

HOWDEN

SIAS AGM & Talk: Stochastic credit modelling insights for Matching Adjustment portfolios

SIAS
Staple Inn Actuarial Society
www.sias.org.uk

Part 1: SIAS AGM 2026

Agenda

- Annual accounts for FY 2026
- Proposal to change the Articles of Association

Income Statement for the Year Ended 30 June 2026

	Income	Expenditure	2026	Income	Expenditure	2025
Subscriptions and other income						
Membership Subscriptions	84,973	-	84,973	95,837	-	95,837
Investment income and interest	1,490	-	1,490	1,813	-	1,813
Conference and programme income	90	-	90	42	-	42
Available to provide services to members	86,553	-	86,553	97,692	-	97,692
Services to Memebers						
Social events	70,383	(124,024)	(53,641)	62,693	(109,872)	(47,179)
Professional charges	-	2,646	2,646	-	(6,519)	(6,519)
Programme event costs	-	(14,025)	(14,025)	-	(31,686)	(31,686)
Administration expenses	-	(10,859)	(10,859)	-	(13,532)	(13,532)
Bookkeeping	-	(19,682)	(19,682)	-	(17,903)	(17,903)
Sponsorship and prizes	-	(20,917)	(20,917)	-	(34,353)	(34,353)
Amortisation of intangible assets	-	-	-	-	(1,465)	(1,465)
Irrecoverable VAT	-	(8,971)	(8,971)	-	1,830	1,830
Management fees *		(16,149)	(16,149)			
Total cost of providing services to members	70,383	(211,981)	(141,598)	62,693	(213,500)	(150,807)
The Actuary Magazine						
Income from The Actuary			14,865			18,095
Net surplus/(deficit) on The Actuary			14,865			18,095
Unrealised Gain on investment			97,185			12,341
Realised Gain on investment			35,503			25,041
Net investment gains			132,688			37,382
Surplus before taxation			92,508			2,362
Corporation Tax						
Current year			-			-
Prior year			-			-
Surplus after taxation			92,508			2,362

SIAS financial results: year ended 30 June 2026

- **Surplus:** The surplus increased from £2,362 to £92,508, mainly driven by net investment gains of £132,688 compared with £37,382 last year. This year's gains comprise £35,503 of realised gains and £97,185 of unrealised gains.
- **Income:** Membership subscription income decreased by £10,864 (11.3%) to £84,973. We plan to introduce new activities and events to strengthen member engagement and support subscription income.
- **Expenditure:** Total expenditure decreased by £1,519 to £211,981. Lower programme event costs were largely offset by higher social event costs.
- **Underlying position:** Excluding net investment gains, the deficit increased from £35,020 to £40,180, highlighting the contribution of investment gains to the overall surplus.

* The accounts now show management fees separately. Previous accounts did not show them separately.

Proposal to change the Articles of Association

- **Proposal:** Amend the Articles to allow SIAS to appoint an independent examiner where a statutory audit is not legally required.
- **Rationale:** Reduce the cost and administrative burden of a full audit while maintaining appropriate independent financial scrutiny.
- **Flexibility:** SIAS would retain the ability to commission a statutory audit where required or considered appropriate.
- **AGM decision:** Member approval is sought by special resolution.

Howden credit modelling

Insights for MA portfolios

Part 2: stochastic transition probabilities

Craig Turnbull and Amit Lad | 5 November 2026

HOWDEN

Introduction

Technical details

Dive into 15-year BBB bonds

P(exceed MA)

Conclusions

A: Tabulated p(exceeds MA)

B: All distribution charts

Introduction and agenda

We have built and used a multi-year stochastic credit model to produce and analyse realised return distributions for corporate bonds for a range of credit ratings and terms to maturity under both a buy-and-hold strategy and a strategy that annually rebalances back to the starting credit rating.

Our analysis considers these questions:

1. With what level of confidence can we say MA portfolios earn returns above the MA discount rate?
2. How much does the use of a time-varying transition matrix matter, and what additional risk does it reveal?
3. How much does portfolio management matter? Is buy-and-hold different from annual credit rebalancing?
4. How does LTAS impact the probability?

#	Area	Time	Page
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2	Technical Details	5 mins	5
3	Dive into 15-year BBB bonds	10 mins	6-13
4	Probability of exceeding the MA	10 mins	14-16
5	Conclusions and next steps	5 mins	17



Craig Turnbull
Partner



Amit Lad
Principal

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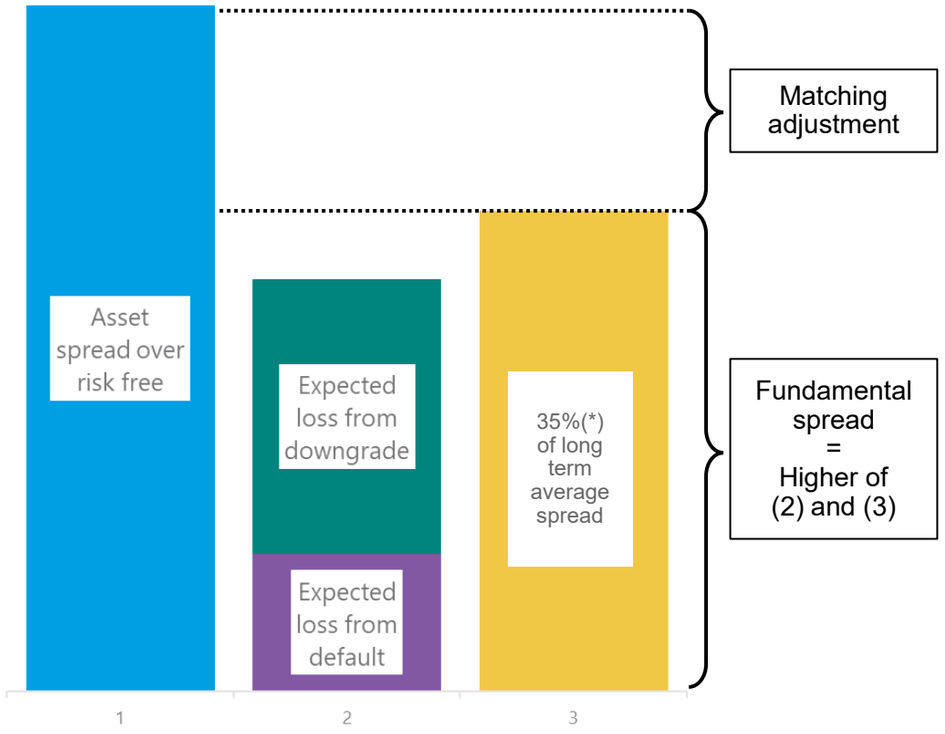
A: Tabulated p(exceeds MA)

B: All distribution charts

Background information

What is the matching adjustment?

The MA allows firms to discount liabilities at a rate higher than the risk-free rate.



What is the MA attestation?

The MA attestation requirements are a key part of a wider package of Solvency UK reforms.

In summary, the CFO must attest that:

1. MA assets' fundamental spreads include 'compensation for all retained risks' and;
2. 'the MA can be earned with a high degree of confidence from the assets held in the relevant portfolio of assets'.

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Modelling motivation

A long-term stochastic credit model can support part 2 of the attestation.

- These models produce probability distributions of long-term returns.
- You can produce these distributions for different asset classes/ portfolios, and investment strategies.

For each asset class/ portfolio/ investment strategy, you can:

- Compare to the MA discount rate
- And quantify the probability of exceeding the MA discount rate

The PRA has not given any guidance on what probability of exceeding the MA discount rate is sufficient to have a high degree of confidence. However, the PRA has explicitly referenced an 85% probability as being sufficient elsewhere in the MA framework.

Part 2 of the attestation

'the MA can be earned with a high degree of confidence from the assets held in the relevant portfolio of assets'.

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24 different strategies with two assumption sets

- Matching single fixed liability cashflow due in either **5**, **10**, **15** or **20** years
- Using 1,000 non-financial ZCB with same initial rating of **AA**, **A**, **BBB**
- Using a **buy-and-hold strategy** or an **annual credit rebalance** strategy

Key assumptions

#	Assumption	Assumption set A (Fixed)	Assumption set B (Time varying)
1	Model	One-factor stochastic credit model implemented with 10,000 simulations	Unchanged
2	Credit transition probabilities	S&P's average multiyear global corporate transition matrix (1981 to 2024)	Moody's time-varying multiyear global corporate transition matrices
3	Systemic risk correlation factor	0.3	Unchanged
4	Default proceeds	30% of maturity cashflow discounted at risk free rate from the maturity date to the default date	Unchanged
5	Risk free rates	GBP risk-free rates published by the PRA (31 December 2025)	Moody's time-varying risk-free rates (31 December 2025)
6	Bond spreads	Derived and extrapolated from non-financial corporate bonds in iBoxx index DE0007931974 (31 December 2025)	Moody's time-varying non-financial corporate bond spreads (31 December 2025)
7	MA discount rate	Using the FS for GBP non-financials published by the PRA (31 December 2025)	Unchanged
8	Transaction costs	Nil	Unchanged

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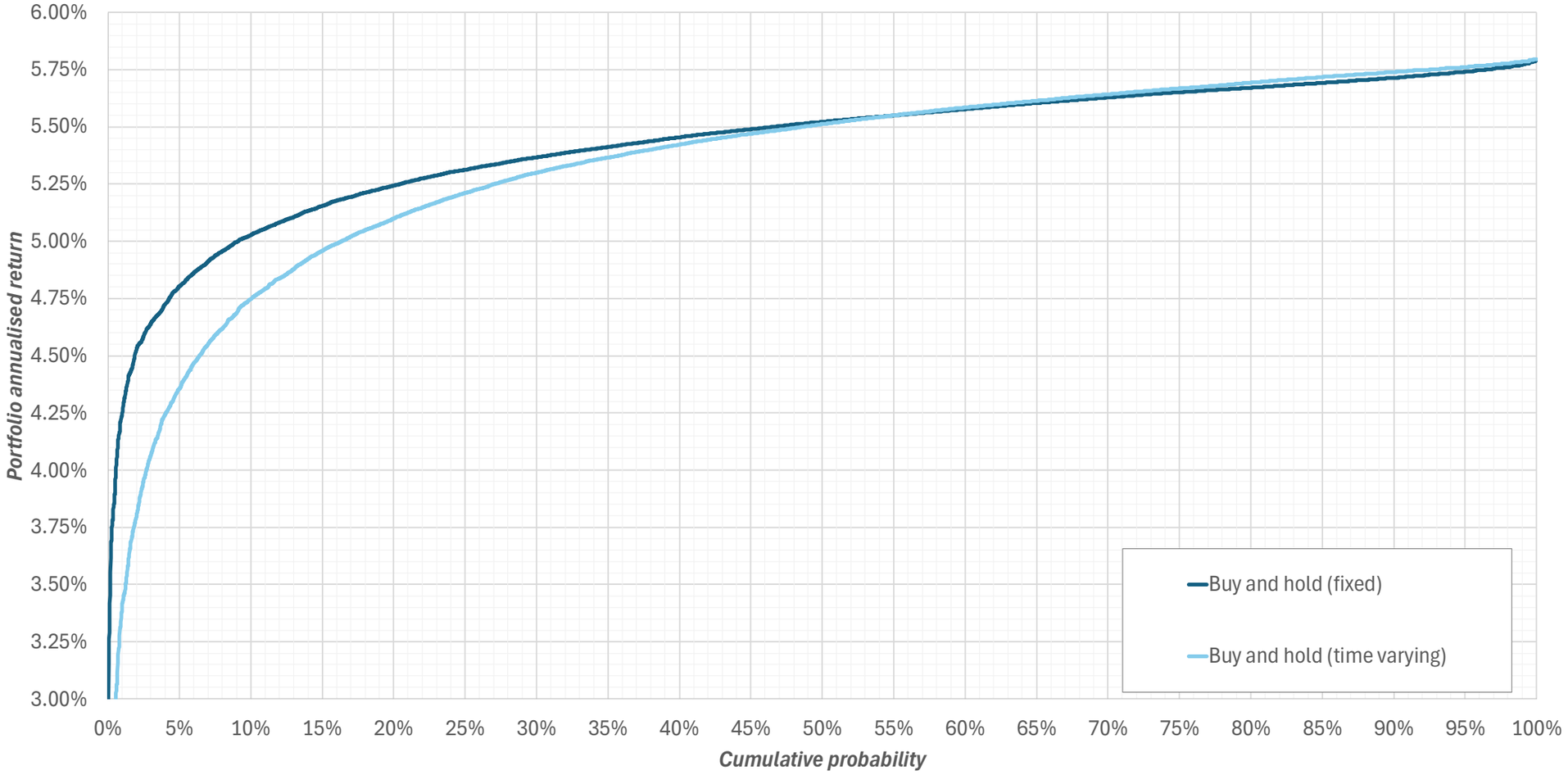
Conclusions

A: Tabulated p(exceeds MA)

B: All distribution charts

Dive into 15-year BBB bonds (buy-and-hold: fixed vs time varying)

What does the probability distribution of the annualised realised return for a 15-year BBB-rated bond under the buy-and-hold strategy look like for the fixed and time-varying assumption sets?



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Dive in 15-year BBB bonds

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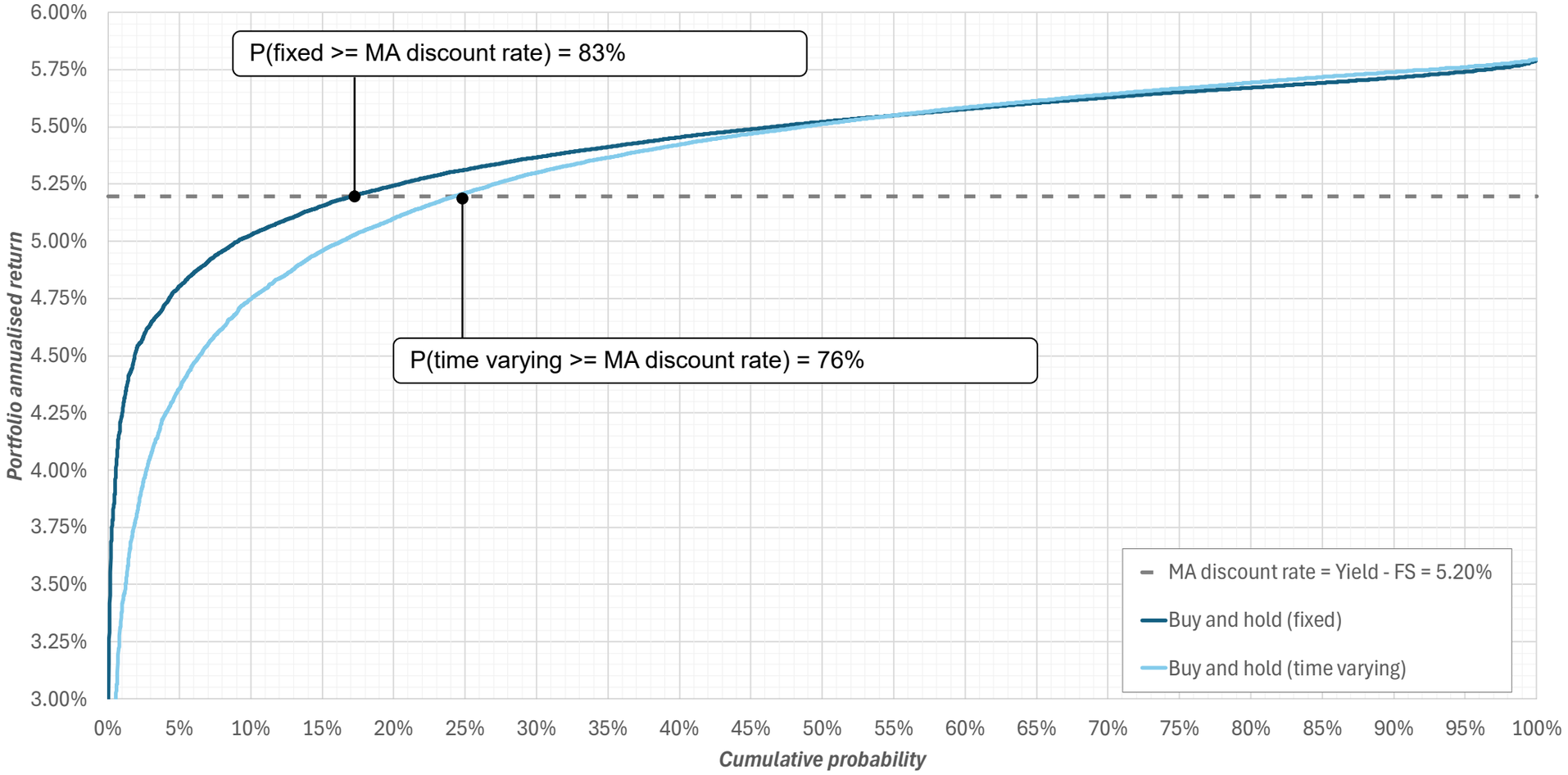
Conclusions

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Dive into 15-year BBB bonds (buy-and-hold: fixed vs time varying)

Now we look at the probabilities of exceeding the MA discount rate using the fixed and time-varying assumptions…



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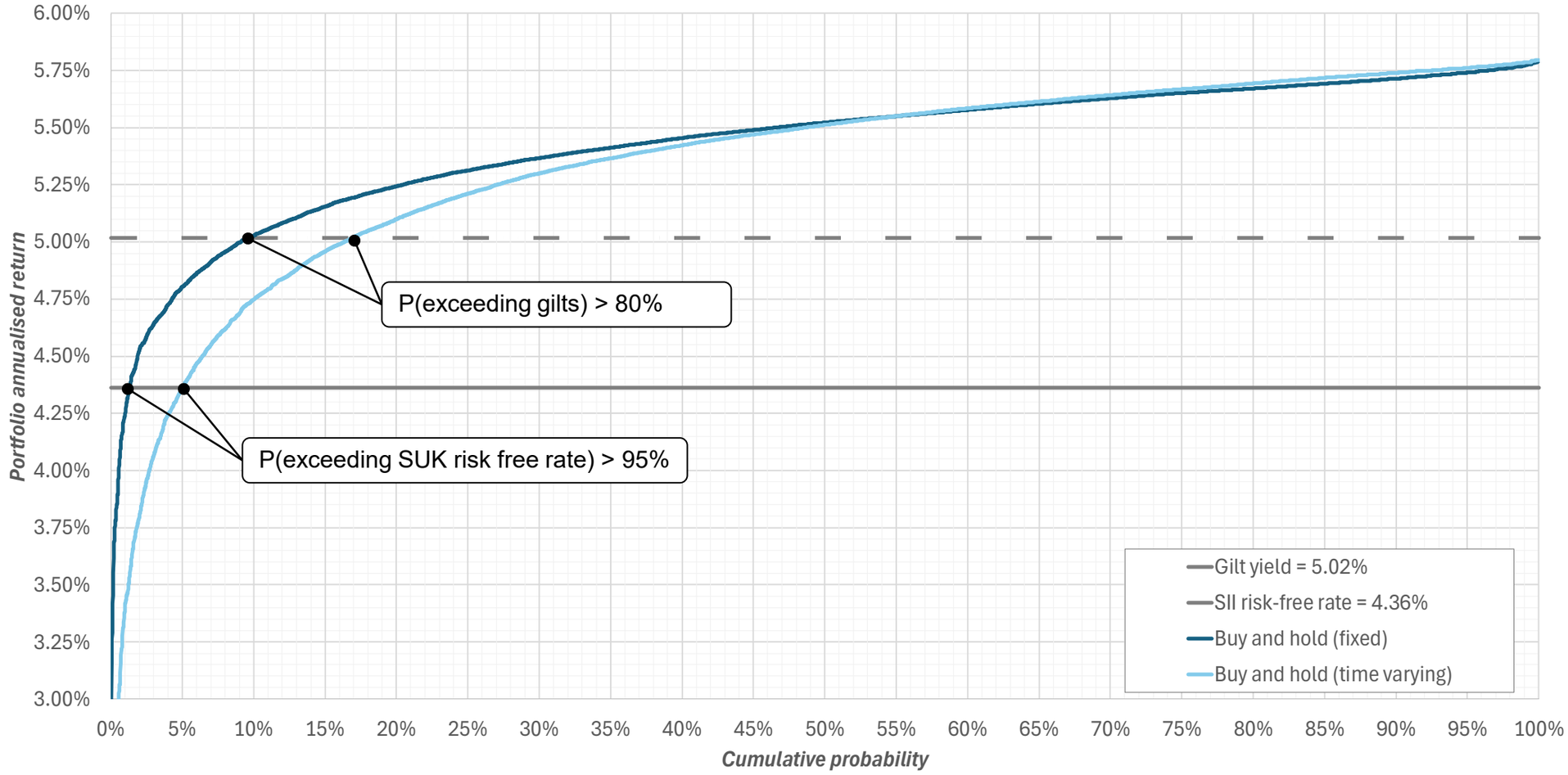
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Dive into 15-year BBB bonds (buy-and-hold: fixed vs time varying)

Now consider the probabilities of exceeding gilts and the SUK risk free rate using each assumption set…



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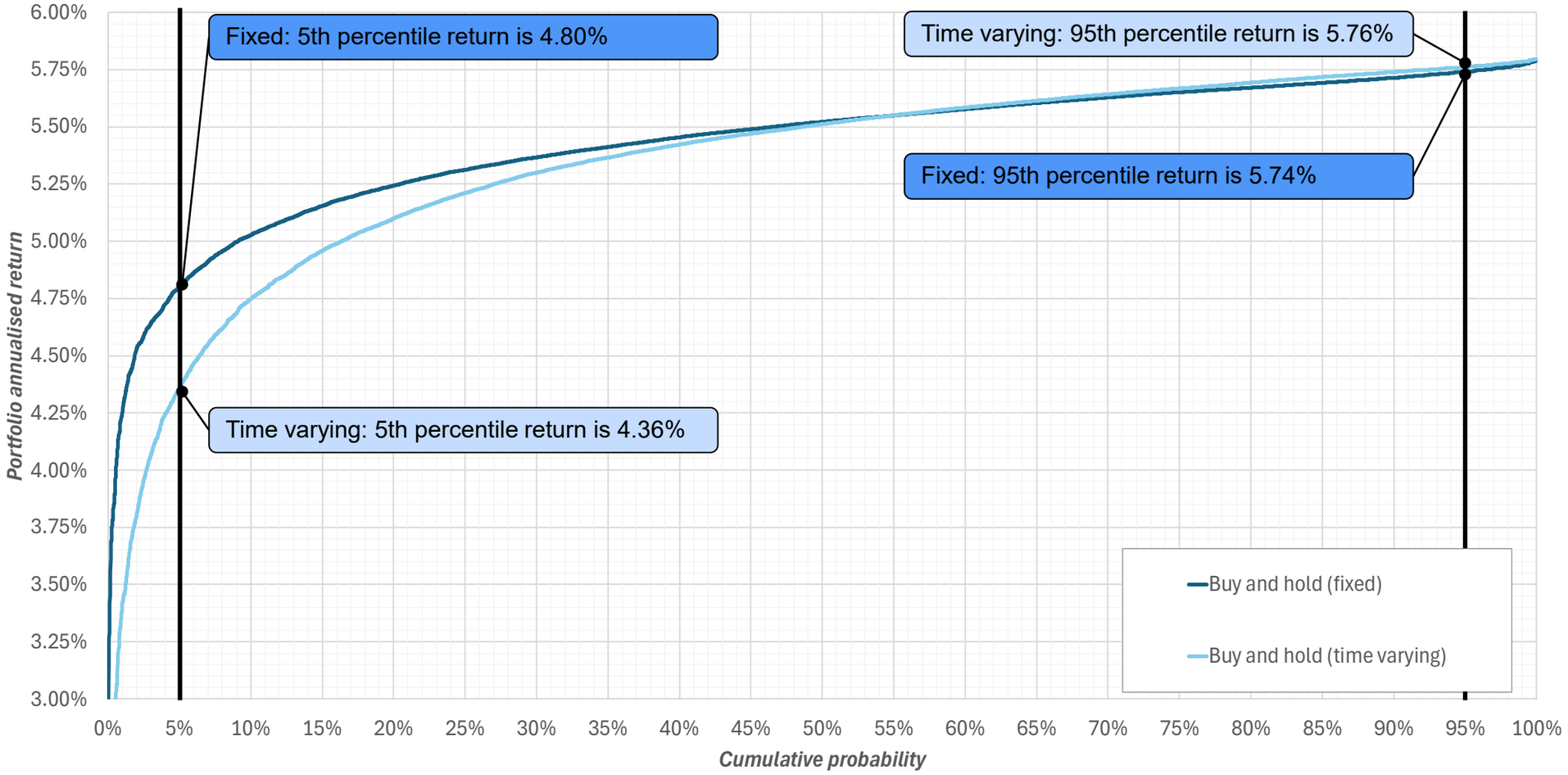
Conclusions

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Dive into 15-year BBB bonds (buy-and-hold: fixed vs time varying)

Now let's look at the 5th and 95th percentile returns under each assumption set…



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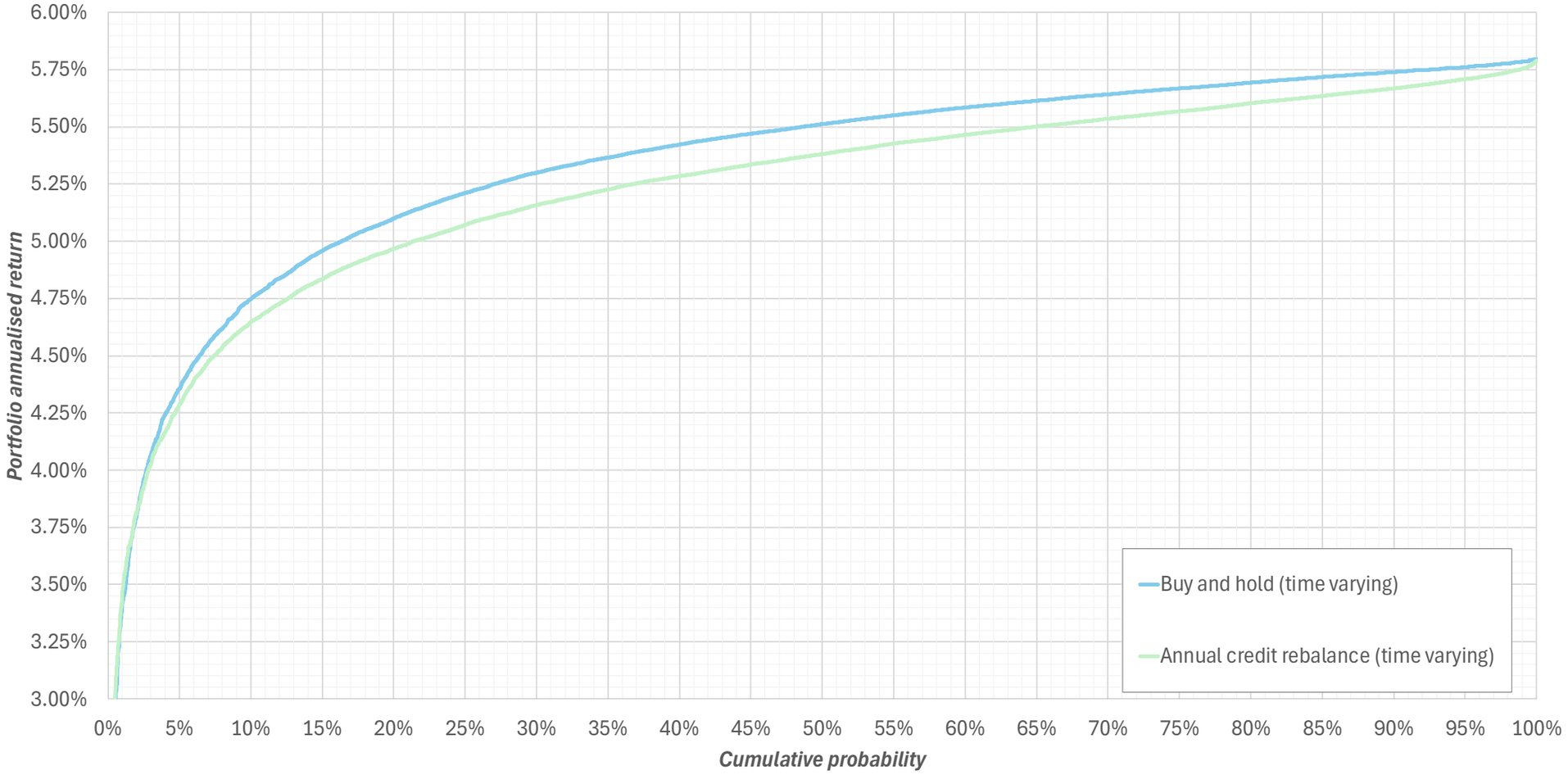
Conclusions

A: Tabulated p(exceeds MA)

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Dive into 15-year BBB bonds (time varying: changing strategy)

What does the probability distribution of the annualised realised portfolio return for a 15-year BBB rated bond look like under our two strategies? (using the time varying assumption set)



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Dive in 15-year BBB bonds

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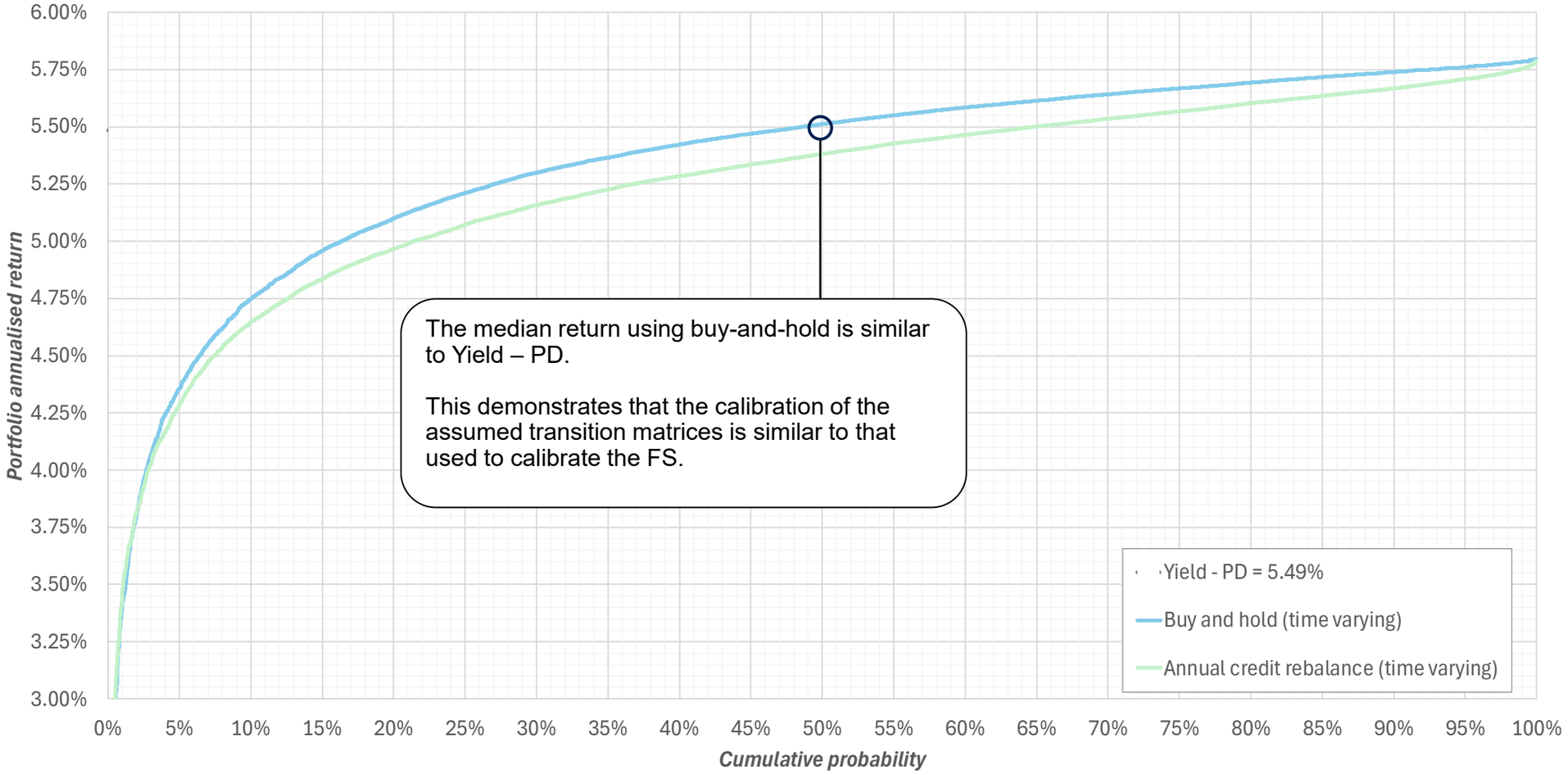
Conclusions

A: Tabulated p(exceeds MA)

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Dive into 15-year BBB bonds (time varying: changing strategy)

The difference between the portfolio gross redemption yield and the portfolio realised annualised return using the buy-and-hold strategy is the annualised default loss.



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Dive in 15-year BBB bonds

P(exceed MA)

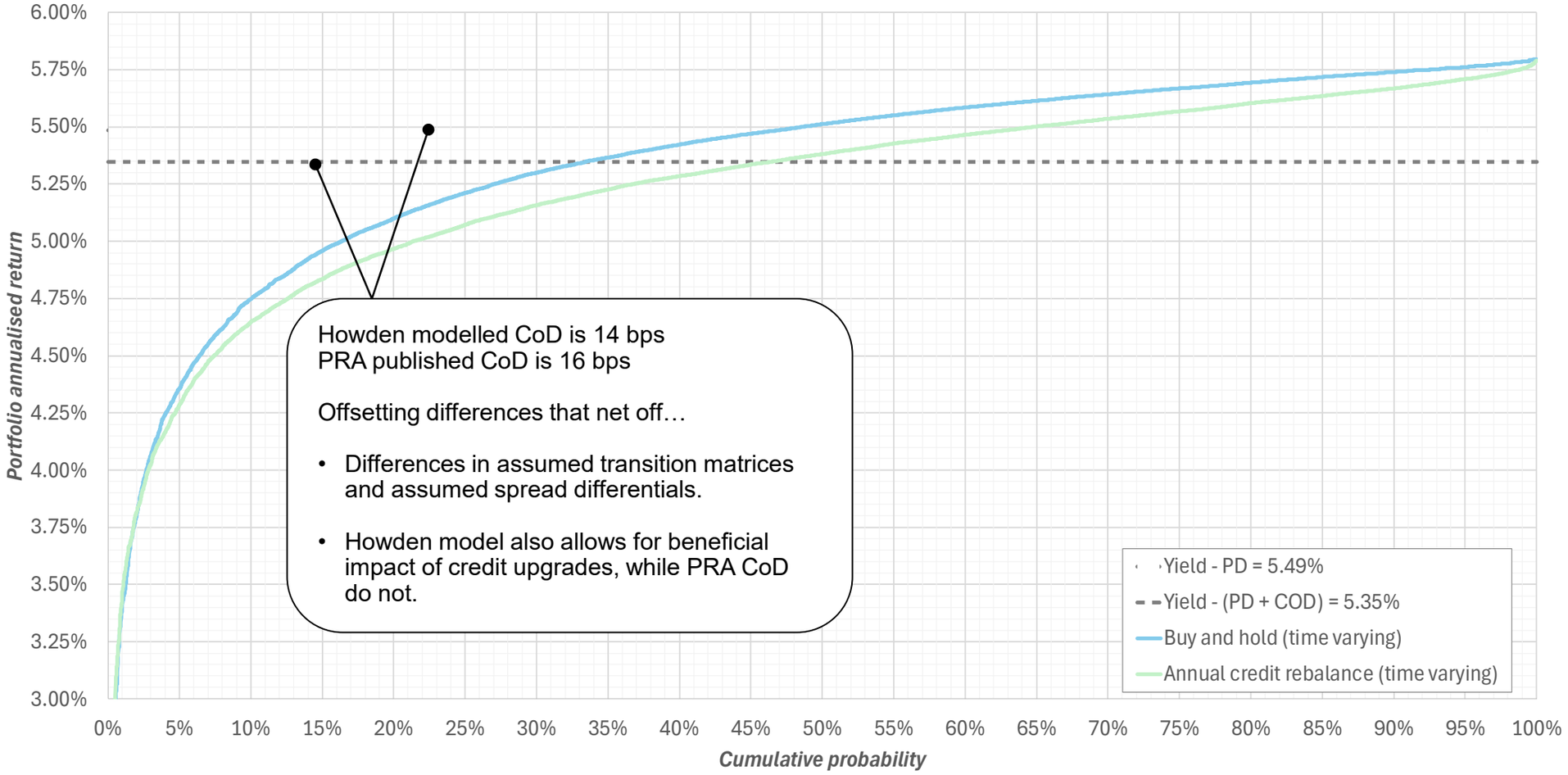
Conclusions

A: Tabulated p(exceeds MA)

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Dive into 15-year BBB bonds (time varying: changing strategy)

The difference between the portfolio realised return from the buy-and-hold strategy and the annual credit rebalance strategy reflects the cost of the credit rebalancing. Why does our cost of downgrade (CoD) differ to the PRA calibration?



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P(exceed MA)

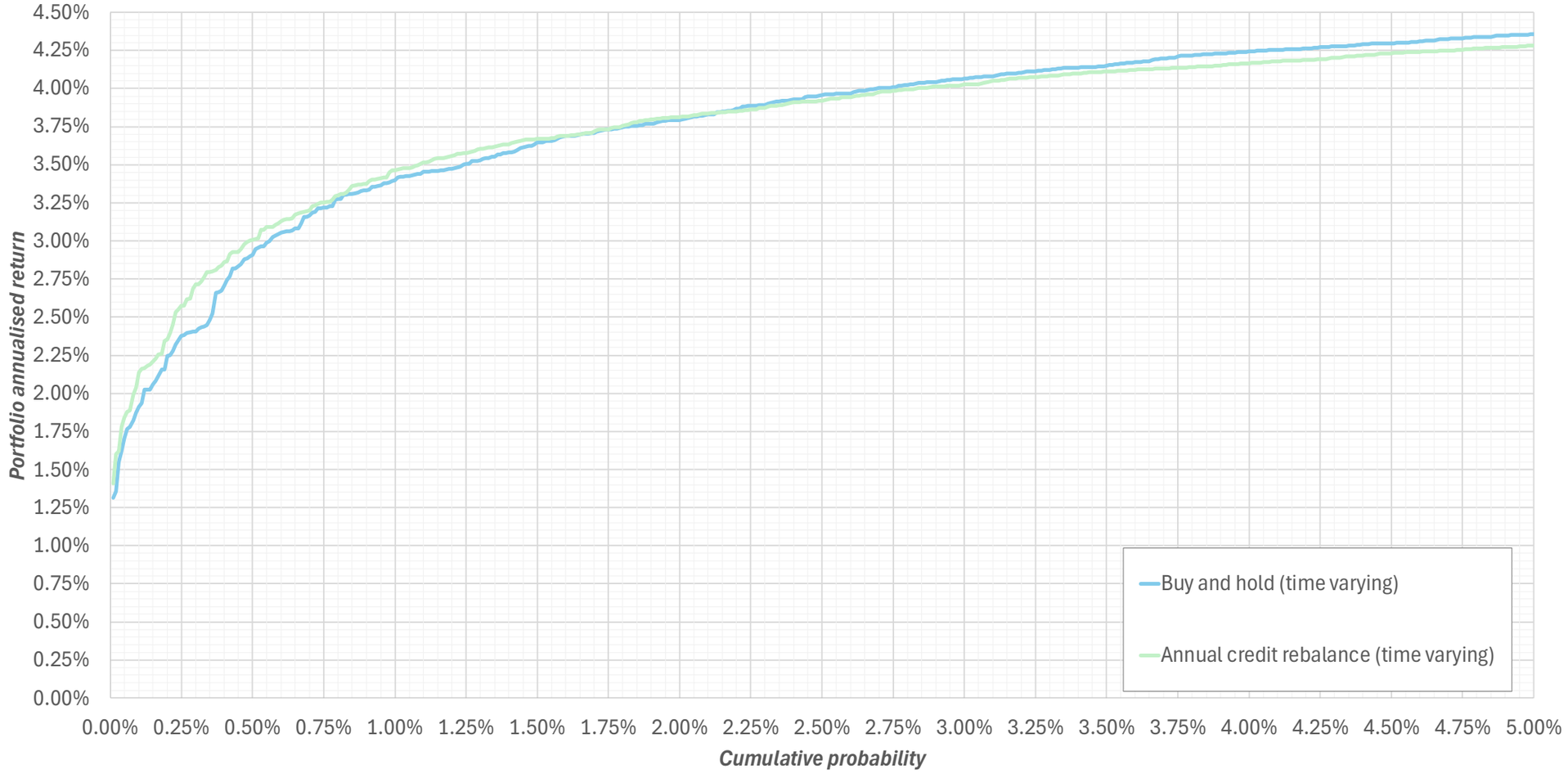
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Dive into 15-year BBB bonds (time varying: changing strategy)

Reduction in tail risk from rebalancing is minimal for this calibration, term and credit quality.



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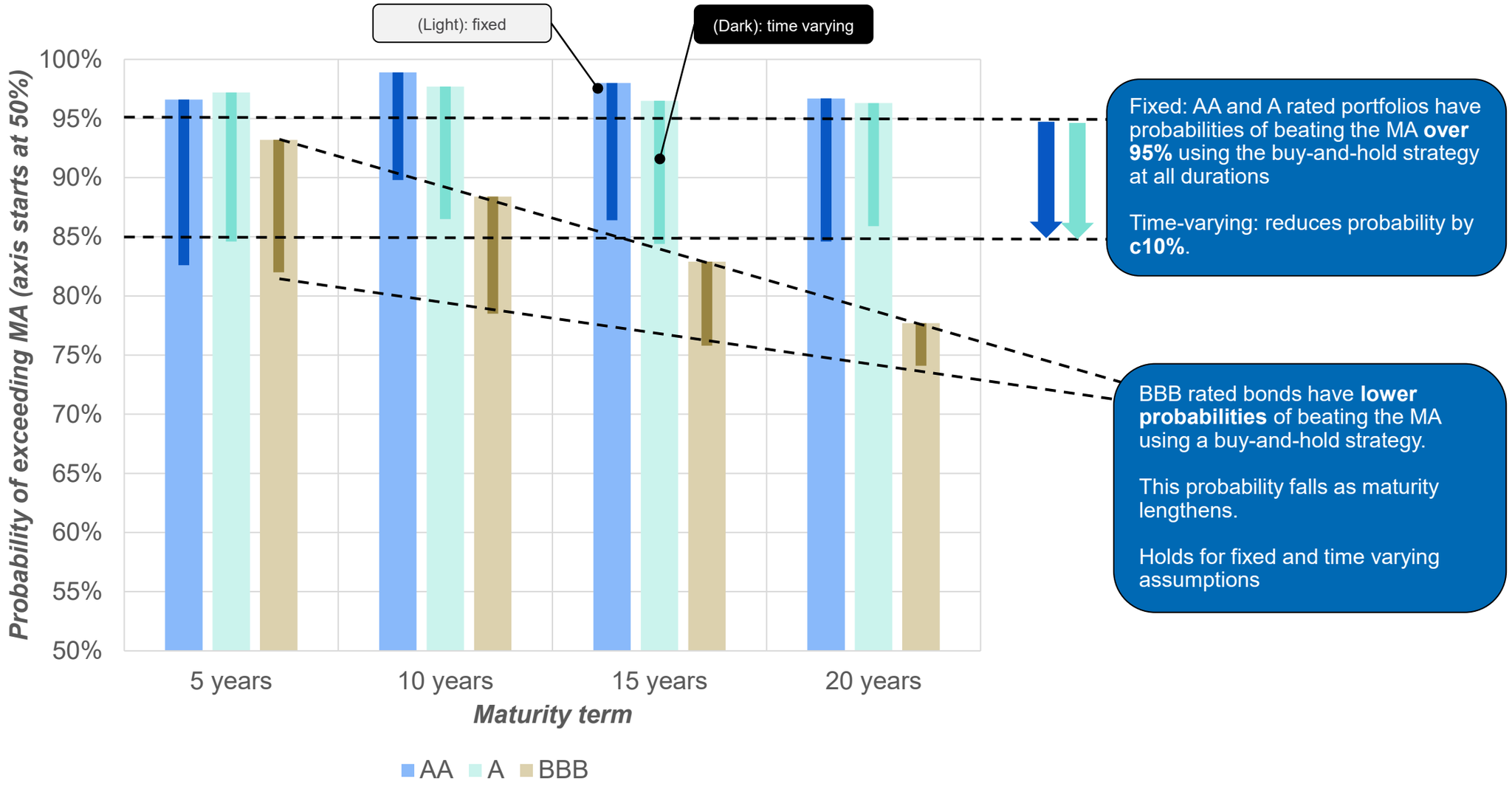
P(exceed MA)

Conclusions

A: Tabulated p(exceeds MA)

B: All distribution charts

How does the assumption set affect P(buy-and-hold > MA)?



Fixed: AA and A rated portfolios have probabilities of beating the MA **over 95%** using the buy-and-hold strategy at all durations

Time-varying: reduces probability by **c10%**.

BBB rated bonds have **lower probabilities** of beating the MA using a buy-and-hold strategy.

This probability falls as maturity lengthens.

Holds for fixed and time varying assumptions

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Dive into 15-year BBB bonds

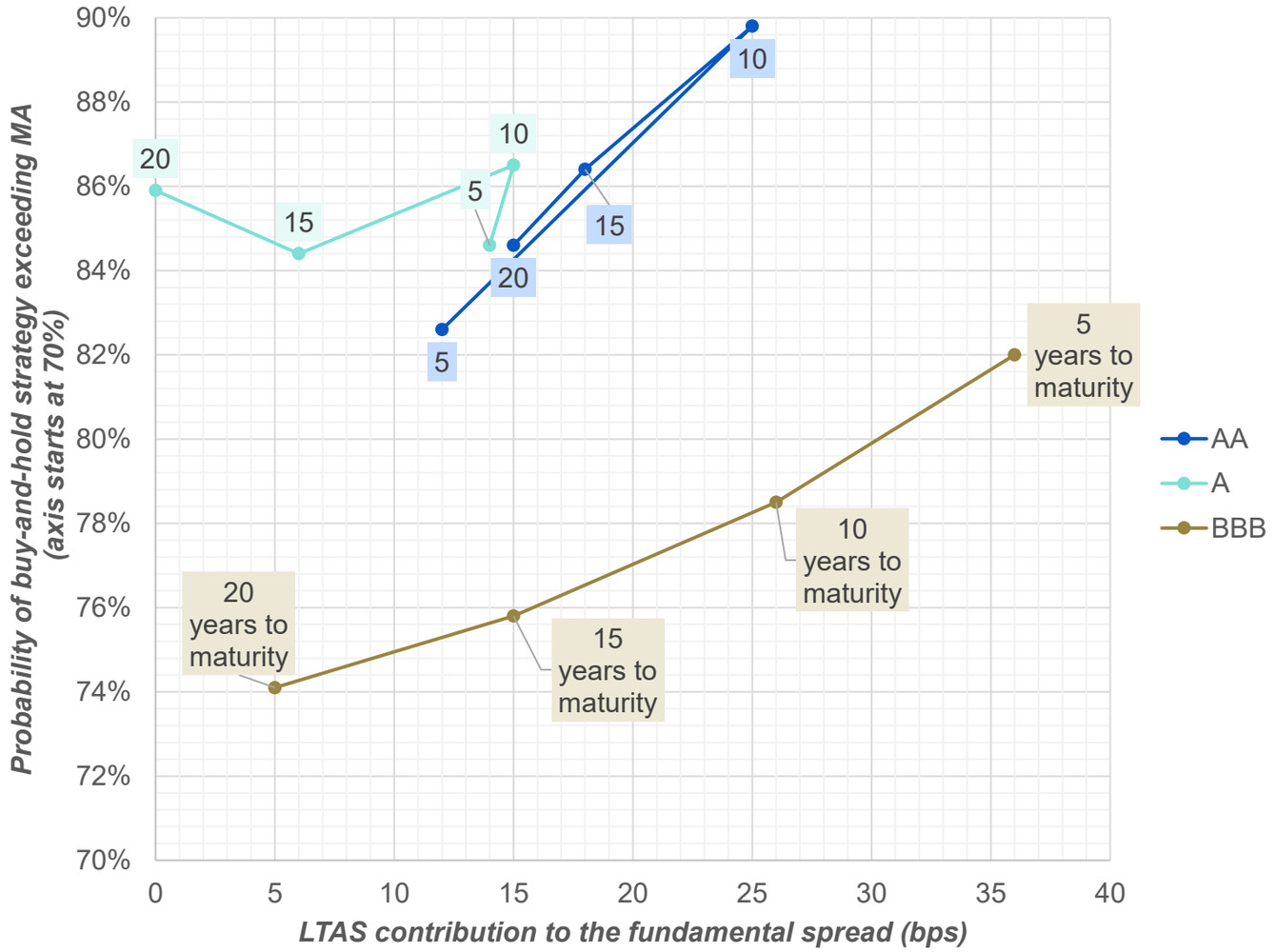
P(exceed MA)

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A: Tabulated p(exceeds MA)

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What is the impact of the LTAS? (buy-and-hold, time-varying)



- The LTAS contribution to the FS is:

  any excess of 35% of the LTAS over the PD and CoD.

- **The LTAS term structure is largely flat** for most portfolios modelled, with the exception of shorter durations and higher credit quality.
- Over **longer maturity terms**, PD and CoD increase to reflect risk, so the **LTAS contribution to the FS falls**.
- The LTAS is not risk sensitive. It acts as a prudent margin that lowers the MA discount rate, increasing the likelihood that portfolio returns exceed the MA.
- With no LTAS, P(exceed MA)>>50% since CoD acts as a prudent margin for the buy-and-hold strategy.

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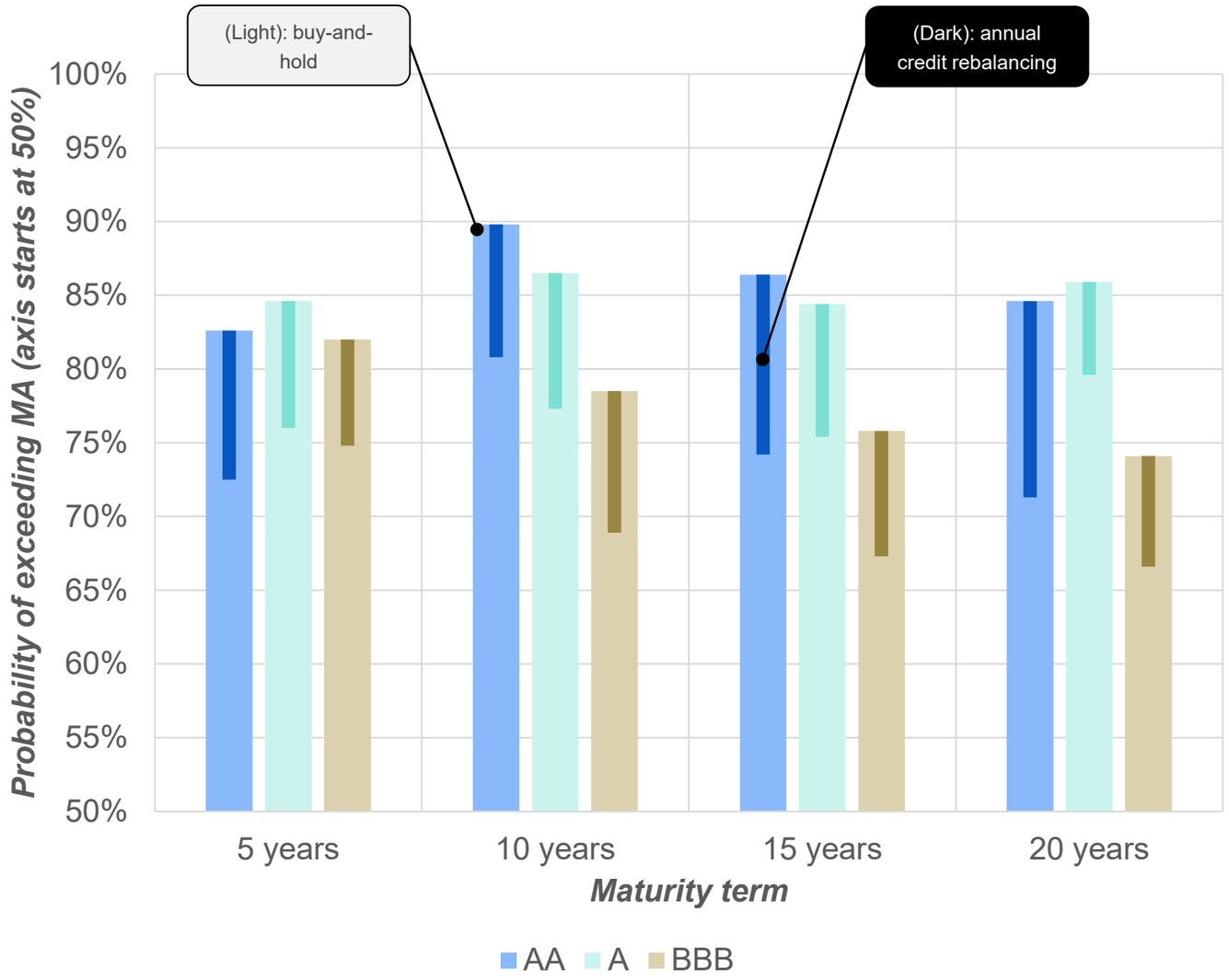
P(exceed MA)

Conclusions

A: Tabulated p(exceeds MA)

B: All distribution charts

What is p(exceeds the MA) for each strategy? (time varying)



- Rebalancing has a modest impact on the probability of exceeding the MA across all credit ratings and terms.
- The PRA expects the MA attestation not to require FS additions beyond the basic FS for vanilla corporate bonds.
- Probabilities of earning the MA provide a benchmark for a ‘high degree of confidence’.

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Conclusions

1 With what level of confidence can we say MA portfolios earn returns above the MA discount rate?	The strategies modelled using the time varying assumptions exceed the MA discount rate with 65%+ probability.
2 How much does the use of a time-varying transition matrix matter, and what additional risk does it reveal?	Captures a richer dynamic and results in a wider range of outcomes and greater downside risk, particularly when adverse credit conditions persist over time.
3 How much does portfolio management matter? Is buy-and-hold different from annual credit rebalancing?	Credit rebalancing lowers the probability of a portfolio exceeding the MA in almost every case, by c5%-15%.
4 How does LTAS impact the probability?	The LTAS floor bites for (almost) all scenarios. It raises the likelihood that portfolio returns exceed the MA discount rate.

Analysis such as that presented in this session can provide support in MA attestations, and more general long-term stochastic credit modelling can be used in analysis of future capital distributions or ORSAs.

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Tabulated probabilities of exceeding MA discount rate

Cashflow maturity term	Initial rating	Portfolio gross redemption yield (GRY)	MA discount rate	P(exceeding MA discount rate)			
				Static assumptions		Time-varying assumptions	
				Annual rebalance strategy	Buy-and-hold strategy	Annual rebalance strategy	Buy-and-hold strategy
5 years	AA	4.38%	4.22%	92%	97%	73%	83%
	A	4.64%	4.35%	93%	97%	76%	85%
	BBB	5.21%	4.64%	85%	93%	75%	82%
10 years	AA	4.94%	4.60%	97%	99%	81%	90%
	A	5.14%	4.71%	96%	98%	77%	87%
	BBB	5.55%	4.96%	77%	88%	69%	79%
15 years	AA	5.29%	4.97%	94%	98%	74%	86%
	A	5.47%	5.02%	96%	97%	75%	84%
	BBB	5.80%	5.20%	72%	83%	67%	76%
20 years	AA	5.49%	5.16%	92%	97%	71%	85%
	A	5.64%	5.12%	98%	96%	80%	86%
	BBB	5.92%	5.32%	69%	78%	67%	74%

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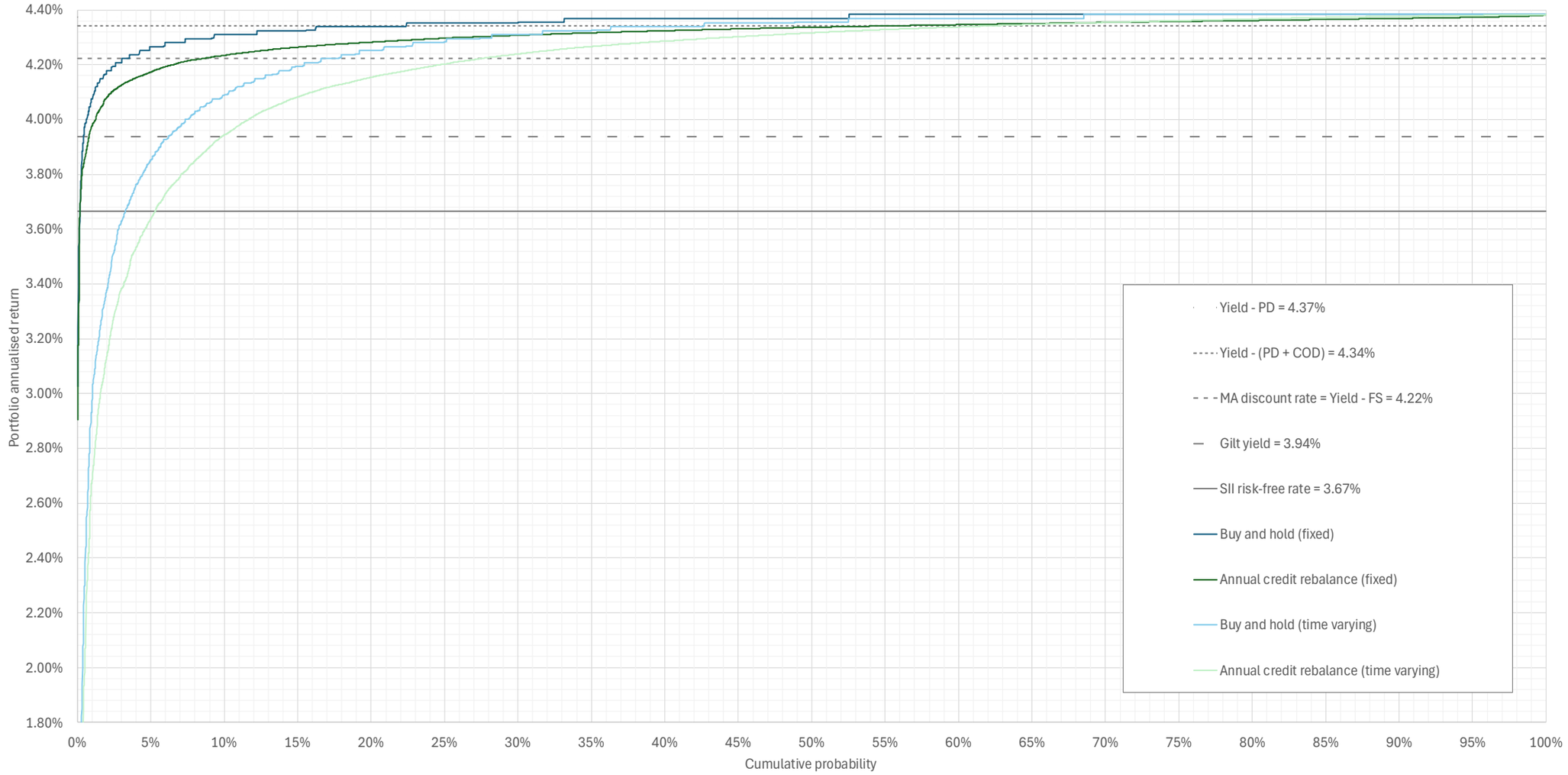
P(exceed MA)

Conclusions

A: Tabulated p(exceeds MA)

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5-year AA



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Dive into 15-year BBB bonds

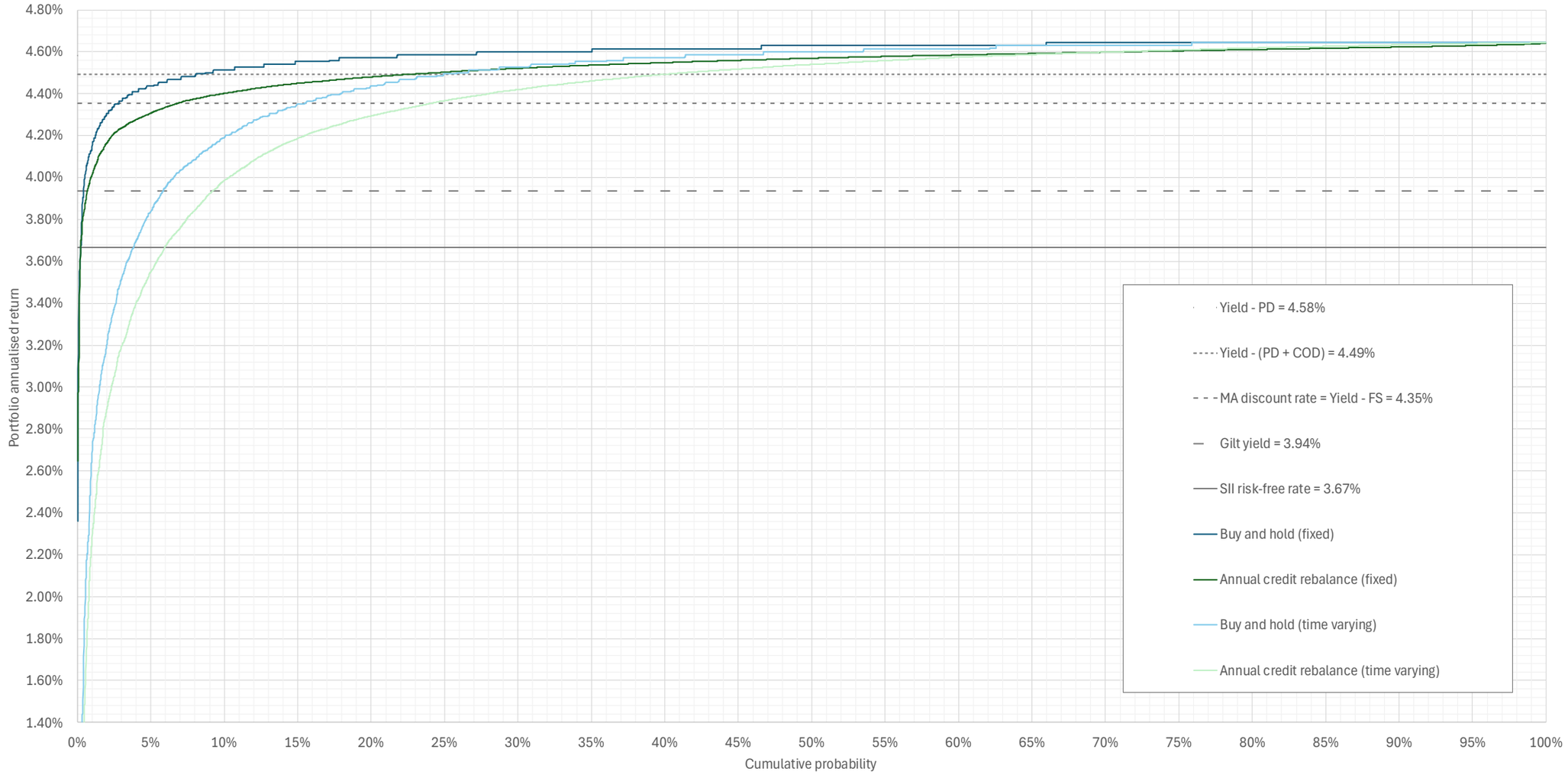
P(exceed MA)

Conclusions

A: Tabulated p(exceeds MA)

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5-year A



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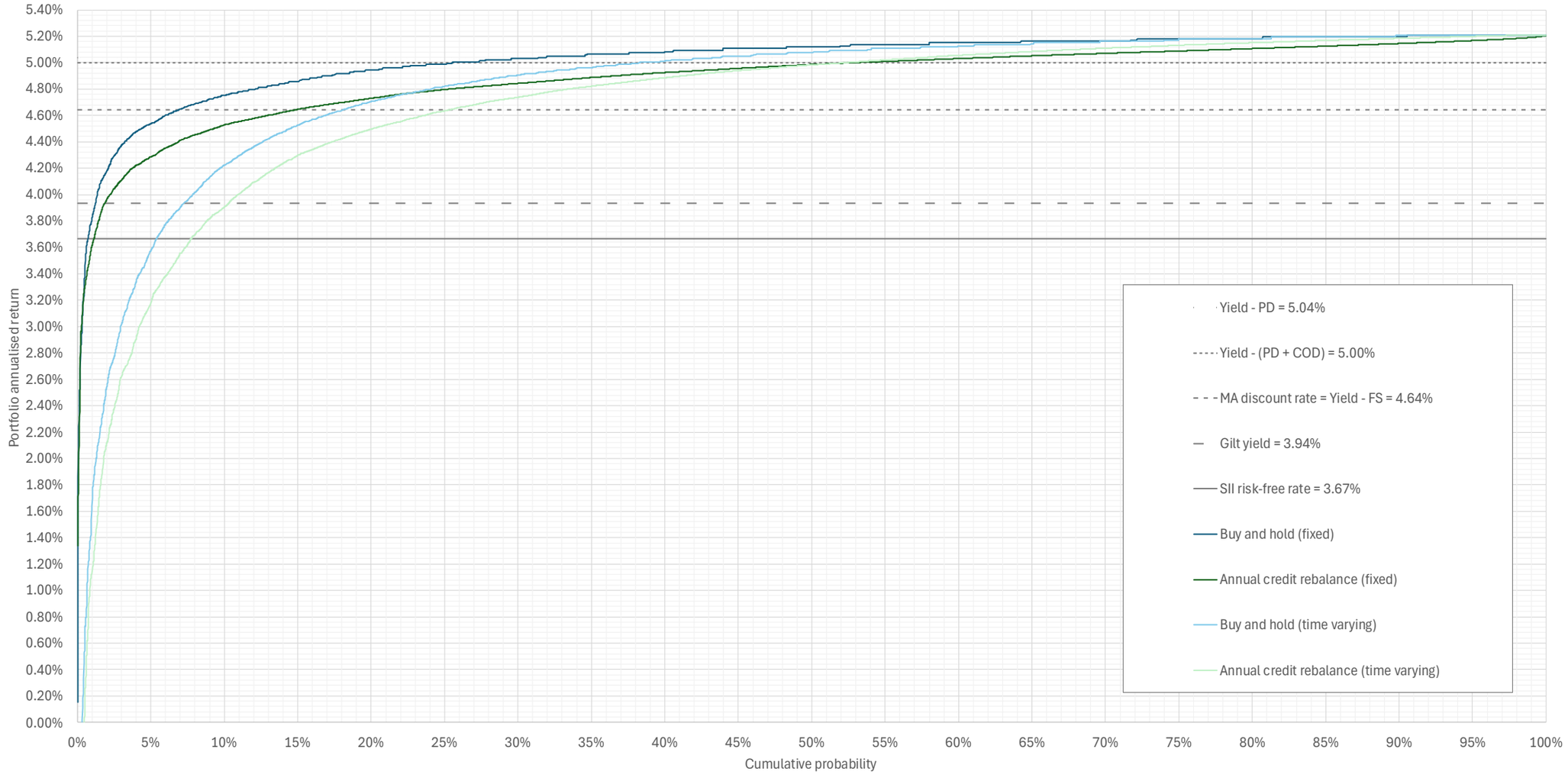
P(exceed MA)

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5-year BBB



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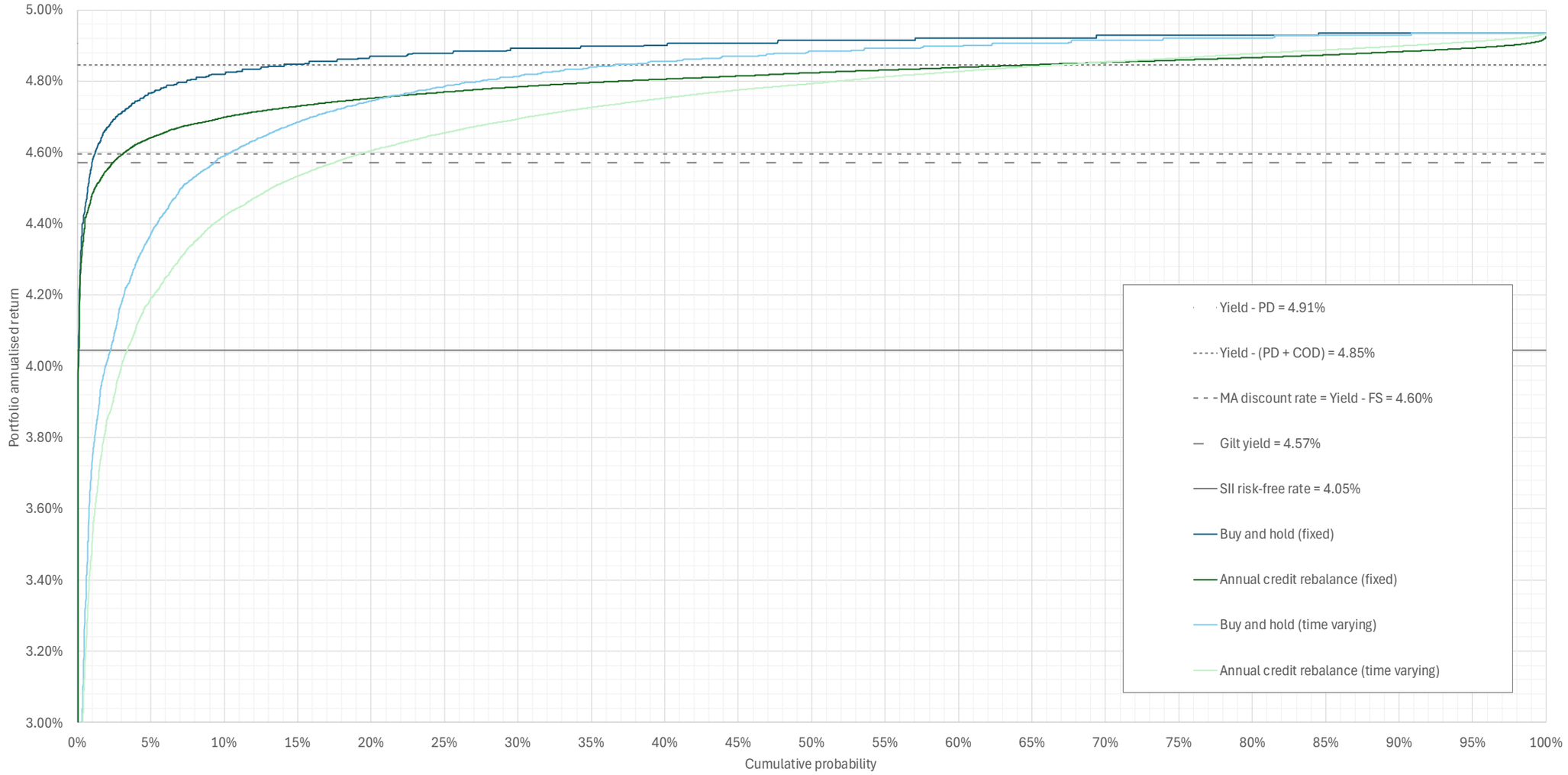
P(exceed MA)

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A: Tabulated p(exceeds MA)

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10-year AA



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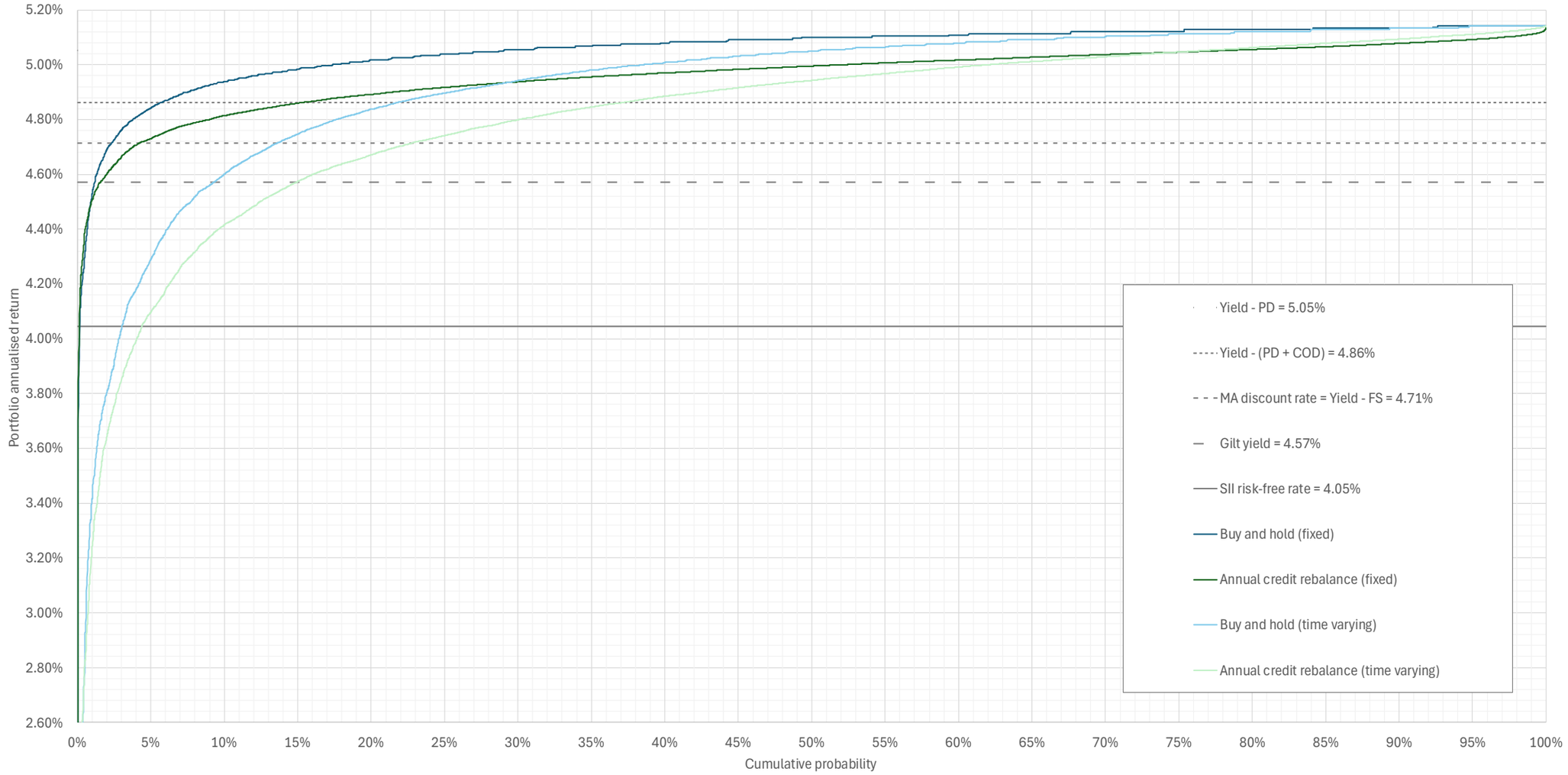
P(exceed MA)

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10-year A



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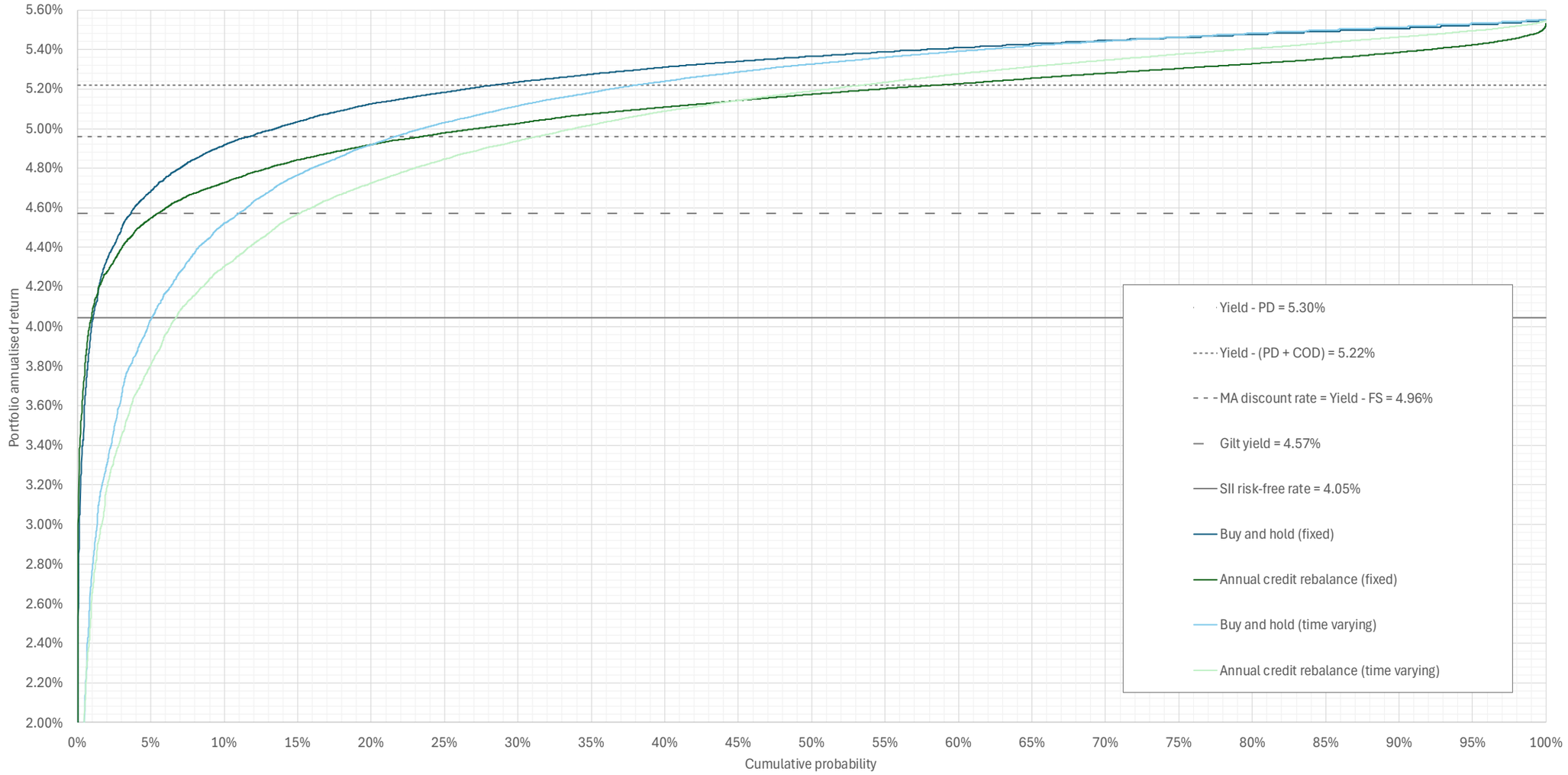
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10-year BBB



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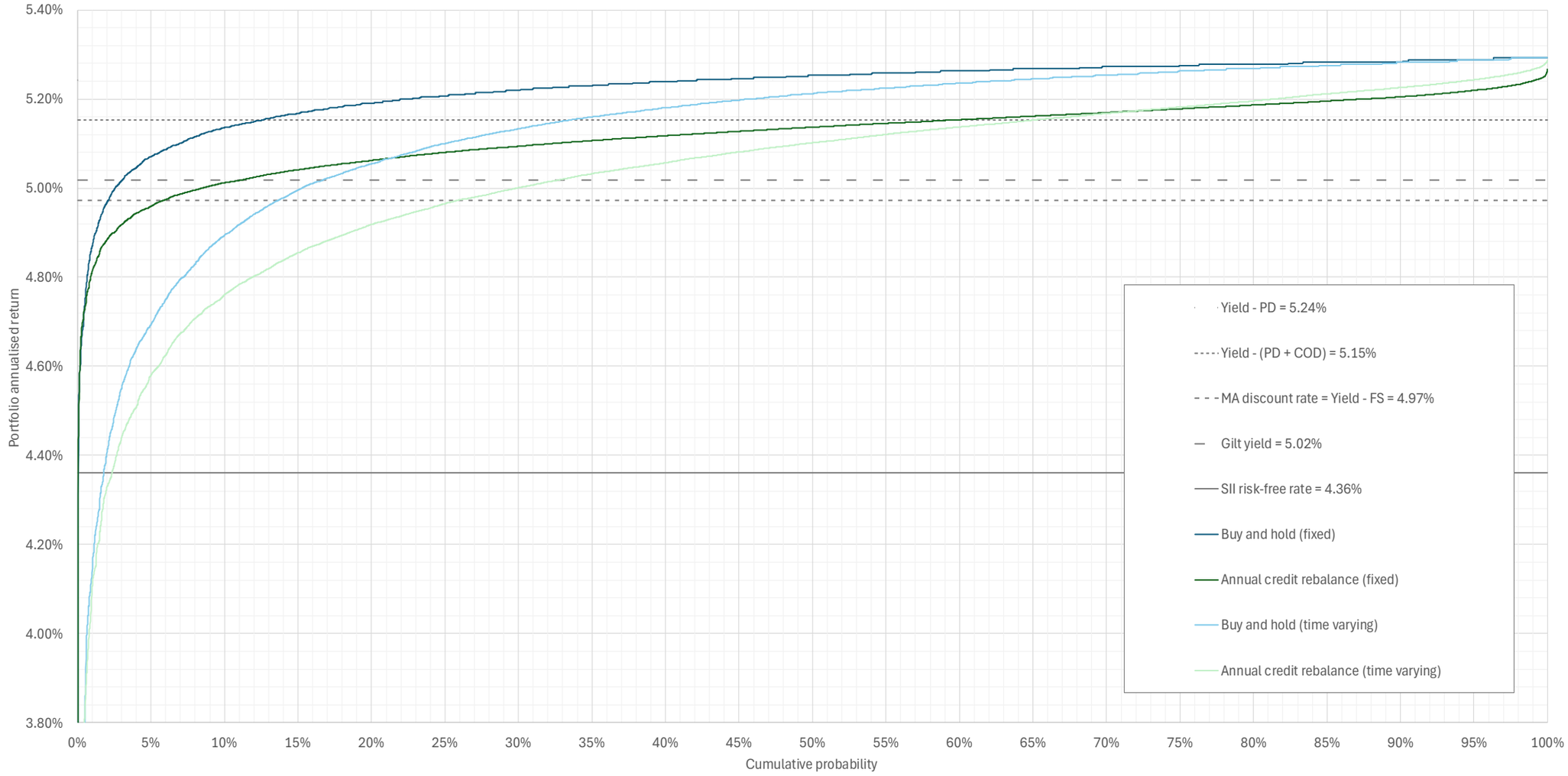
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15-year AA



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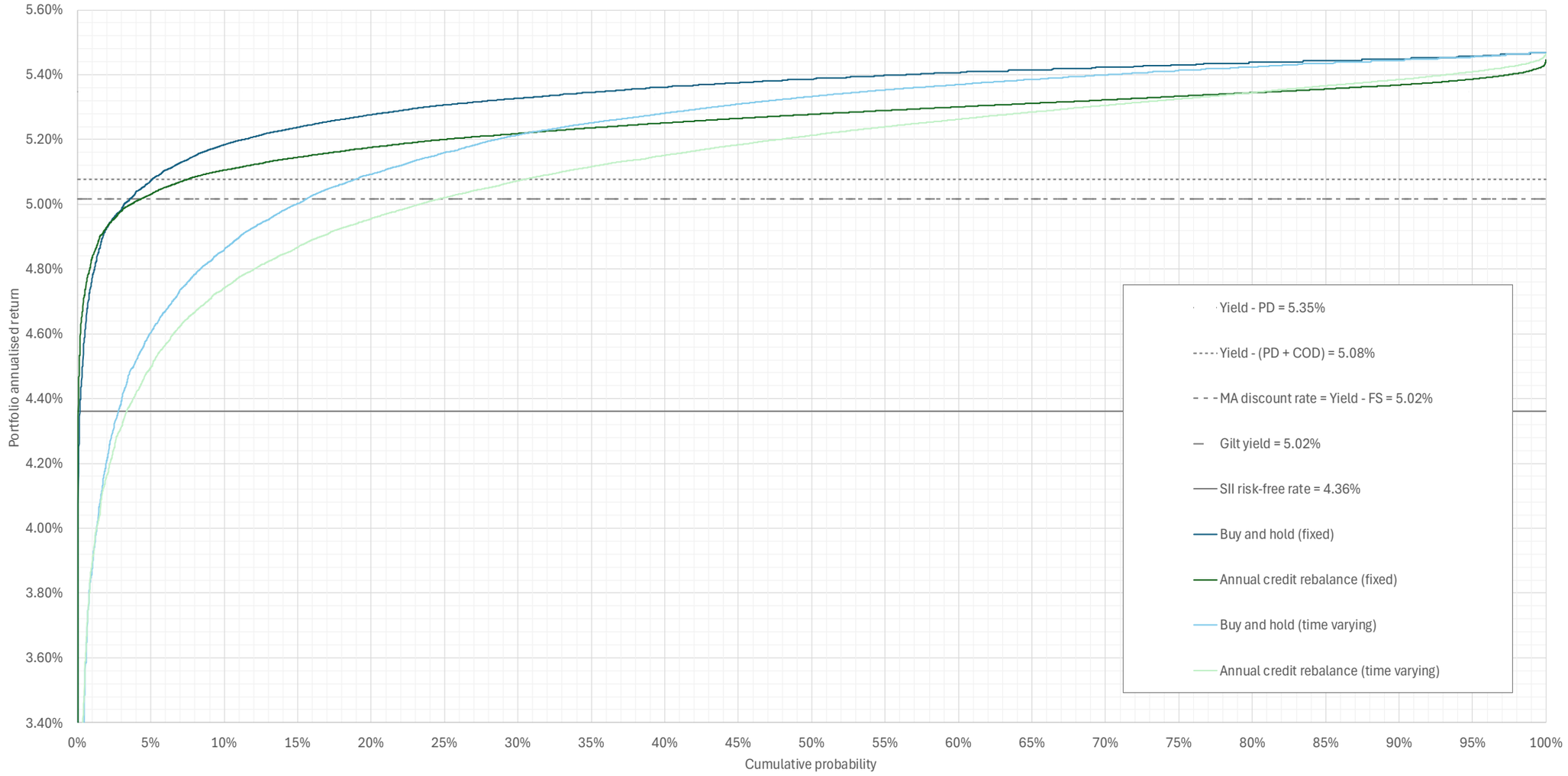
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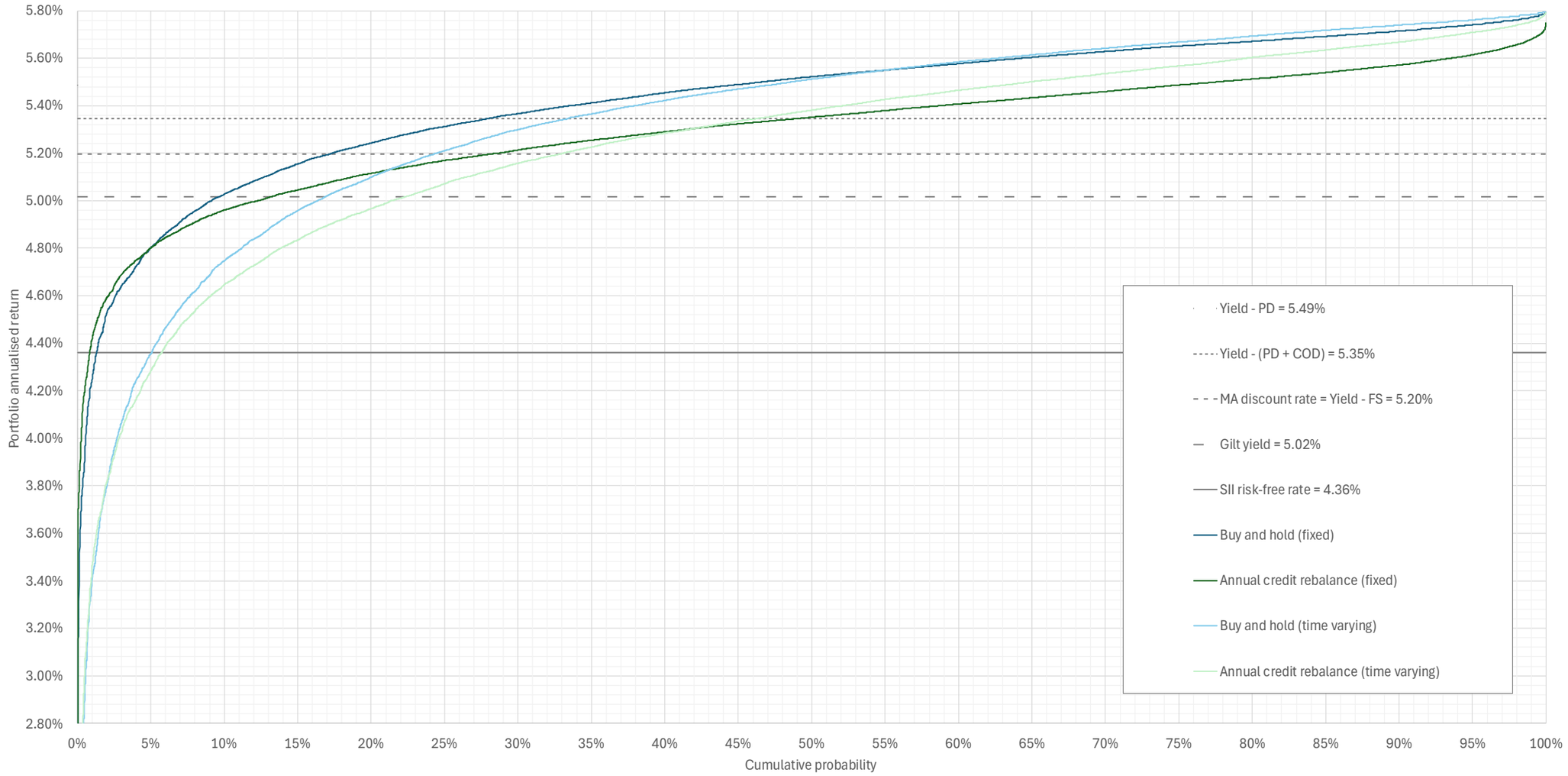
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15-year BBB



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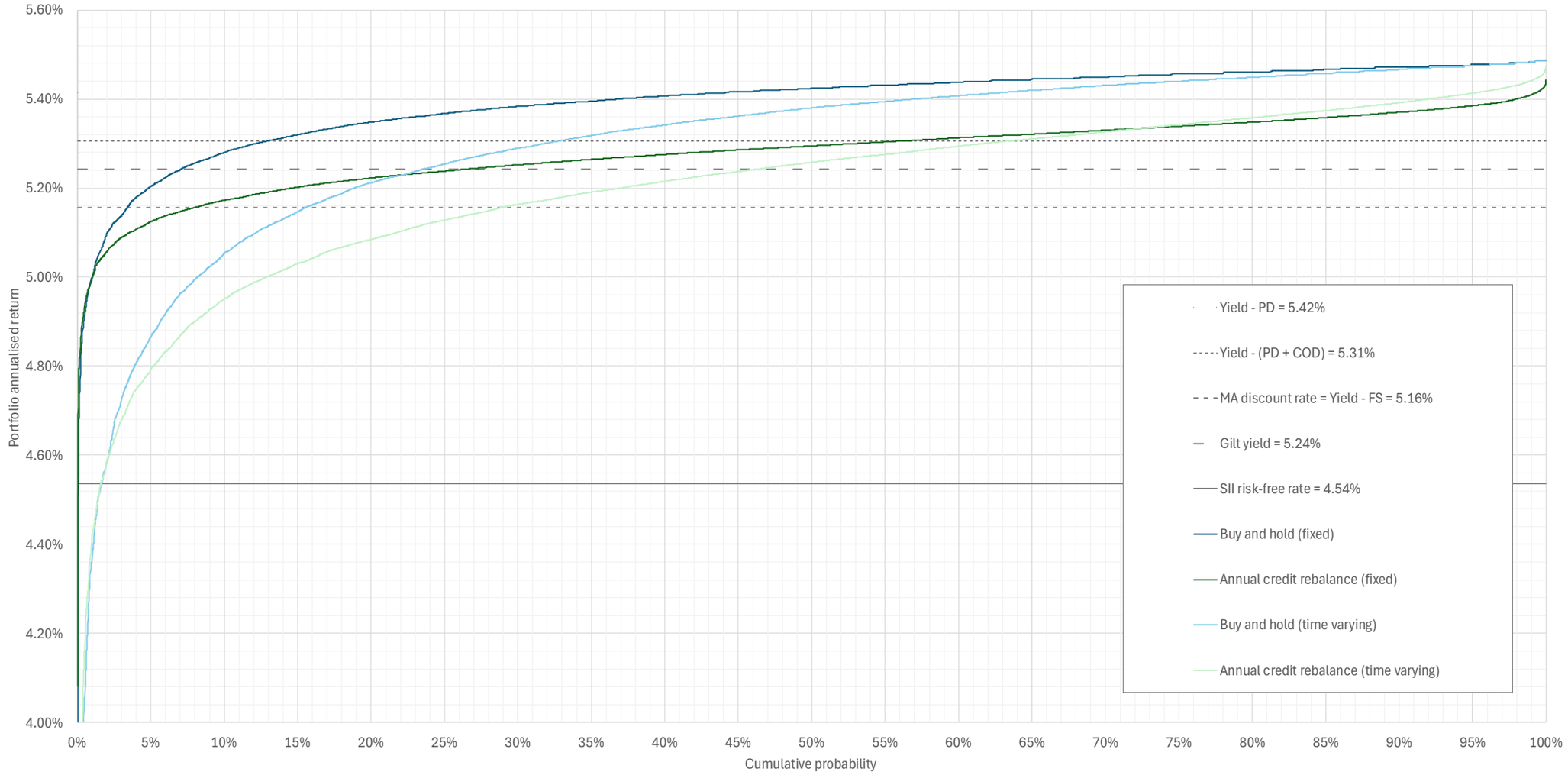
P(exceed MA)

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20-year AA



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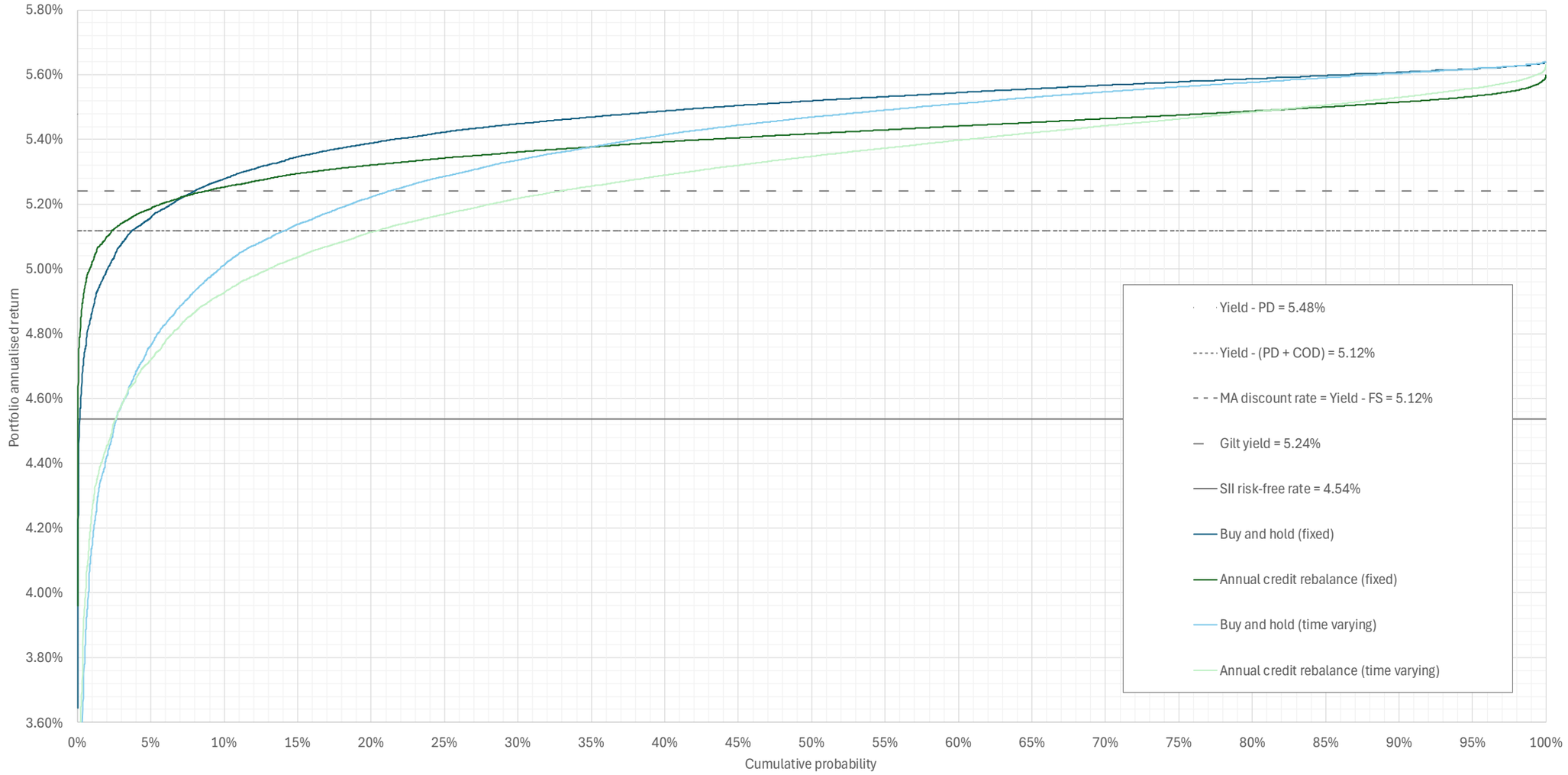
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20-year A



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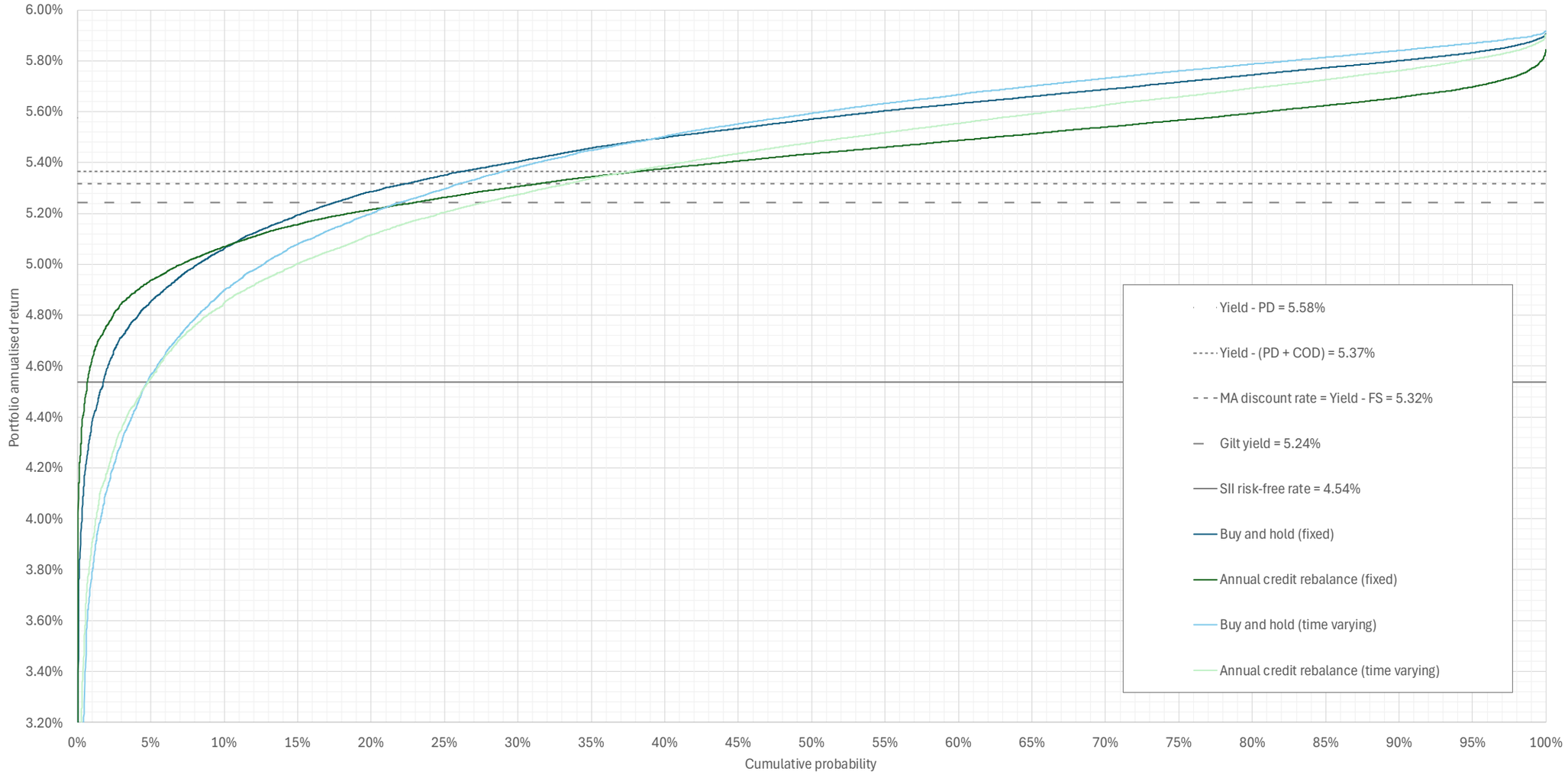
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20-year BBB



Questions?

SIAS Talk: Stochastic Credit Modelling Insights for Matching Adjustment Portfolios

