ROBECO QUANTITATIVE EQUITIES

When the equity risk premium fades, alpha shines

- As the equity risk premium fades, alpha becomes a critical return driver
- Quant alpha is robust during low-return markets and economic downturns
- Future low equity returns might shift investors back from passive to active

Historically, the market (beta) gave great returns just by being in it. But those days may be ending. In a future where the market returns less, investors will need to rely more on alpha – returns from skill and strategy.

For the past century, US equities have delivered an average annual return of 10%. The equity risk premium (ERP), in other words, the extra return investors get for investing in stocks over other asset classes, has long been a cornerstone of investing. Historically the ERP has provided a 5% excess return over bonds and 6% over cash. In this framework, alpha — the additional return from fundamental or quantitative active management — was often considered a secondary benefit, contributing only a modest share of total returns even for the best investors.

However, the conditions that fueled this historical ERP are changing. Expanding valuation multiples, strong earnings growth, favorable demographics, and US market dominance in the last decades were the key tailwinds supporting those high equity returns. And today, many of these forces are weakening. Valuation multiples are at all-time highs, dividend yields are subdued, and real earnings growth faces structural headwinds. As the tailwinds of beta diminish, the role of alpha will become increasingly vital.

The equity premium mean reverts

From 2015 to 2024, the realized US equity premium averaged 10.6%, well above the long-term historical average of 6.2% (1926–2024). Many investors active today have in fact never experienced negative equity returns, and have grown accustomed to strong performance. However, history tells a different story, with prolonged periods of weak or even negative returns in the 1930s, 1970s, and early 2000s.

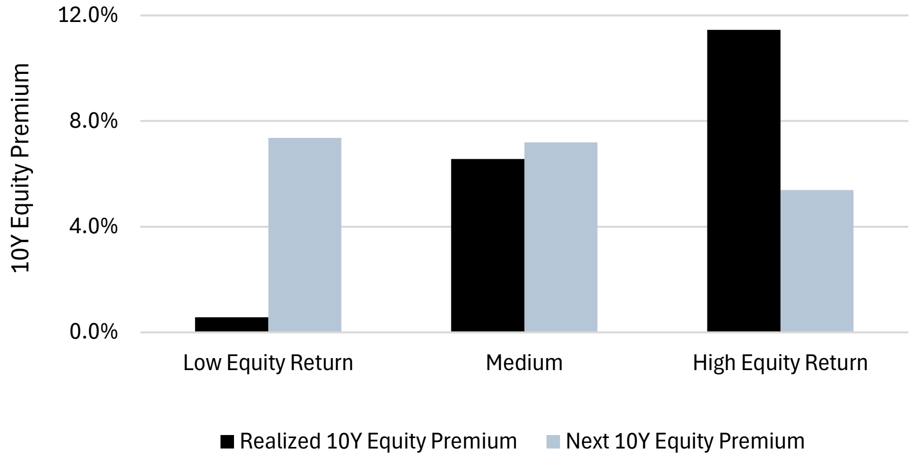
A simple way to assess future equity returns is to examine past equity return patterns. What does a strong 10-year return tell us about the decade to come? To explore this, we categorize historical 10-year realized equity premiums into three groups — low, medium, and high — and analyze the returns that followed.

ARTICLE MARCH 2025

Marketing material for professional investors, not for onward distribution

Pim van Vliet
Head of Conservative Equities and Chief Quant Strategist

Figure 1 | Realized and subsequent US 10-year equity premiums



Source: Robeco and Kenneth French Data library. US stock market returns 1926-2024. This graph is for illustrative purposes only and does not represent an actual product or strategy.

The data supports the principle of mean reversion: strong equity market returns are often followed by weaker returns, and vice versa. Historically, after a decade of high returns, the following decade has tended to underperform by approximately 1% relative to the long-term average. Conversely, after a weak decade, returns have typically been about 1% above the long-term average.

Is the equity risk premium shrinking to zero?

While mean reversion provides a useful framework, it oversimplifies the drivers of future returns. A deeper analysis of historical return decomposition reveals what fueled past performance. Our recent research shows that the recent US equity rally was not only driven by earnings growth but also by a significant expansion in valuation multiples—particularly in large-cap growth stocks.[1] Less recognized is that small caps and low-volatility stocks delivered strong fundamentals but remained undervalued.

This raises concerns about the sustainability of future returns, especially as valuations remain historically elevated and the US market now comprises 74% of the total global market capitalization. A more comprehensive approach, rooted in economic first principles, considers the fundamental components of the equity risk premium—dividends, valuation changes, and expected earnings growth—over a 10-year horizon.

Estimating expected equity returns requires sophisticated assumptions, and methodologies vary across asset managers. Yet, despite these differences, a common theme emerges: most asset managers forecast low future equity returns. Valuation-based models from Research Affiliates, Vanguard, AQR, and GMO suggest that the forward-looking equity risk premium (ERP) for US equities could approach zero—or even turn negative.

One key indicator supporting this outlook is the cyclically adjusted price-to-earnings (CAPE) ratio, which remains near historic highs for US markets. A broader, multi-metric valuation approach yields a similar conclusion. Robeco's five-year outlook 2025-2029, which integrates multiple valuation metrics along with growth estimates, projects the US equity premium will be close to zero. However, the global outlook is more favorable—driven by more attractive valuations in Europe and emerging markets, where the global ERP stands at approximately 2%.

[1] Blitz, D. 'Decomposing equity returns: Earnings growth vs multiple expansion', Robeco white paper, 2025.

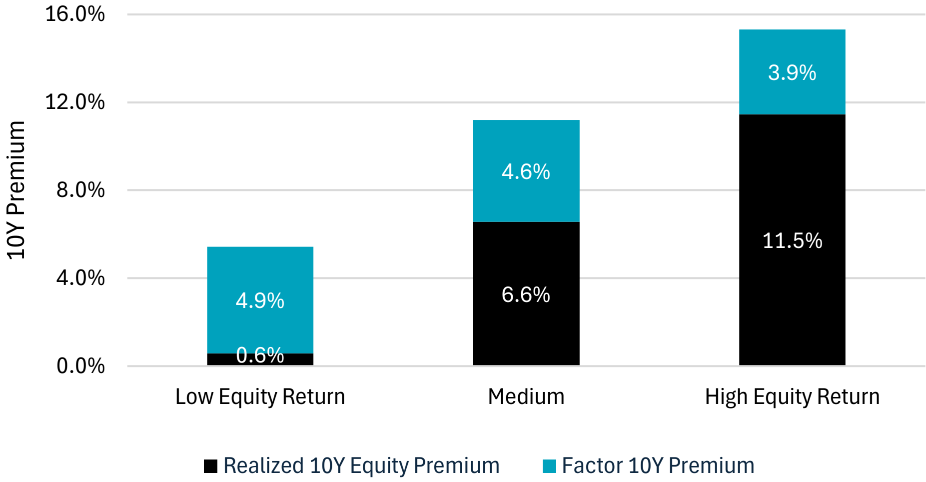
Figure 2 | Implied equity risk premiums

Source: Robeco 5-year outlook: 'Atlas Lifted: Expected Returns 2025-2029'. This graph is for illustration purposes only and does not represent an actual product or strategy.

Lower equity premium, higher factor premium?

Interestingly, periods of strong equity performance often coincide with lower factor premiums, and vice versa. To explore this relationship, we use the US value and momentum factors as a rough proxy for active quantitative investing. We split the sample into three segments based on realized 10-year equity premiums.

Figure 3 | Realized US equity premiums



Source: Robeco and Kenneth French Data library. Sample US 1926-2024.This graph is for illustrative purposes only and does not represent an actual product or strategy.

The results reveal that factor premiums remain stable — and even rise slightly — when equity returns are low. The annualized alpha increases from 3.9% to 4.6% to 4.9% as equity returns decline. The low-volatility factor is excluded here, as its premium is, by definition, most pronounced during periods of weak market performance — making it even more skewed to low-return environments.

Most strikingly, when viewed as a share of total returns, the contribution from alpha surges from 25% (3.9% of 15.4%) to 89% (4.9% of 5.5%) as equity returns fall. In such environments, alpha shifts from a complement to the dominant source of performance. This inverse relationship between alpha and market conditions is not only observable in data, but also well-supported by academic research.

The dynamics of alpha

Academic studies have extensively analyzed how active mutual fund managers perform across different market regimes, particularly during economic expansions and recessions. Kosowski (2011) finds that mutual funds generate higher alpha during economic downturns — precisely when investors need it most.[2] His study shows that during recessions, which occur roughly 12% of the time, mutual funds achieve an average alpha of +4.1%, whereas during expansions, alpha turns negative at -1.3%. This highlights the potential value of active management in challenging market environments, where skill-based strategies can provide a meaningful edge.

Research on factor investing further supports this asymmetry in alpha. Blitz (2023) finds that factor alphas tend to rise when equity market returns are lower, reinforcing the importance of factors in a low-equity-premium environment.[3] Even if factor alphas remain constant across regimes, their relative contribution to total returns increases when market beta weakens. In such periods, factors like value, low volatility, quality, and momentum offer an alternative, uncorrelated source of alpha.

A broader historical perspective confirms this resilience. Using a global sample dating back to 1870, Baltussen, Swinkels, and van Vliet (2023) find that these factor premiums performed well across market cycles, particularly during periods of high inflation and low economic growth.[4] This underscores their role as a compelling strategy for generating alpha when traditional equity returns fall short.

Beyond beta: Investing in a low ERP world

Over the past decade, the US ERP averaged 10.6%, far above the long-term norm of 6.2% — and well above forward-looking estimates that suggest a much lower, if not zero, premium ahead. What if the ERP collapses to zero over the next decade, erasing the elevated returns investors have come to expect from stocks?

In such a scenario, market beta would no longer be the primary driver of returns. With positive returns becoming scarcer, investors would be forced to rethink their approach. Traditionally, broad market exposure delivered most of the returns, with alpha serving as an enhancement. But in a low-ERP world, this dynamic reverses — alpha shifts from being an optional bonus to an essential source of return.

As traditional sources of return diminish, investors will be forced to seek alternatives, reshaping market dynamics. Strategies that have historically delivered alpha — whether through defensive factors, long-short approaches, or high-active-share investing — may attract substantial capital inflows, as investors seek more adaptive, uncorrelated return streams. This could elevate valuations for assets tied to proven alpha strategies, potentially distorting factor pricing and altering market behavior, reversing the multi-decade trend towards passive investing.

Meanwhile, a prolonged period of weak ERP in the US could accelerate a shift toward other markets, potentially ending the US's market dominance over the past decade. As of 2025, Europe and Asia already offer higher expected ERPs (see Figure 2), positioning them as key beneficiaries of shifting global capital flows. Small caps and equal-weighted strategies could also benefit in this environment.

[2] Kosowski, R. 'Do mutual funds perform when it matters most to investors? US mutual fund performance and risk in recessions and expansions,' *The Quarterly Journal of Finance, 1*(3), 607–664, 2011.
[3] Blitz, D. 'The cross-section of factor returns', *The Journal of Portfolio Management, 50*(3), 74–89, 2023.
[4] Baltussen, G., Swinkels, L., van Vliet, B., & van Vliet, P. 'Investing in deflation, inflation, and stagflation regimes', *Financial Analysts Journal, 79*(3), 5–32, 2023.

Conclusion: Adapting to a low-ERP world

A declining equity risk premium does not signal the end of investing — but it does call for a more active approach. With beta-driven returns under pressure, investors must prioritize alpha. Systematic strategies with clear objectives can help investors to achieve meaningful capital growth using alpha from multiple factors. Robeco's quant strategies offer a structured approach to navigating this evolving investment landscape:

- **Active Quant Equities** provide diversified exposure to multiple factors and proprietary signals, with a strong emphasis on risk control — making them well-suited for a declining ERP environment. Since valuation is not a reliable timing indicator, this strategy remains effective even in buoyant markets, allowing investors to avoid the need to time this allocation.
- **Defensive Equities** tend to outperform in low-ERP environments. By reducing reliance on traditional beta-driven strategies and enhancing diversification, they strengthen long-term risk-adjusted performance. In volatile markets, they provide a cushioning effect, maintaining resilience in sideways, low-growth conditions and generating significantly higher alpha in downturns — proving that the key to winning is losing less.

References

AQR. (2025). '2025 Capital market assumptions for major asset classes'. Available at www.aqr.com.
Baltussen, G., Swinkels, L., van Vliet, B., & van Vliet, P. (2023). 'Investing in deflation, inflation, and stagflation regimes', *Financial Analysts Journal, 79*(3), 5–32.
Blitz, D. (2023). 'The cross-section of factor returns', *The Journal of Portfolio Management, 50*(3), 74–89.
Blitz, D. (2025). 'Decomposing equity returns: Earnings growth vs multiple expansion', Robeco white paper.
Fandetti, Marc. (2024). 'CAPE is high: Should you care?' Enterprising Investor blog. Available at www.cfainstitute.org.
GMO. (2024). 'Record highs…but we're still excited'. Available at www.gmo.com.
Kosowski, R. (2011). 'Do mutual funds perform when it matters most to investors? US mutual fund performance and risk in recessions and expansions', *The Quarterly Journal of Finance, 1*(3), 607–664.
Robeco: 5-Year Outlook: Atlas Lifted, 14th edition, Expected Returns 2025-2029. Available at www.robeco.com
Vanguard. (2024). 'Vanguard economic and market outlook (VEMO) return forecasts'. Available at www.vanguard.com.
Van Vliet, P. (2021) 'Risky CAPE: Is there an alternative?' Robeco insight.

Appendix A: Selected Robeco quant strategies

Robeco's Quant Active Equities strategy employs a disciplined, systematic approach to capture high alpha by leveraging well-established factor premiums such as value, momentum, and quality. The strategy integrates multiple sustainability dimensions and utilizes a proprietary portfolio construction algorithm to balance risk, return, and sustainability considerations, aiming for stable excess returns. Since its inception in 2008, this approach has consistently delivered cost-efficient outperformance. Please visit the strategy page on the Robeco website for more information.[5]

Robeco's Defensive Equities, launched in 2006, aims to achieve steady capital growth by focusing on capital preservation, portfolio diversification, and reliable dividend income. It leverages the low-risk anomaly, selecting defensive stocks through a proprietary process that combines multiple risk dimensions and return factors to enhance risk-adjusted returns over a full market cycle. The strategy employs both backward-looking risk measures and forward-looking distress indicators to limit downside risk and has successfully delivered positive alpha since inception. Please visit the strategy page on the Robeco website for more information.[6]

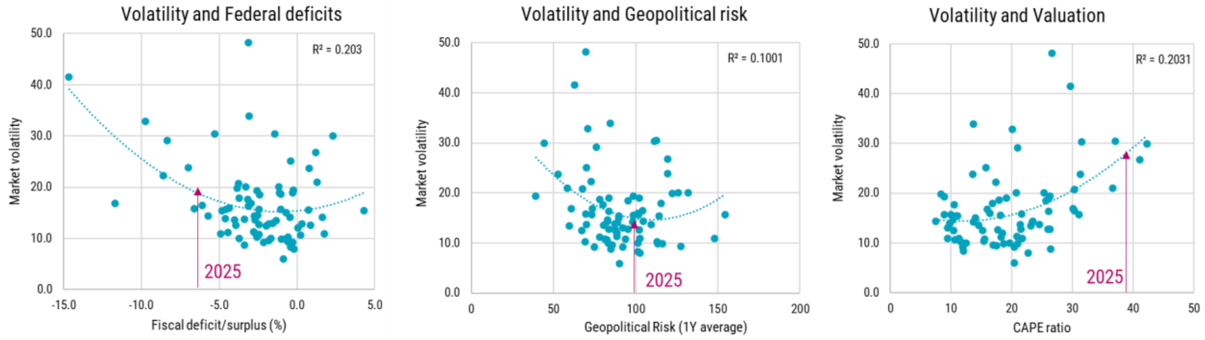
[5] Past performance is no guarantee of future results. The value of your investments may fluctuate
[6] Past performance is no guarantee of future results. The value of your investments may fluctuate

Appendix B: What drives equity market volatility?

Despite a century of market data, there are only approximately ten truly independent 10-year return observations. To enhance predictive power, an alternative approach examines the underlying economic forces that drive equity market risk and their relationship with future equity returns. This method provides more independent observations and a clearer link between risk and future returns. When risk rises, stock prices tend to decline, leading to lower equity returns in subsequent years.

This brief analysis tests three commonly cited predictors of equity market volatility: government deficits, geopolitical risk, and market valuation.

Figure A | Equity market volatility and fiscal, geopolitical, and valuation regimes



Source: Robeco: St. Louis Fed (US deficits), policyuncertainty.com, Shiller Database. Market volatility is based on 260-day returns. Sample period US 1947-2024. These charts are for illustrative purposes only and do not represent any actual product or strategy.

Historically, US equity market volatility has averaged around 20% over a 260-day period. Among the tested factors, stock market valuation emerges as the strongest predictor of next-year volatility, followed by government deficits. Given current conditions, the outlook for 2025 suggests a significant increase in market volatility.

This finding aligns with earlier research we carried out in 2021, which established a significant positive relationship between the cyclically adjusted price-to-earnings (CAPE) ratio and future downside risk.[7] High valuations have frequently coincided with increased market volatility, reinforcing the link between valuation levels and market fragility.

[7] Van Vliet, P., 'Risky CAPE: Is there an alternative?', Robeco insight, 2021.

Important information

Robeco Institutional Asset Management B.V. has a license as manager of Undertakings for Collective Investment in Transferable Securities (UCITS) and Alternative Investment Funds (AIFs) ("Fund(s)") from the Netherlands Authority for the Financial Markets in Amsterdam. This marketing document is intended solely for professional investors, defined as investors qualifying as professional clients, who have requested to be treated as professional clients or are authorized to receive such information under any applicable laws. Robeco Institutional Asset Management B.V. and/or its related, affiliated and subsidiary companies, ("Robeco"), will not be liable for any damages arising out of the use of this document. Users of this information who provide investment services in the European Union have their own responsibility to assess whether they are allowed to receive the information in accordance with MiFID II regulations. To the extent this information qualifies as a reasonable and appropriate minor non-monetary benefit under MiFID II, users that provide investment services in the European Union are responsible for complying with applicable recordkeeping and disclosure requirements. The content of this document is based upon sources of information believed to be reliable and comes without warranties of any kind. Without further explanation this document cannot be considered complete. Any opinions, estimates or forecasts may be changed at any time without prior warning. If in doubt, please seek independent advice. This document is intended to provide the professional investor with general information about Robeco's specific capabilities but has not been prepared by Robeco as investment research and does not constitute an investment recommendation or advice to buy or sell certain securities or investment products or to adopt any investment strategy or legal, accounting or tax advice. All rights relating to the information in this document are and will remain the property of Robeco. This material may not be copied or shared with the public. No part of this document may be reproduced or published in any form or by any means without Robeco's prior written permission. Investment involves risks. Before investing, please note the initial capital is not guaranteed. Investors should ensure they fully understand the risk associated with any Robeco product or service offered in their country of domicile. Investors should also consider their own investment objective and risk tolerance level. Historical returns are provided for illustrative purposes only. The price of units may go down as well as up and past performance is no guarantee of future results. If the currency in which the past performance is displayed differs from the currency of the country in which you reside, then you should be aware that due to exchange rate fluctuations the performance shown may increase or decrease if converted into your local currency. The performance data do not take account of the commissions and costs incurred when trading securities in client portfolios or for the issue and redemption of units. Unless otherwise stated, performances are i) net of fees based on transaction prices and ii) with dividends reinvested. Please refer to the prospectus of the Funds for further details. Performance is quoted net of investment management fees. The ongoing charges mentioned in this document are the ones stated in the Fund's latest annual report at closing date of the last calendar year. This document is not directed to or intended for distribution to or for use by any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, document, availability or use would be contrary to law or regulation or which would subject any Fund or Robeco Institutional Asset Management B.V. to any registration or licensing requirement within such jurisdiction. Any decision to subscribe for interests in a Fund offered in a particular jurisdiction must be made solely on the basis of information contained in the prospectus, which information may be different from the information contained in this document. Prospective applicants for shares should inform themselves as to legal requirements which may also apply and any applicable exchange control regulations and taxes in the countries of their respective citizenship, residence or domicile. The Fund information, if any, contained in this document is qualified in its entirety by reference to the prospectus, and this document should, at all times, be read in conjunction with the prospectus. Detailed information on the Fund and associated risks is contained in the prospectus. The prospectus and the Key Information Document (PRIIP) for the Robeco Funds can all be obtained free of charge from Robeco's websites.

Additional information for US investors

This document may be distributed in the US by Robeco Institutional Asset Management US, Inc. ("Robeco US"), an investment adviser registered with the US Securities and Exchange Commission (SEC). Such registration should not be interpreted as an endorsement or approval of Robeco US by the SEC. Robeco Institutional Asset Management B.V. is considered "participating affiliated" and some of their employees are "associated persons" of Robeco US as per relevant SEC no-action guidance. Employees identified as associated persons of Robeco US perform activities directly or indirectly related to the investment advisory services provided by Robeco US. In those situations these individuals are deemed to be acting on behalf of Robeco US. SEC regulations are applicable only to clients, prospects and investors of Robeco US. Robeco US is wholly owned subsidiary of ORIX Corporation Europe N.V. ("ORIX"), a Dutch Investment Management Firm located in Rotterdam, the Netherlands. Robeco US is located at 230 Park Avenue, 33rd floor, New York, NY 10169.

Additional information for US Offshore investors – Reg S

The Robeco Capital Growth Funds have not been registered under the United States Investment Company Act of 1940, as amended, nor the United States Securities Act of 1933, as amended. None of the shares may be offered or sold, directly or indirectly in the United States or to any US Person. A US Person is defined as (a) any individual who is a citizen or resident of the United States for federal income tax purposes; (b) a corporation, partnership or other entity created or organized under the laws of or existing in the United States; (c) an estate or trust the income of which is subject to United States federal income tax regardless of whether such income is effectively connected with a United States trade or business. In the United States, this material may be distributed only to a person who is a "distributor", or who is not a "US person", as defined by Regulation S under the U.S. Securities Act of 1933 (as amended).

Additional information for investors with residence or seat in Australia and New Zealand

This document is distributed in Australia by Robeco Hong Kong Limited (ARBN 156 512 659) ("RIAM BV"), which is exempt from the requirement to hold an Australian financial services license under the Corporations Act 2001 (Cth) pursuant to ASIC Class Order 03/1103. Robeco is regulated by the Securities and Futures Commission under the laws of Hong Kong and those laws may differ from Australian laws. This document is distributed only to "wholesale clients" as that term is defined under the Corporations Act 2001 (Cth). This document is not intended for distribution or dissemination, directly or indirectly, to any other class of persons. In New Zealand, this document is only available to wholesale investors within the meaning of clause 3(2) of Schedule 1 of the Financial Markets Conduct Act 2013 (FMCA). This document is not intended for public distribution in Australia and New Zealand.

Additional information for investors with residence or seat in Austria

This information is solely intended for professional investors or eligible counterparties in the meaning of the Austrian Securities Oversight Act.

Additional information for investors with residence or seat in Brazil

The Fund may not be offered or sold to the public in Brazil. Accordingly, the Fund has not been nor will be registered with the Brazilian Securities Commission (CVM), nor has it been submitted to the foregoing agency for approval. Documents relating to the Fund, as well as the information contained therein, may not be supplied to the public in Brazil, as the offering of the Fund is not a public offering of securities in Brazil, nor may they be used in connection with any offer for subscription or sale of securities to the public in Brazil.

Additional information for investors with residence or seat in Brunei

The Prospectus relates to a private collective investment scheme which is not subject to any form of domestic regulations by the Autoriti Monetari Brunei Darussalam ("Authority"). The Prospectus is intended for distribution only to specific classes of investors as specified in section 20 of the Securities Market Order, 2013, and must not, therefore, be delivered to, or relied on by, a retail client. The Authority is not responsible for reviewing or verifying any prospectus or other documents in connection with this collective investment scheme. The Authority has not approved the Prospectus or any other associated documents nor taken any steps to verify the information set out in the Prospectus and has no responsibility for it. The units to which the Prospectus relates may be illiquid or subject to restrictions on their resale. Prospective purchasers of the units offered should conduct their own due diligence on the units.

Additional information for investors with residence or seat in Canada

No securities commission or similar authority in Canada has reviewed or in any way passed upon this document or the merits of the securities described herein, and any representation to the contrary is an offence. Robeco Institutional Asset Management B.V. relies on the international dealer and international adviser exemption in Quebec and has appointed McCarthy Tétrault LLP as its agent for service in Quebec.

Additional information for investors with residence or seat in the Republic of Chile

Neither Robeco nor the Funds have been registered with the *Comisión para el Mercado Financiero* pursuant to Law no. 18.045, the *Ley de Mercado de Valores* and regulations thereunder. This document does not constitute an offer of or an invitation to subscribe for or purchase shares of the Funds in the Republic of Chile, other than to the specific person who individually requested this information on their own initiative. This may therefore be treated as a "private offering" within the meaning of Article 4 of the *Ley de Mercado de Valores* (an offer that is not addressed to the public at large or to a certain sector or specific group of the public).

Additional information for investors with residence or seat in Colombia

This document does not constitute a public offer in the Republic of Colombia. The offer of the fund is addressed to less than one hundred specifically identified investors. The fund may not be promoted or marketed in Colombia or to Colombian residents, unless such promotion and marketing is made in compliance with Decree 2555 of 2010 and other applicable rules and regulations related to the promotion of foreign funds in Colombia. The distribution of this Prospectus and the offering of Shares may be restricted in certain jurisdictions. The information contained in this Prospectus is for general guidance only, and it is the responsibility of any person or persons in possession of this Prospectus and wishing to make application for Shares to inform themselves of, and to observe, all applicable laws and regulations of any relevant jurisdiction. Prospective applicants for Shares should inform themselves of any applicable legal requirements, exchange control regulations and applicable taxes in the countries of their respective citizenship, residence or domicile

Additional information for investors with residence or seat in the Dubai International Financial Centre (DIFC), United Arab Emirates

This material is distributed by Robeco Institutional Asset Management B.V. (DIFC Branch) located at Office 209, Level 2, Gate Village Building 7, Dubai International Financial Centre, Dubai, PO Box 482060, UAE. Robeco Institutional Asset Management B.V. (DIFC Branch) is regulated by the Dubai Financial Services Authority ("DFSA") and only deals with Professional Clients or Market Counterparties and does not deal with Retail Clients as defined by the DFSA.

Additional information for investors with residence or seat in France

Robeco Institutional Asset Management B.V. is at liberty to provide services in France. Robeco France is a subsidiary of Robeco whose business is based on the promotion and distribution of the group's funds to professional investors in France.

Additional information for investors with residence or seat in Germany

This information is solely intended for professional investors or eligible counterparties in the meaning of the German Securities Trading Act.

Additional information for investors with residence or seat in Hong Kong

The contents of this document have not been reviewed by the Securities and Futures Commission ("SFC") in Hong Kong. If there is any doubt about any of the contents of this document, independent professional advice should be obtained. This document has been distributed by Robeco Hong Kong Limited ("Robeco"). Robeco is regulated by the SFC in Hong Kong.

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

This document is considered for use solely by qualified investors and private professional clients (as defined in Article 26 (1) (b) and (d) of Consob Regulation No. 16190 dated 29 October 2007). If made available to Distributors and individuals authorized by Distributors to conduct promotion and marketing activity, it may only be used for the purpose for which it was conceived. The data and information contained in this document may not be used for communications with Supervisory Authorities. This document does not include any information to determine, in concrete terms, the investment inclination and, therefore, this document cannot and should not be the basis for making any investment decisions.

Additional information for investors with residence or seat in Japan

This document is considered for use solely by qualified investors and is distributed by Robeco Japan Company Limited, registered in Japan as a Financial Instruments Business Operator, [registered No. the Director of Kanto Local Financial Bureau (Financial Instruments Business Operator), No.2780, Member of Japan Investment Advisors Association].

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

This document is exclusively distributed to Liechtenstein-based, duly licensed financial intermediaries (such as banks, discretionary portfolio managers, insurance companies, fund of funds) which do not intend to invest on their own account into Fund(s) displayed in the document. This material is distributed by Robeco Switzerland Ltd, postal address: Josefstrasse 218, 8005 Zurich, Switzerland. LGT Bank Ltd., Herrengasse 12, FL-9490 Vaduz, Liechtenstein acts as the representative and paying agent in Liechtenstein. The prospectus, the Key Information Documents (PRIIP)the articles of association, the annual and semi-annual reports of the Fund(s) may be obtained from the representative or via the website.

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 or 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 Superintendencia del Mercado de Valores (SMV) does not exercise any supervision over this Fund and therefore the management of it. The information the Fund provides to its investors and the other services it provides to them are the sole responsibility of the Administrator. This Prospectus is not for public distribution.

Additional information for investors with residence or seat in Singapore

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 their 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: Leutschenbachstrasse 50, 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 Information Documents (PRIIP), 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 for investors with residence or seat in Taiwan

The contents of this document have not been reviewed by any regulatory authority in Hong Kong. If you are in any doubt about any of the contents of this document, you should obtain independent professional advice. This document has been distributed by Robeco Hong Kong Limited ("Robeco"). Robeco is regulated by the Securities and Futures Commission in Hong Kong.

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

This information is provided by Robeco Institutional Asset Management UK Limited, 30 Fenchurch Street, Part Level 8, London EC3M 3BD registered in England no. 15362605. Robeco Institutional Asset Management UK Limited is authorised and regulated by the Financial Conduct Authority (FCA – Reference No: 1007814). It is provided for informational purposes only and does not constitute investment advice or an invitation to purchase any security or other investment. This information is directed at Professional Clients only and is not intended for public use.

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 27 September 1996, as amended.

© Q1/2025 Robeco