

## Active Risk Allocation

Strategic Wealth Management -

Portfolio optimisation

31 July 2023





Inconvenient  
facts  
Investments  
version 1.01

- Return forecast are always wrong
- Asset covariances are unstable
- Autocorrelation do exist
- Markets are not always efficient

**NB** Broad application of the Capital Asset Pricing Model (CAPM) is puzzling, from an academic vantage point. It is used, because its simple, used by all bank peers and so fits the bank industry business model.

## Targeting returns vs Risk management

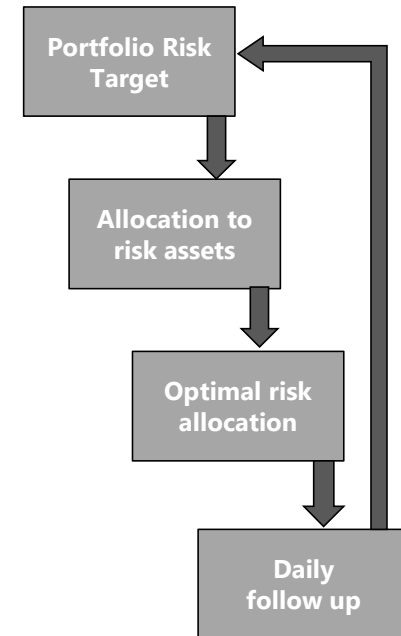


- *The traditional way:*  
Return targeting
  - Based on **expectations** of future returns
    - Expectations are most often wrong
    - Fixed intervals for portfolio rebalancing
  - Changes in risk/volatility not taken into consideration
  - Assumes that assets move in stable patterns relative to each other
  - In times of trend changes, portfolio is only rebalanced as trend estimates are revised
- *The ARA way:*  
Volatility targeting
  - Based on **existing** volatilities
    - No guesswork as the volatilities are available
    - Adaptive intervals for rebalancing determined by target volatility
  - Adjusting to changes in risk
  - Takes into consideration that correlation patterns change
  - In times of trend changes, volatility changes force a portfolio rebalancing

# 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





## ARA optimisation

### IR Benchmark (baseline) Approximately a 60/40

Performance structural deficits \*);

- as choice of assets correlate
- benchmark deviate from peers
- when regionally US stocks outperform
- when growth style outperform
- when USD strengthen

\*) Ref. analysis of 25.11.2021

## IR Medium risk model portfolio

Name	Class	Mid	ETF Proxy
IR Basis		25	Composite
	Aktier-EU	60	XSX6 DE
	Bonds-EU GOV	10	XGLE DE
	Bonds-DK MBS	10	Nyk dmb Composite
	Bonds-HY	15	IHYG DE
	Cash	5	XEIN:GR
IR Favoritter/IR Danske Aktier	Aktier-DK	25	BIKF DC
IR Vækstlande	Aktier-GEM	20	BRIC LN
IR Erhverv	Bonds-HY	10	IHYG DE
IR Højrente	Bonds-HY	15	EMBE LN
Danske obligationer	Bonds-DK	5	NYK DMB Composite
		100	

### Consequences of structural deficits:

**2021**, no US stocks, too much emerging markets and no US IT-sector

**2022**, no uncorrelated asset classes, too much emerging markets and no USD

**2023**, no US stocks, too much emerging markets and no US IT-sector

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## ARA portfolio

July 2023

### IR Medium risk model portfolio

Name	Limit used		Allocation	Change	Limit used	
	Minimum	Prior			Maximum	ETF proxy
Cash	0%	0%	0%	0%		Cash
IR Basis		28%	35%	7%	40%	Composite
IR Danmark		27%	23%	-4%	30%	BIKF DC
IR Vækstlande		8%	18%	10%		BRIC LN
IR Short Stoxx		0%	0%	0%		XSSX DE
IR Erhverv		17%	15%	-2%		IHYG DE/HYG US
IR Højrente		8%	9%	1%		EMBE LN
DK DMB		12%	0%	-12%		Nyk Composite
		100%	100%	0%		

Equities and regionally GEM ex-China the biggest positive contributions for July

# ARA optimisation

## Performance

IR optimised vs Baseline

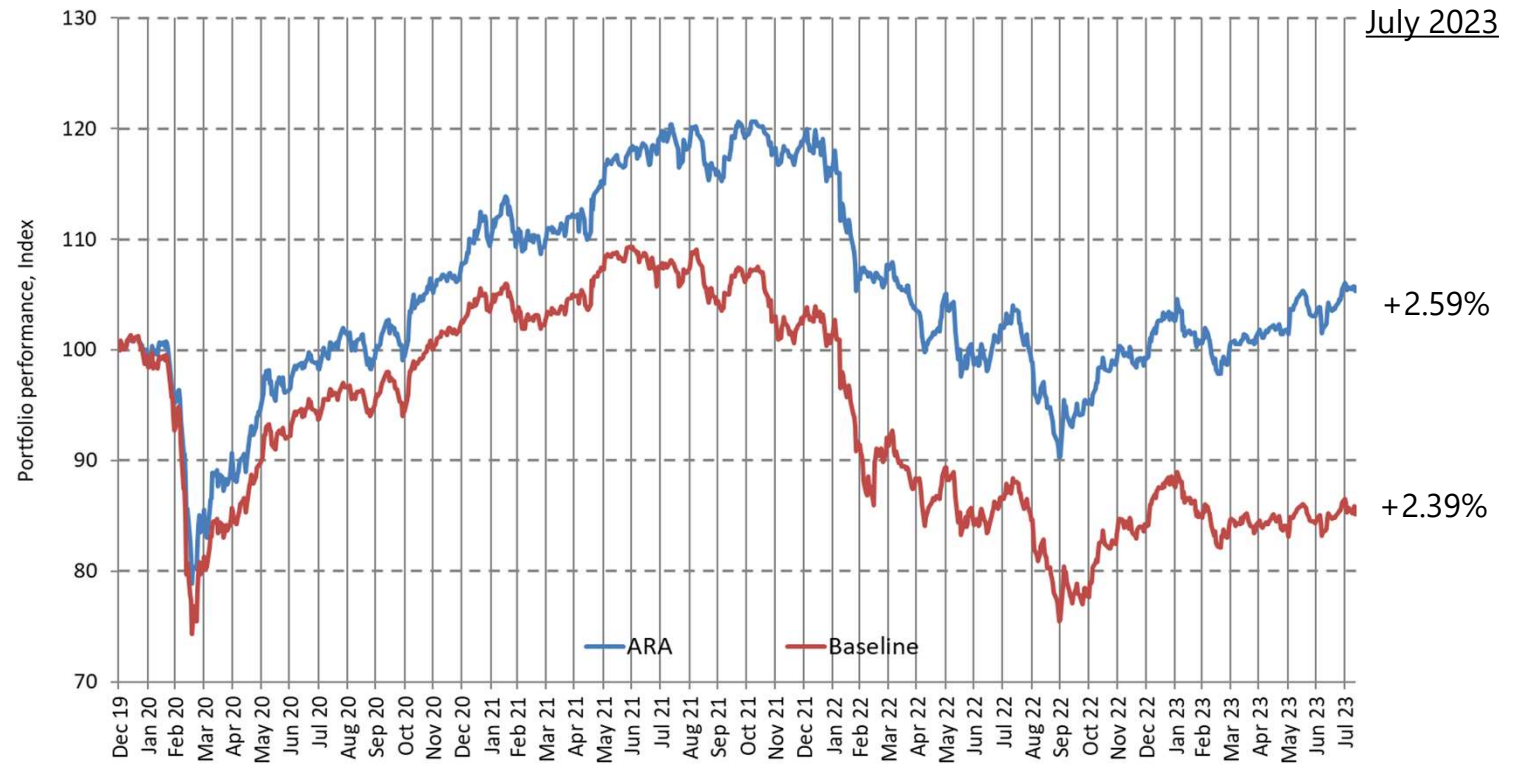
Performance structurally challenged \*);

- as choice of assets correlate
- benchmark deviate from peers
- when US stocks outperform
- when USD strengthen

\*) Ref. analysis report of 25.11.2021



### Baseline portfolio vs ARA portfolio



# ARA optimisation

## Performance

Uptrend in excess performance  
remain firmly intact



### Accumulated excess performance

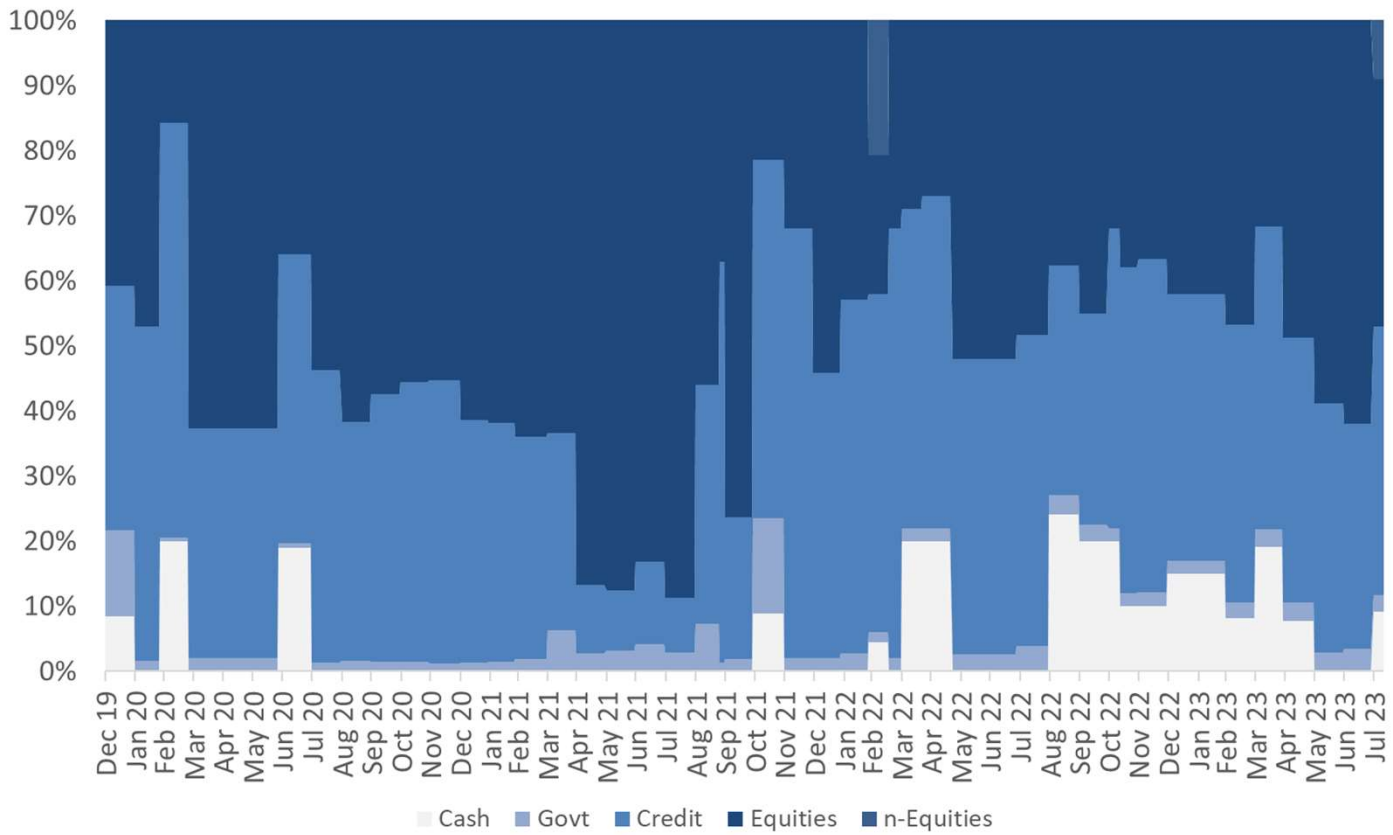




# IR Asset Allocation - timeline



Asset Allocation





## ARA portfolio

August 2023

Increasing portfolio risk +  
high asset correlation  
=> Increase allocation to  
low volatility and inverse  
(short) assets

## IR Medium risk model portfolio

Name	Limit used		Allocation	Change	Limit used	
	Minimum	Prior			Maximum	ETF proxy
Cash		0%	10%	10%		Cash
IR Basis		35%	26%	-9%		Composite
IR Danmark		23%	17%	-6%		BIKF DC
IR Vækstlande		18%	5%	-13%		BRIC LN
IR Short Stoxx		0%	10%	10%		XSSX DE
IR Erhverv		15%	17%	2%		IHYG DE/HYG US
IR Højrente		9%	0%	-9%		EMBE LN
DK DMB		0%	15%	15%		Nyk Composite
		100%	100%	0%		

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