### Active Risk Allocation

Compact portfolio optimisation 31 August 2023

Independent | Transparent | Disciplined



# ARA optimisation

Summary of process

- Decide on desired portfolio volatility band
  - 3.5-5%, 6-8% or 9-11% target
  - Depending on model input

#### □ Allocate between risk assets and non-risk assets

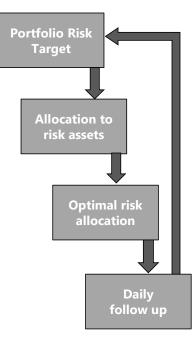
- Between 0 and 100% of portfolio may be allocated to risk assets
- Depending on model input

#### Calculate portfolio allocation

- Allocating assets in a way that no asset class gives a too large risk contribution (almost Risk Parity)
- Respecting overall volatility target
- Respecting overall allocation target

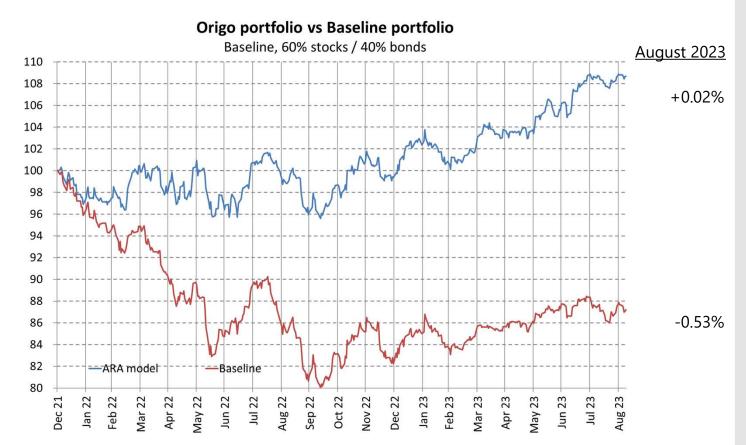
#### Daily follow up

- Daily calculation of expected portfolio volatility
- Daily supervision of OMRI and portfolio risk allocation
- Corrective action if necessary



### Investment universe

Name	Low	High	Proxy
Cash	0%	30%	Lyxor money market fund
Bonds	25%	65%	
High grade bonds			iShares Euro Aggregate Bond
High yield bonds			iShares iBoxx \$ High Yield Corporate Bond
Emerging market bonds			iShares J.P. Morgan \$ EM Bond EUR Hedged
Investment grade bonds			Investment Grade Corporate Bond
Long bonds			iShares 20+ Year Treasury Bond Hedged
Bond - SHORT			ProShares Short 20+ Year Treasury - SHORT
Stocks	30%	90%	
World			iShares MSCI World EUR Hedged
USA			SPDR <sup>®</sup> S&P <sup>®</sup> 500 EUR
Europa			iShares STOXX Europe 600
Global emerging markets			iShares MSCI Emerging Markets
Stock - SHORT			ProShares short S&P500 - SHORT
Alternatives	0%	20%	

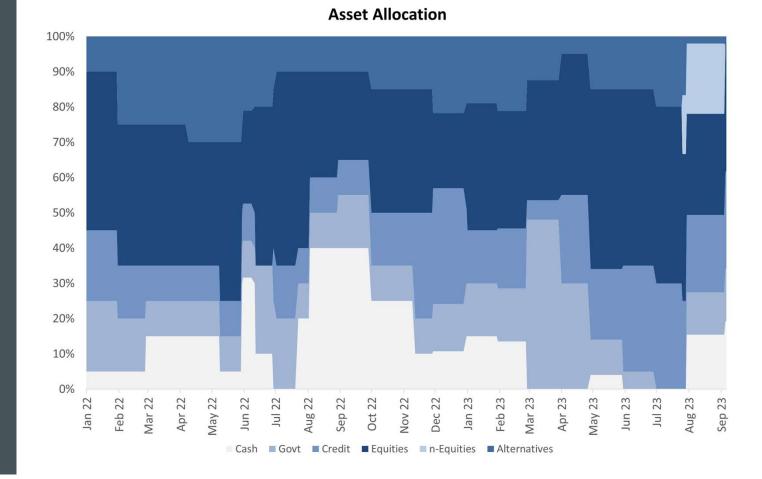


#### Performance

Portfolio performance, Index

Accumulated excess performance Origo vs 60% stocks & 40% bonds baseline <u>August 2023</u> 1.30 1.25 +23.88% 1.20 m 1.15 man W 1.10 1.05 1.00 0.95 Dec 21 -Jan 22 -Feb 22 Mar 22 -Nov 22 Dec 22 Mar 23 May 23 Jun 23 Jul 23 Aug 23 Apr 22 May 22 Jun 22 Jul 22 Aug 22 Sep 22 Oct 22 Jan 23 Feb 23 Apr 23

### Performance



### Allocation

Timeline

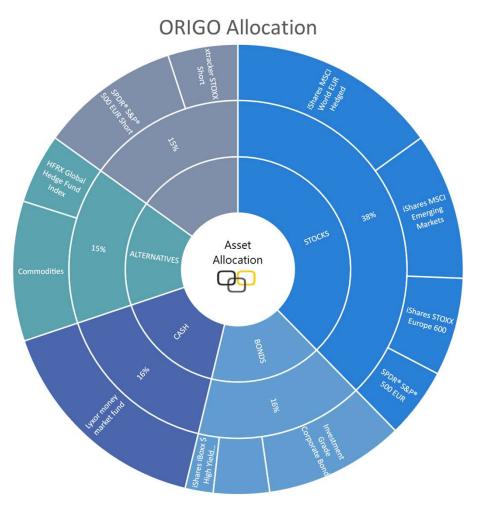
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#### Suggested Allocation Previous Change Proxy **G** 0% Lyxor money market fund CASH 17% 16% 16% BONDS 16% 0% iShares Euro Aggregate Bond 0% 0% 2% -8% iShares iBoxx \$ High Yield Corporate Bond 10% 0% iShares J.P. Morgan \$ EM Bond EUR Hedged 0% 0% 0% Investment Grade Corporate Bond 10% 10% 4% 4% 0% iShares 20+ Year Treasury Bond Hedged 0% ProShares Short 20+ Year Treasury - SHORT 0% 0% STOCKS 38% -12% iShares MSCI World EUR Hedged 15% 27% 5% 10% -5% SPDR® S&P® 500 EUR 7% 5% 2% iShares STOXX Europe 600 11% iShares MSCI Emerging Markets 11% 0% **STOCKS - SHOR** 15% 5% 5% ProShares short S&P500 - SHORT 10% 5% 5% xtracker short STOXX - SHORT ALTERNATIVES 15% -5% SPDR Gold Shares 0% 5% 7% Commodities 10% 3% 5% 0% HFRX Global Hedge Fund Index 5%

#### Portfolio

#### September 2023

Increased portfolio volatility due to higher asset correlation => decrease high risk, increase low volatility and inverse assets



### Allocation

Bonds underweight
Stocks tactical underweight \*)

') practical application, custodian bank dependent

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