Robeco Insurance Solutions

Matching adjustment in Singapore and Hong Kong: implementation, advantages and challenges

- How a matching adjustment can be applied in Hong Kong and Singapore
- Its advantages include a higher solvency capital ratio and lower volatility
- Challenges remain in portfolio construction and the eligibility of assets

Insurers face a complex framework when it comes to ensuring they have enough assets to meet their future liabilities. One way of making sure that assets are correctly aligned with liabilities is through the 'matching adjustment' that was introduced under the EU's Solvency II directive. The rules on matching adjustment recognise that long-dated liabilities are better matched by a longer-term investment approach than a short-term mark-to-market approach. This can improve the asset liability management (ALM) mechanism, and lower both volatility and the solvency capital charge.

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Clara Yan, Head of Insurance Analytics

However, implementation of the matching adjustment rules can be highly complex, and there are challenges in evaluating the mix of assets that are used to underpin the solvency, particularly if riskier assets such as equities and real estate are included. Meanwhile, integrating sustainability into the mix has never been more important for risk mitigation.

Real expertise is needed

So, how to go about it? Real expertise is required if an insurer is to have confidence that they will be able to meet future liabilities while also addressing the need to make returns on their assets in a world that becomes riskier every day.
Robeco works daily with insurance companies to create customized solutions to meet their distinct regulatory and investment challenges.

In this Q&A, our insurance experts answer six questions on how matching adjustment works, and what it means for investors in Hong Kong, Singapore, and more widely across Asia. Our insurance team members are uniquely placed to share their knowledge, since much of the matching adjustment concept arose from EU regulations in Robeco's home patch of Europe.

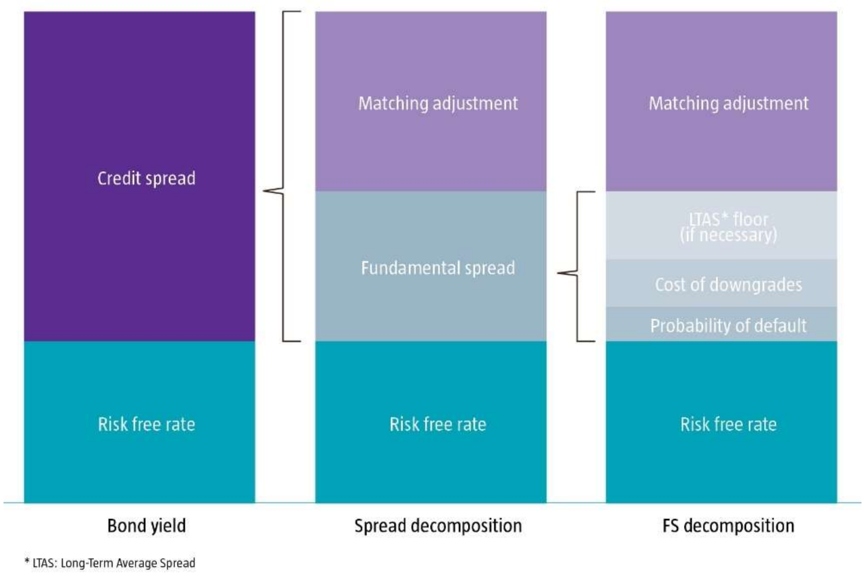
Since the concept is relatively new in Asia, we try to make it as relatable as possible by giving examples of how it works in practice. We explain what the main challenges are to implementing it in a straightforward manner. And with our long experience in managing European matching adjustment portfolios, we discuss how Robeco can help Asian insurers to benefit from matching adjustment. Finally, we show how the increasing responsibility emanating from climate change requiring carbon reduction can be incorporated into the process.

But let' start with the basics… what is it, and why does it matter to Asian insurers?

Q1: What is a matching adjustment and why do regulators allow for the concept?

Under the Solvency II regime, insurers are required to calculate the value of their liabilities using a discount curve. The matching adjustment is an upward adjustment to the discount curve where insurers hold assets to match liability cashflows.

Figure 1 I Matching adjustment decomposition



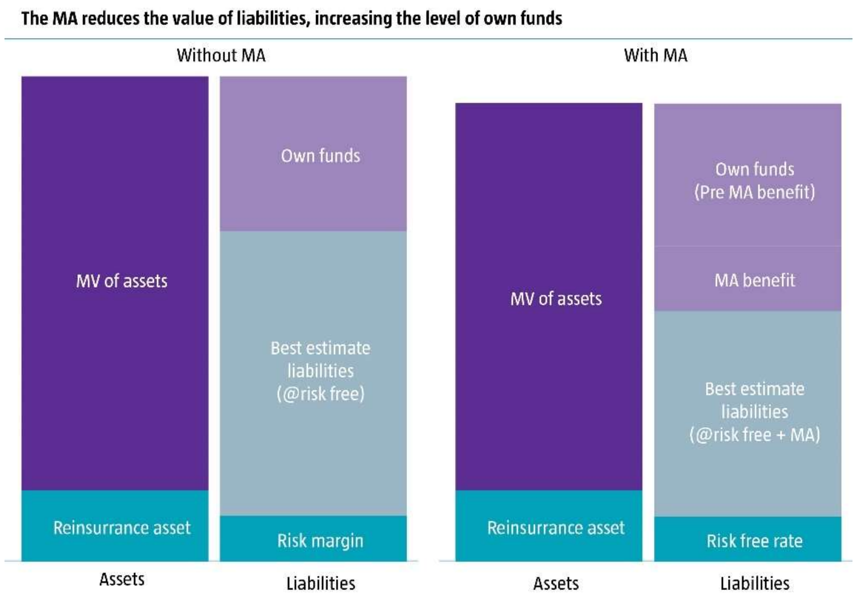
Source: EIOPA – Commission delegated regulation (EU) 2015/35

Assets held by insurers for long-term liabilities are typically investment grade bonds where the default and downgrade risks are relatively low. As long-term buy and hold investors, insurers are not expected to be forced sellers under times of stress, and hence are expected to hold bonds to maturity. The upward adjustment to the discount curve is called a matching adjustment and is determined as the spread minus a deduction for downgrade and defaults as specified by the regulators.

A matching adjustment can act as a countercyclical buffer when spreads widen and asset values fall. As the downgrade and default adjustments as set by the regulators do not materially change during times of stress (provided that the assets remain in the same credit rating), the effect of the spread widening feeds into the discount curve and reduces the value of the liabilities. This offsets against falls in asset value and reduces the need for additional capital injections to support an insurer's solvency ratio.

The matching adjustment concept has since been introduced to meet the design of the Hong Kong RBC, Singapore RBC 2 and ICS capital regimes, with local amendments.

Figure 2 I The impact of matching adjustment (MA) on the balance sheet



Source: Bank of England – Developments in the PRA's supervision of annuity providers. Speech by Charlotte Gerken, Executive Director Insurance Supervision, the 18th Conference on Bulk Annuities 29 April 2021

Q2: How does a matching adjustment under the Hong Kong and Singapore regimes differ from Solvency II?

The main concept of matching adjustment is the same under Solvency II, Singapore RBC 2 and the proposed Hong Kong RBC. Insurers with eligible asset-liability management processes can benefit from an upward adjustment to the discount curve. This results in lower volatility of their solvency capital and lower capital charges for the investments that are part of the matching adjustment asset portfolio.

Nevertheless, Singapore RBC 2 and the proposed HK RBC framework have been adapted to be suitable for the local markets, and therefore hold a few incentives for the local life insurers. Some of the key differences between Solvency II and the Hong Kong and Singapore regimes include:

Adjustments to the discount curve

One of the main differences is that HK RBC does not have the option of using volatility adjustment.[1] After several consultations of HK RBC2020, the Insurance Authority agreed to allow for a matching adjustment only. Singapore life insurers, however, can apply for a matching adjustment or an illiquidity premium.[2] One of the main advantages of using a matching adjustment is that it avoids artificial volatility, since it is based on the insurer's own asset mix and asset spread. However, smaller and mid-sized insurers could face operational challenges if they have to use their own reference portfolio and reference spread to determine the spread adjustment to calibrate the matching adjustment.

[1] The volatility adjustment is provided and updated by the European Insurance and Occupational Pensions Authority and is based on the spreads of a reference portfolio's assets.
[2] Illiquidity premium is provided and updated by the Monetary Authority of Singapore and is based on a reference portfolio of SGD and USD denominated bonds of at least investment grade held by the industry in the par and non-participating funds.

Universe of eligible assets

The universe of eligible assets for the matching portfolio is also different if we compare the risk-based capital frameworks. The proposed HK RBC2020 allows a broader set of fixed income assets denominated in various currencies to be part of a matching adjustment portfolio which can also cover multiple business lines in various currencies. Singapore RBC 2 allows SGD or USD denominated government or corporate bonds of investment grade quality[3] to form the matching adjustment portfolio covering USD and SGD products (but not ILP business). In Europe, Solvency II lays down explicit requirements for the eligible assets and they mainly cover retirement savings products such as annuities.

Under all three regimes, the eligible assets must be explicitly identified and managed separately from the other assets to ensure that they are not exposed to the risk of forced selling to support other liabilities. Solvency II and to some extent HK RBC2020 also require these particular portfolios to be legally ring-fenced from the rest of the business.

Spread for long-term investments

HK RBC2020 has a unique and distinctive feature when it comes to ring-fencing and more specifically when it comes to recognising the spread for long-term investments in equities and property – the so-called matching adjustment with long-term adjustment (LTA). The LTA describes the margin above the risk-free rate that is recognized for holding stock and real estate assets for a sufficiently long period of time.

For a matching adjustment with an LTA, the insurer has to segregate and therefore ring-fence the matching adjustment portfolio, and also segregate participating and universal life portfolios. Including long-term equity and property assets in the matching adjustment portfolio provides Hong Kong insurers with additional alternatives to set up a well-diversified multi-asset portfolio and enhance returns.

There are more technical differences when comparing Solvency II, HK RBC2020 and Singapore RBC 2 that you can discuss with our insurance team in more detail. The team is highly skilled in being able to unravel complex issues on a localized basis to align with a client’s precise needs. But for now, let’s look at the principal challenges and advantages of using a matching adjustment.

Q3: What are the main challenges in managing insurance portfolios with matching adjustment criteria?

The main challenges to managing a matching adjustment portfolio are:

Credit research – Given the usually very long-term horizon the team uses to assesses a company for inclusion in a buy-and-maintain portfolio, it is critical to conduct an in-depth fundamental credit and sustainability analysis. The key is to select those companies that are able to make decent returns through full economic cycles. This requires a deep understanding of companies’ management, strategy, business and industry.

Portfolio construction – For a matching adjustment portfolio, specific objectives need to be met, such as avoiding fallen angels, maximizing capital and risk-adjusted returns, and matching a specific cashflow profile. This comes in addition to ensuring proper issuer and sector diversification, and often also includes specific sustainability and hedging requirements. This is an enormously complex portfolio construction puzzle. To assist the portfolio manager in the process of meeting all of these client-specific risk, return, regulatory and sustainability objectives over a long horizon, we use an optimization framework that optimally positions the portfolio on a very long-term timeline. This is based on credit and sustainability analyst research, the portfolio manager’s investment views and client-specific analytics and requirements.

Eligibility – In order for assets to be used in a matching adjustment portfolio, the asset has to pass certain regulatory criteria. These include:

- ensuring that hedged asset cash flows are fixed and cannot be changed by the issuer or a third party;
- hedging overseas bonds to the liability currency;
- checking that callable bonds with make-whole call clauses are sufficiently compensated as prescribed by the regulator.

[3] This also includes SGD and USD cash, and bonds without a rating from a recognised ECAI where the insurer has an internal rating model or process which can meet specific criteria.

Liability matching – as not all liabilities are eligible to be used for a matching adjustment, insurers need to select the appropriate liability. Insurers must also take care to ensure they select bonds that can match liability cashflows.

Figure 3 I Example – Eligible assets for matching adjustment portfolio under the Hong Kong RBC regime

Total assets used to support the liabilities that are subject to MA		
Invested assets		**Non-invested assets**
Eligible assets	**Non-eligible assets**	
Sovereign bonds	Equities	Cash and cash equivalents
Corporate bonds	Convertible bonds with convertible option held by the issuer or third party	Assets held for investment-linked assurance schemes (ILAS)
Asset backed securities	Derivatives	Investments in affiliates
Structured notes	Properties	Other balance with affiliates
Long term bank deposits	Investment in Collective Investment Schemes (Other than fixed income component)	Other non-invested assets
Mortgage made	Interest receivables from interest bearing assets	
Infrastructure investments (Fixed income)	Assets held for retirement schemes account balances (Other than fixed income component)	
Money market instruments	Other non-eligible assets	
Policy loans		
Infrastructure loans		
Other loans		
Assets held for retirement schemes account balances (Fixed income component only)		
Investment in Collective Investment Schemes (Fixed income component only)		

Source: Hong Kong risk-based capital RBC 2020 – Long Term Business – Matching Adjustment technical specifications

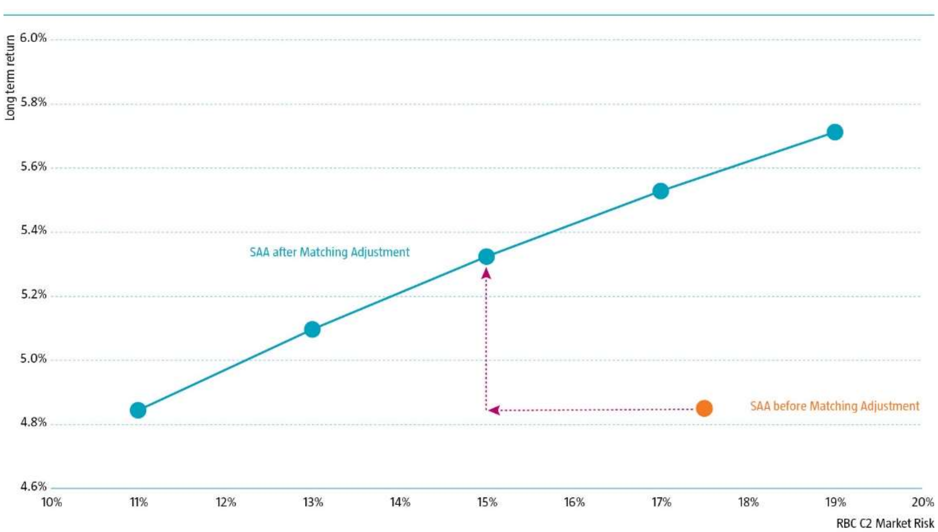
Q4: What are the advantages of a Singapore or Hong Kong life insurer using a matching adjustment?

The local regulators implemented the matching adjustment as a new concept to the Singapore and Hong Kong insurance regimes to align their regulations with international standards and to encourage insurers to improve ALM practices. This comes with three benefits for the insurer:

It improves the solvency capital ratio at a company level

By increasing the liability discount rates via a matching adjustment, the insurer also reduces the value of the respective liabilities. This means that the insurer can hold fewer assets to match its liabilities, while the released assets contribute positively to the solvency capital.

Figure 4 I Solvency capital and return improvement of a matching adjustment portfolio

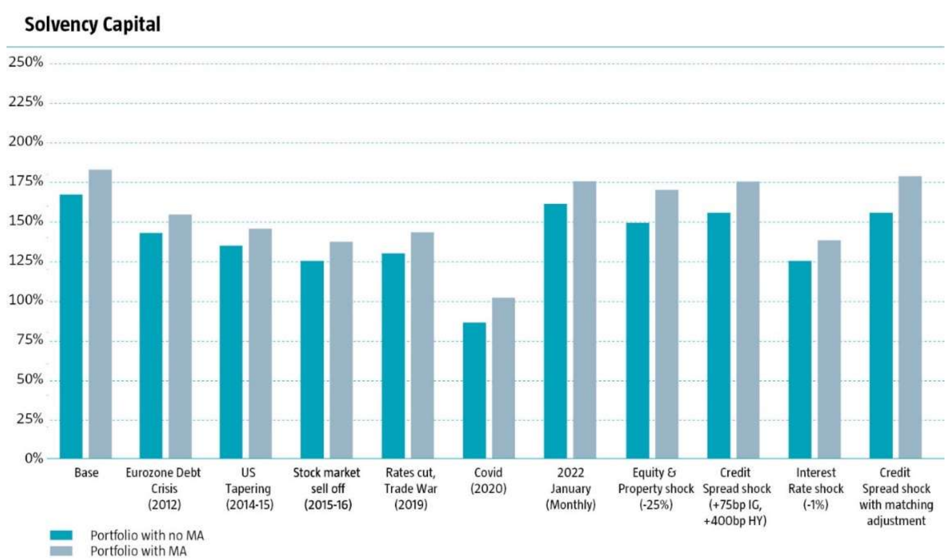


Source: Robeco own calculations based on Singapore RBC 2

It improves the return of the insurer's overall portfolio
As a result of holding fewer assets versus liabilities, the second benefit is that the insurer can allocate these newly released assets into return-seeking asset classes to improve the return of the insurer's overall portfolio. Usually, matching adjustment benefits are achieved by allocating eligible fixed income assets to the matching portfolio. Segregating these assets and matching them with the eligible products frees up capital from the fixed income bucket. This rather low-return allocated capital can be used to allocate assets and therefore capital into higher-return assets like equities and alternatives.

It lowers the solvency capital volatility of the insurer
And last but not least, a matching adjustment can lower the solvency capital volatility of the insurer. By generating closer matching between the insurer's assets and liabilities, increasing the liability discount curve and reducing the capital charge for the matching portfolio, the changes in valuation of assets and liabilities are much more aligned. As a result, we can also observe a much lower solvency capital volatility as asset and liability valuations move in similar directions. With a lower solvency capital volatility, the probability of punitive moves in the insurer's capital position below certain internal or external thresholds can be avoided.

Figure 5 I Comparison of solvency capital for a portfolio with and with no matching adjustment under adverse scenarios



Source: Robeco own calculation based on Singapore RBC 2

So, there are several advantages in using a matching adjustment in Hong Kong and Singapore. But it does not end there. To wrap up our Q&A, our experts share their advice about implementation, the role of sustainable investing in this, and how Robeco can help insurers get all this done.

Q5: Is there any advice on how insurers should implement a matching adjustment in their investment process?

While a matching adjustment can generate significant benefits for insurers, its implementation can be complex, and requires close cooperation between the insurer and its asset managers to identify and manage the assets that are eligible for the regulatory regime. This cooperation should not be limited to the initial stage of portfolio construction, but continued by maintaining a close dialogue to ensure that new opportunities are identified for future new business flows.

At the initial portfolio construction process, the following three elements should be kept in mind:

- screening for eligible bonds with respect to their matching adjustment eligibility as well as sectors, ratings and regions;
- identifying preferred names for yield, credit analysis and low capital cost;
- final selection of bonds based on cash flow matching, relative valuation, liquidity, diversification and capital charge.

Once the portfolio has been constructed, continual monitoring and managing is required, including:

- building an asset liability model system to monitor for assets and liabilities, and to facilitate rebalancing of the portfolio;
- monitoring marked-to-market spread movements which can impact on a matching adjustment;
- monitoring of possible rating downgrades which can affect the matching adjustment and increase the capital charge.

For Asian insurers it becomes even more important to have an asset manager that not only understands the local regulatory framework in order to match the best eligible assets with the selected liabilities, but also has a long and proven track record in managing fixed income and credit investments in global credit strategies. With knowledge of local regulations, fixed income expertise and the ability to provide currency hedging back into the domestic currency, the role of the asset manager is to provide the matching adjustment portfolio with the highest level of diversification and flexibility for optimization.

Q6: Why does sustainable investing play such an important role in setting up a matching adjustment portfolio?

It might be easier to ask why sustainable investing would not play such a role, given the fact that SI is mainstream in Europe and is gaining in popularity in Asia. Put simply, SI allows any investor to lower the risks in a portfolio, which is part of the day job for any insurer. And the threat of climate change which is uniquely challenging for insurers has not surprisingly risen to front of mind.

Our recent 2022 Global Climate Survey shows that climate change is a significant part of, or even at the centre of, insurers' investment policy. This long-term focus on climate and sustainability has meant that insurers are looking to incorporate climate and sustainability metrics into their portfolio construction process of their long-term matching adjustment portfolio. This means the matching adjustment portfolio will have to be aligned with the company's sustainability targets, such as the pathway to achieve net-zero carbon by a specific date.

As a matching adjustment portfolio is set up with limited trading in mind, in order to avoid future rebalancing or trading due to climate or sustainability criteria, insurers should look to incorporate these considerations into the initial portfolio construction process.

There are multiple ways of ensuring optimal alignment to sustainability targets in a matching adjustment portfolio. The simplest way is to exclude controversial industries and companies from the eligible assets for the matching adjustment portfolio. Another approach is to include sustainable assets like green bonds or sustainable loans in the long-term portfolio.

UN Sustainable Development Goals

A different approach is to exclude specific companies with a negative impact to one of the 17 UN Sustainable Development Goals (SDGs). With the increasing importance of the SDGs, we see more insurers aligning their investment portfolios to companies with a neutral or positive SDG score from Robeco. This topic was covered in more detail in the paper Robeco's SDG Framework: Capturing SDG impact for investment portfolios' in September 2021.[4]

Including SDG scores can help insurers to actively make an impact via their investments and also reduce risk by not investing in 'old-school' businesses such as coal miners or producers of unhealthy food. It can also prevent the portfolio inclusion of companies with inadequate governance frameworks, with a lack of solid frameworks of checks and balances, and companies with a controversial track record on issues such as environmental spills that were met with heavy fines and the risk of license withdrawals.

Carbon footprint reduction

All of the leading insurers are either members of a net-zero emission initiative or have individually committed themselves to net-zero greenhouse gas emissions by 2050. The implementation of a decreasing carbon footprint trajectory of the buy-

[4] https://www.robeco.com/hk/en/insights/2021/09/translating-universal-goals-into-sdg-impact.html

and-maintain portfolio to be aligned with the companies' pathway to net-zero has gained a lot of attention within the investment teams at insurance companies. Robeco's insurance solutions team can help insurers to consider their net-zero commitment in a matching portfolio and provide valuable analysis on the portfolio impact of various carbon reduction targets.

Below is an example of a sensitivity analysis of an optimized global credit portfolio with investments in credit bonds of an investment-grade rated issuer with a maturity between one and 10 years.

Figure 6 I Reducing carbon footprints in a portfolio with limited impact on the risk-return profile

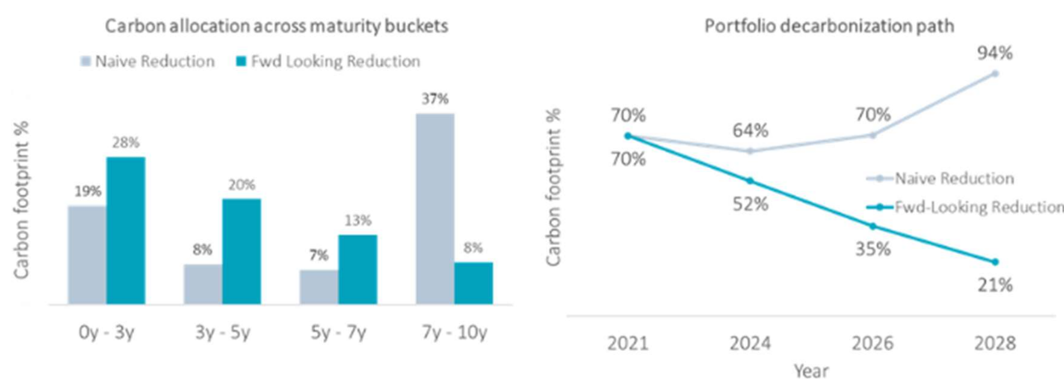
				Naïve Reduction	Fwd-Looking Reduction			
	Metric*	Portfolio 1	Portfolio 2	Portfolio 3	Portfolio 3a	Portfolio 4	Portfolio 5	Reference
Return	Yield (USD)	1.65	1.64	1.64	1.64	1.64	1.63	1.59
Risk	Rating	A/A- (7.3)	A/A- (7.3)	A/A- (7.3)	A/A- (7.3)	A/A- (7.3)	A/A- (7.4)	A-/BBB+ (8.4)
	Max sector exposure	15%	15%	15%	15%	15%	15%	29%
	Fundamental Score	0.5	0.5	0.5	0.5	0.5	0.5	0.0
	Duration	5.2	5.2	5.2	5.2	5.2	5.2	5.2
	BBB- allocation	4%	4%	4%	4%	4%	3%	15%
	Fallen Angel probability	8%	8%	8%	8%	8%	8%	15%
Sustainability	Carbon footprint	100%	85%	70%	70%	55%	40%	100%
	SDG Score	0.8	0.8	0.9	0.9	0.9	1.0	0.5
Regulation	SCR spread risk	8.3%	8.3%	8.3%	8.3%	8.3%	8.3%	10.0%

Source: Robeco – illustrative example

The reference portfolio stands for the respective benchmark, whereas portfolio 1 is the optimised portfolio with better overall characteristics than the reference, but with the same carbon footprint. The carbon footprint sensitivity analysis shows that we can reduce the carbon footprint of a global credit portfolio with no or without a significant impact on the risk-return profile as illustrated in portfolios 2 to 5.

With the support from our insurance solutions team, we can even further accommodate the decarbonization pathway to the specific needs of our insurance clients. You will have noticed that portfolios 3 and 3a both have a 30% carbon reduction versus the reference benchmark. However, a closer look at carbon allocation across tenors shows that achieving this reduction over the life of the portfolio is different.

Figure 7 I The importance of managing the allocation of carbon across tenors



Source: Robeco – illustrative example

For insurers with interim decarbonization targets, the reduction can actually come with an undesirable surprise such as a carbon uptick over the short end of the portfolio's lifetime, as can be seen by the grey line in the right chart of figure 7. Our solutions team can run the optimization and consider how the carbon footprint is allocated across future maturities to align the carbon reduction pathway to the clients' interim targets. In the left chart of figure 7, you can see that bonds of heavier carbon emitters have been allocated to shorter maturity buckets, whereas bonds of cleaner companies have been allocated to longer maturities.

Risk mitigation

Implementing sustainability factors into the long-term matching adjustment portfolio also makes sense from a risk mitigation perspective. For example, integrating ESG scores into the credit quality assessment provides additional insights into the underlying company and the risk of investing in long-term losers. For more information, take a look at 'Why climate risk considerations are especially relevant for buy-and-maintain portfolios', July 2021.

Inclusion of green assets in the eligible matching adjustment assets

Under the China Risk-Oriented Solvency System (C-ROSS) phase II, the China Banking and Insurance Regulatory Commission (CBIRC) already included a preferential capital charge discount of 10% for investments in green assets. EIOPA is investigating whether a prudent treatment of assets associated with environmental or social objectives would be justified. It would not come as a surprise to see other Asian insurance regulators moving in a similar direction.

A good example of promoting green assets would therefore be to include green bonds or sustainable-linked loans in the eligible assets for matching adjustment portfolios. In this way, insurers would benefit from aligning their long-term investment portfolios with the company's long-term sustainability message.

Your bespoke insurance partner

An issue as complex and important as matching adjustments requires a dedicated investment partner who can offer real solutions. Robeco works with insurance companies to create customized solutions to meet their distinct regulatory and investment challenges. We create strong partnerships with insurers because we have so much in common in using sustainability techniques to mitigate risk. As both the 'cautious pioneers' and the 'investment engineers', creating innovative, sustainable solutions backed by exhaustive research has been part of our DNA for decades.

We live in times that require an approach that is both personalized and globalized at the same time. You might say that the best kind of matching adjustment occurs when the solutions required are directly matched with client needs according to their local environments. That's something we've been doing as a pioneer of sustainable investing, portfolio risk management, and more recently, climate investing. If you would like further advice about this, please don't hesitate to contact our dedicated insurance team or visit our website.

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Additional Information for investors with residence or seat in Indonesia

The Prospectus does not constitute an offer to sell nor a solicitation to buy securities in Indonesia.

Additional Information for investors with residence or seat in Italy

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Additional Information for investors with residence or seat in South Korea

The Management Company is not making any representation with respect to the eligibility of any recipients of the Prospectus to acquire the Shares therein under the laws of South Korea, including but not limited to the Foreign Exchange Transaction Act and Regulations thereunder. The Shares have not been registered under the Financial Investment Services and Capital Markets Act of Korea, and none of the Shares may be offered, sold or delivered, or offered or sold to any person for re-offering or resale, directly or indirectly, in South Korea or to any resident of South Korea except pursuant to applicable laws and regulations of South Korea.

Additional Information for investors with residence or seat in Liechtenstein

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Additional Information for investors with residence or seat in Malaysia

Generally, no offer or sale of the Shares is permitted in Malaysia unless where a Recognition Exemption or the Prospectus Exemption applies: NO ACTION HAS BEEN, OR WILL BE, TAKEN TO COMPLY WITH MALAYSIAN LAWS FOR MAKING AVAILABLE, OFFERING FOR SUBSCRIPTION OR PURCHASE, OR ISSUING ANY INVITATION TO SUBSCRIBE FOR OR PURCHASE OR SALE OF THE SHARES IN MALAYSIA OR TO PERSONS IN MALAYSIA AS THE SHARES ARE NOT INTENDED BY THE ISSUER TO BE MADE AVAILABLE, OR MADE THE SUBJECT OF ANY OFFER OR INVITATION TO SUBSCRIBE OR PURCHASE, IN MALAYSIA. NEITHER THIS DOCUMENT NOR ANY DOCUMENT OR OTHER MATERIAL IN CONNECTION WITH THE SHARES SHOULD BE DISTRIBUTED, CAUSED TO BE DISTRIBUTED OR CIRCULATED IN MALAYSIA. NO PERSON SHOULD MAKE AVAILABLE OR MAKE ANY INVITATION OR OFFER OR INVITATION TO SELL OR PURCHASE THE SHARES IN MALAYSIA UNLESS SUCH PERSON TAKES THE NECESSARY ACTION TO COMPLY WITH MALAYSIAN LAWS.

Additional Information for investors with residence or seat in Mexico

The funds have not been and will not be registered with the National Registry of Securities, maintained by the Mexican National Banking and Securities Commission and, as a result, may not be offered or sold publicly in Mexico. Robeco and any underwriter or purchaser may offer and sell the funds in Mexico on a private placement basis to Institutional and Accredited Investors, pursuant to Article 8 of the Mexican Securities Market Law.

Additional Information for investors with residence or seat in Peru

The Fund has not been registered with the Superintendencia del Mercado de Valores (SMV) and is being placed by means of a private offer. SMV has not reviewed the information provided to the investor. This document is only for the exclusive use of institutional investors in Peru and is not for public distribution.

Additional Information for investors with residence or seat in Shanghai

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This document has not been registered with the Monetary Authority of Singapore ("MAS"). Accordingly, this document may not be circulated or distributed directly or indirectly to persons in Singapore other than (i) to an institutional investor under Section 304 of the SFA, (ii) to a relevant person pursuant to Section 305(1), or any person pursuant to Section 305(2), and in accordance with the conditions specified in Section 305, of the SFA, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA. The contents of this document have not been reviewed by the MAS. Any decision to participate in the Fund should be made only after reviewing the sections regarding investment considerations, conflicts of interest, risk factors and the relevant Singapore selling restrictions (as described in the section entitled "Important Information for Singapore Investors") contained in the prospectus. Investors should consult your professional adviser if you are in doubt about the stringent restrictions applicable to the use of this document, regulatory status of the Fund, applicable regulatory protection, associated risks and suitability of the Fund to your objectives. Investors should note that only the Sub-Funds listed in the appendix to the section entitled "Important Information for Singapore Investors" of the prospectus ("Sub-Funds") are available to Singapore investors. The Sub-Funds are notified as restricted foreign schemes under the Securities and Futures Act, Chapter 289 of Singapore ("SFA") and invoke the exemptions from compliance with prospectus registration requirements pursuant to the exemptions under Section 304 and Section 305 of the SFA. The Sub-Funds are not authorized or recognized by the MAS and shares in the Sub-Funds are not allowed to be offered to the retail public in Singapore. The prospectus of the Fund is not a prospectus as defined in the SFA. Accordingly, statutory liability under the SFA in relation to the content of prospectuses does not apply. The Sub-Funds may only be promoted exclusively to persons who are sufficiently experienced and sophisticated to understand the risks involved in investing in such schemes, and who satisfy certain other criteria provided under Section 304, Section 305 or any other applicable provision of the SFA and the subsidiary legislation enacted thereunder. You should consider carefully whether the investment is suitable for you. Robeco Singapore Private Limited holds a capital markets services license for fund management issued by the MAS and is subject to certain clientele restrictions under such license.

Additional Information for investors with residence or seat in Spain

Robeco Institutional Asset Management B.V., Sucursal en España with identification number W0032687F and having its registered office in Madrid at Calle Serrano 47-14º, is registered with the Spanish Commercial Registry in Madrid, in volume 19.957, page 190, section 8, sheet M-351927 and with the National Securities Market Commission (CNMV) in the Official Register of branches of European investment services companies, under number 24. The investment funds or SICAV mentioned in this document are regulated by the corresponding authorities of their country of origin and are registered in the Special Registry of the CNMV of Foreign Collective Investment Institutions marketed in Spain.

Additional Information for investors with residence or seat in South Africa

Robeco Institutional Asset Management B.V. is registered and regulated by the Financial Sector Conduct Authority in South Africa.

Additional Information for investors with residence or seat in Switzerland

The Fund(s) are domiciled in Luxembourg. This document is exclusively distributed in Switzerland to qualified investors as defined in the Swiss Collective Investment Schemes Act (CISA). This material is distributed by Robeco Switzerland Ltd, postal address: Josefstrasse 218, 8005 Zurich. ACOLIN Fund Services AG, postal address: Affolternstrasse 56, 8050 Zürich, acts as the Swiss representative of the Fund(s). UBS Switzerland AG, Bahnhofstrasse 45, 8001 Zurich, postal address: Europastrasse 2, P.O. Box, CH-8152 Opfikon, acts as the Swiss paying agent. The prospectus, the Key Investor Information Documents (KIIDs), the articles of association, the annual and semi-annual reports of the Fund(s), as well as the list of the purchases and sales which the Fund(s) has undertaken during the financial year, may be obtained, on simple request and free of charge, at the office of the Swiss representative ACOLIN Fund Services AG. The prospectuses are also available via the website.

Additional Information relating to RobecoSAM-branded funds/services

Robeco Switzerland Ltd, postal address Josefstrasse 218, 8005 Zurich, Switzerland has a license as asset manager of collective assets from the Swiss Financial Market Supervisory Authority FINMA. RobecoSAM-branded financial instruments and investment strategies referring to such financial instruments are generally managed by Robeco Switzerland Ltd. The RobecoSAM brand is a registered trademark of Robeco Holding B.V. The brand RobecoSAM is used to market services and products which entail Robeco's expertise on Sustainable Investing (SI). The brand RobecoSAM is not to be considered as a separate legal entity.

Additional Information for investors with residence or seat in Thailand

The Prospectus has not been approved by the Securities and Exchange Commission which takes no responsibility for its contents. No offer to the public to purchase the Shares will be made in Thailand and the Prospectus is intended to be read by the addressee only and must not be passed to, issued to, or shown to the public generally.

Additional Information for investors with residence or seat in the United Arab Emirates

Some Funds referred to in this marketing material have been registered with the UAE Securities and Commodities Authority (the Authority). Details of all Registered Funds can be found on the Authority's website. The Authority assumes no liability for the accuracy of the information set out in this material/document, nor for the failure of any persons engaged in the investment Fund in performing their duties and responsibilities.

Additional Information for investors with residence or seat in the United Kingdom

Robeco is subject to limited regulation in the UK by the Financial Conduct Authority. Details about the extent of our regulation by the Financial Conduct Authority are available from us on request.

Additional Information for investors with residence or seat in Uruguay

The sale of the Fund qualifies as a private placement pursuant to section 2 of Uruguayan law 18,627. The Fund must not be offered or sold to the public in Uruguay, except under circumstances which do not constitute a public offering or distribution under Uruguayan laws and regulations. The Fund is not and will not be registered with the Financial Services Superintendency of the Central Bank of Uruguay. The Fund corresponds to investment funds that are not investment funds regulated by Uruguayan law 16,774 dated September 27, 1996, as amended.

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