrill Lynch Sterling Corporate Securities 10+ Year Index
UK Corporate Bonds 1-5 Years	GBP-denominated Corporate bonds. This is calibrated to the broad index characteristics of the Merrill Lynch Sterling Corporate Securities 1-5 Years Index
UK Corporate Bonds 5-15 Years	GBP-denominated Corporate bonds. This is calibrated to the broad index characteristics of the Merrill Lynch Sterling Corporate Securities 5-15 Years Index
UK Corporate Bonds 15+ years	GBP-denominated Corporate bonds. This is calibrated to the broad index characteristics of the Merrill Lynch Sterling Corporate Securities 15+ Years Index
UK Equity – FTSE 100, hedged and unhedged	UK Large Cap equities with similar characteristics to FTSE 100.
UK Equity, hedged and unhedged	UK Large/Mid-cap equities. This asset class has similar characteristics to the MSCI UK (standard) index.
UK Govt Bonds (all durations)	GBP-denominated Government bonds. This is calibrated to the broad index characteristics of the Merrill Lynch UK Gilts Index.
UK Govt Bonds 1-5 Years	GBP-denominated Government bonds. This is calibrated to the broad index characteristics of the Merrill Lynch UK Gilts 1-5Y Index.
UK Govt Bonds 5-15 Years	GBP-denominated Government bonds. This is calibrated to the broad index characteristics of the Merrill Lynch UK Gilts 5-15Y Index.
UK Govt Bonds 15+ Years	GBP-denominated Government bonds. This is calibrated to the broad index characteristics of the Merrill Lynch UK Gilts 15+ Year Index.
UK High Yield	Based on ICE Bank of America Merrill Lynch BB Sterling High Yield
UK Inflation Linked Govt Bonds (all durations)	GBP-denominated Inflation-linked Government bonds. This is calibrated to the broad index characteristics of the Merrill Lynch UK Gilts Inflation Linked Index.
UK Inflation Linked Govt Bonds 1-5 Years	GBP-denominated Inflation-linked Government bonds. This is calibrated to the broad index characteristics of the Merrill Lynch UK Gilts Inflation Linked 1-5 Year Index.
UK Inflation Linked Govt Bonds 5-15 Years	GBP-denominated Inflation-linked Government bonds. This is calibrated to the broad index characteristics of the Merrill Lynch UK Gilts Inflation Linked 5-15 Year Index.
UK Inflation Linked Govt Bonds 15+ Years	GBP-denominated Inflation-linked Government bonds. This is calibrated to the broad index characteristics of the Merrill Lynch UK Gilts Inflation Linked 15+ Year Index.
UK Inflation Linked Govt Bonds 5+ Years	GBP-denominated Inflation-linked Government bonds. This is calibrated to the broad index characteristics of the Merrill Lynch UK Gilts Inflation Linked 5+ Year Index.
UK Infrastructure	UK Infrastructure investments. This asset class represents investment in UK listed equities in the infrastructure sector. This asset class has similar characteristics to the UBS Infrastructure Index.
UK Property	Portfolio of diversified, direct property investments in the UK. All standard property model calibrations are based on target setting research which utilizes data from IPD's (Investment Property Databank) UK and European indices
USD High Yield Bonds	High Yield Corporate USD-denominated bonds.
Commodities: hedged and unhedged	Commodities investments denominated in GBP. This asset class represents a well-diversified basket of commodities. This asset class has similar characteristics to the Standard & Poor's Goldman Sachs Commodity Index (GSCI) Excess Returns Index. A key modelling assumption is that commodities are consumption assets. Commodity prices are in USD, converted to the base currency.
Absolute return funds	Global Fund-of-Funds Hedge Funds investments denominated in GBP. This asset class represents well-diversified, generic multi-strategy hedge fund investments. This asset class has similar characteristics to the Dow Jones Credit Suisse Tremont Hedge Fund Index.











Moody's Agreement: GAD (the Government Actuary's Department)-OF-2022-1-7

Final Audit Report

2022-01-17

Created:	2022-01-14
By:	Tibaut Meulemans (tibaut.meulemans@moodys.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAR2FE40XhfYT4x4lv8TV2hBjPTuqEkf8

"Moody's Agreement: GAD (the Government Actuary's Department)-OF-2022-1-7" History

-  Document created by Tibaut Meulemans (tibaut.meulemans@moodys.com)
2022-01-14 - 11:16:29 AM GMT- IP address: 13.110.78.8
-  Document emailed to Andrew Jinks (andrew.jinks@gad.gov.uk) for signature
2022-01-14 - 11:16:52 AM GMT
-  Email viewed by Andrew Jinks (andrew.jinks@gad.gov.uk)
2022-01-14 - 6:18:06 PM GMT- IP address: 80.169.134.52
-  Document signing delegated to Steve Humphrey (stephen.humphrey@gad.gov.uk) by Andrew Jinks (andrew.jinks@gad.gov.uk)
2022-01-14 - 6:26:07 PM GMT- IP address: 80.169.134.52
-  Document emailed to Steve Humphrey (stephen.humphrey@gad.gov.uk) for signature
2022-01-14 - 6:26:07 PM GMT
-  Email viewed by Steve Humphrey (stephen.humphrey@gad.gov.uk)
2022-01-17 - 7:35:31 AM GMT- IP address: 80.169.134.52
-  Document e-signed by Steve Humphrey (stephen.humphrey@gad.gov.uk)
Signature Date: 2022-01-17 - 11:12:20 AM GMT - Time Source: server- IP address: 80.169.134.52
-  Document emailed to Matt Furniss (matt.furniss@moodys.com) for signature
2022-01-17 - 11:12:22 AM GMT
-  Email viewed by Matt Furniss (matt.furniss@moodys.com)
2022-01-17 - 11:18:15 AM GMT- IP address: 148.64.9.69
-  Document e-signed by Matt Furniss (matt.furniss@moodys.com)
Signature Date: 2022-01-17 - 11:18:55 AM GMT - Time Source: server- IP address: 148.64.9.69

✔ Agreement completed.

2022-01-17 - 11:18:55 AM GMT