WHITE PAPER
June 2014
For professional investors

ROBECO
The Investment Engineers

What drives the value premium?

David Blitz, PhD
Bart van der Grient
Matthias Hanauer, CFA

The value premium

The empirical evidence for the presence of a value premium in stock markets is overwhelming. The key question is no longer whether this phenomenon exists, but why. In this note we examine a popular explanation called the overreaction hypothesis, focusing on the extrapolation of past sales or earnings growth. We find that generic value strategies cannot be enhanced significantly based on the predictions of this hypothesis. Altogether, we conclude that the evidence supporting this hypothesis is quite weak.

The value premium refers to the empirical finding that stocks with a high fundamental value compared with their market value (value stocks) tend to outperform the market average, while stocks with a low fundamental value compared with their market value (growth stocks, or glamour stocks) tend to underperform the market average. Variables typically used in the literature to assess the fundamental value of a stock include its book value, earnings, or cash flow. The studies documenting the existence of the value premium go back more than a quarter of a century, and have since been confirmed for other time periods, stock markets other than the US stock market, and even other asset classes.

Various explanations

Given this overwhelming evidence, few would nowadays dispute the existence of a strong value premium in historical data. But whereas there is by now a consensus that this phenomenon exists, the reasons why it does are still heavily debated. Broadly speaking, we can distinguish between risk-based explanations and behavioral explanations. A widely cited risk-based explanation is provided in the seminal Fama and French (1992) paper. These authors first provide extensive empirical evidence for the existence of a value premium in the US stock market, and then go on to suggest that this may reflect a reward for the risk of financial distress, i.e. bankruptcy risk. Simply put, stocks that appear to be cheap may be cheap for a reason.

Distress risk explanation not supported by data

Although generic value strategies indeed tend to overweight financially distressed stocks, in particular during recessions, we doubt whether this observation explains the value premium. Many studies that rank stocks explicitly on distress risk indicators find that, if anything, higher distress risk tends to result in lower returns.[1] A study by Robeco's De Groot and Huij (2011) directly investigates the relation between value and distress risk and finds that the value premium is not concentrated in the most distressed stocks, but in the least distressed stocks. Therefore, they conclude that the distress risk explanation is not supported by the data.

Systematic overreaction of investors

As an alternative to risk-based explanations, various behavioral explanations for the value premium have been put forward in the literature. These behavioral explanations tend to

[1] See, e.g., Dichev (1998), Griffin and Lemon (2002), Piotroski (2000), and Cambell, Hilscher and Szilagyi (2008).

characterize value investing as a contrarian strategy which benefits from systematic overreaction of investors. For instance, the value anomaly appears to be related to the long-term mean reversion anomaly of DeBondt and Thaler (1985).

More direct evidence is provided by Lakonishok, Shleifer and Vishny (1994), henceforth LSV, who argue that investors extrapolate past earnings and sales growth too far into the future. According to this hypothesis, value stocks with the lowest past growth rates should be most underpriced, while growth stocks with the highest past growth rates should be most overpriced. They empirically test this prediction and find that it seems to be confirmed by the data. Comparing past and future earnings and sales growth figures, they find that growth rates quickly revert to the mean. In other words, value stocks do show lower growth rates in subsequent years, and growth stocks do show higher subsequent growth rates, but not nearly as long and to the extent needed to justify the differences in valuation assigned to them by the market.

Criticism

Although the overreaction story of LSV is quite appealing, it has been criticized by other studies. In particular, Fama and French (1996) argue that value stocks with the lowest past growth rates and growth stocks with the highest past growth rates show a larger return difference simply because they exhibit more extreme value/growth or size characteristics. Their results also show that a more aggressive value strategy which is simply concentrated in the stocks with the most extreme valuations is able to deliver similar returns, without using any information about past growth rates. Doukas, Kim and Pantzalis (2002) challenge the notion that investors systematically extrapolate past growth too much into the future by looking at the explicit earnings forecasts provided by analysts. They find no evidence for exaggerated high earnings growth expectations for growth stocks and exaggerated low earnings growth expectations for value stocks. Based on this result they conclude that the value effect cannot be attributed to extrapolation of past growth.

Further research into the overreaction hypothesis

In this study we take a new look at the overreaction hypothesis. Since the work of Lakonishok, Shleifer and Vishny (1994) and Fama and French (1996) twenty years of fresh data has become available. We also extend these studies by considering not just the US but also international stock markets. Finally, we approach the subject from a more practical perspective, by focusing on the question if the overreaction explanation is helpful for designing a more effective value investment strategy in practice.

Can value be enhanced?

In this section we empirically examine the overreaction hypothesis. Lakonishok, Shleifer and Vishny (1994) suggest that investors extrapolate past growth too far into the future, and that therefore past sales growth is an effective overreaction indicator. They propose an enhanced value strategy which goes long value stocks with the lowest past growth and short growth stocks with the highest past growth. We also test an overreaction hypothesis in the spirit of DeBondt and Thaler (1985), by considering long-term past stock returns as an alternative overreaction indicator.

Comparing value strategies

In Table 1 we first compare the stand-alone performance of pure value strategies and strategies which select stocks on their past growth or long-term past return. We consider top-minus-bottom quintile portfolios based on the 3000 largest stocks in developed markets over the period from January 1990 to December 2013. The portfolios are equally weighted and country neutral. For the pure value strategies we consider the book-to-market ratio (BtM), the measure that is typically used in the academic literature, and the earnings-to-price ratio (EtP), which tends to be more popular among practitioners. We define past sales growth (SG) as in LSV (1994), as the weighted past sales growth rank.[2] Long-term past return (REV) is defined as the past 60 month stock return excluding the most recent 12 months.[3] Note that all strategies are contrarian, meaning that the long portfolios consist of stocks with high book-to-market ratios, high earnings-to-price ratios, low past sales growth and low long-term returns.

Table 1: Long-term performance of long-short stock portfolios for different value proxies

	BtM	*EtP*	*REV*	*SG*
Return	6.40%	9.23%	4.35%	2.43%
Volatility	12.50%	13.62%	7.19%	5.22%
Sharpe ratio	0.51	0.68	0.61	0.47
CAPM alpha	5.62%	11.59%	4.17%	2.85%

Source: Robeco, Factset

Adding overreaction indicators

The results in Table 1 show that the various contrarian strategies have all been successful. In terms of Sharpe ratio the overreaction indicators (past sales growth and long-term reversal) appear to be as effective as the generic value strategies (BtM and EtP), although in terms of alpha (i.e., beta-adjusted performance) the latter seem to dominate. We next look at whether generic value strategies can be enhanced by adding overreaction indicators. To this end we select stocks on a combination of 75% the pure value score plus 25% the score on one of the overreaction indicators. For reference purposes we also report the performance of our proprietary value factor basket (VAL), which consists of a combination of generic and more sophisticated valuation ratios.

[2] More precisely, we first compute the sales growth for each company and year and next rank all stocks based on their sales growth per year. We then calculate the weighted past sales growth rank as the weighted sum of the last five-year sales growth ranks, giving a weight of 5 to the most current sales growth rank, a weight of 4 to the previous year, etc.
[3] This is also the definition of long-term reversal used in the data library of Kenneth French.

Table 2: Long-term performance of long-short stock portfolios for different value baskets

	BtM + REV	*BtM + SG*	*EtP + REV*	*EtP + SG*	*VAL*
Excess return	6.54%	6.01%	9.75%	9.06%	14.74%
Volatility	11.52%	11.90%	13.57%	13.68%	12.69%
Sharpe ratio	0.57	0.51	0.72	0.66	1.16
CAPM alpha	5.78%	5.33%	12.17%	11.50%	15.82%

Source: Robeco, Factset

Overreaction indicators do not enhance value strategies

Comparing the results in Table 2 with those of Table 1, we observe that generic value strategies cannot be enhanced significantly by taking alternative overreaction indicators into account, as the raw and risk-adjusted returns neither improve nor deteriorate significantly, but remain about the same. For instance, book-to-market combined with past sales growth has the same Sharpe ratio of 0.51 as book-to-market without past sales growth, and a slightly lower alpha and raw return. Using long-term reversal instead of past sales growth appears to be slightly more effective, but still the resulting performance improvements are tiny at best. Taking earnings-to-price instead of book-to-market as the starting point leads to the same conclusions. These results imply that selecting value stocks which may be particularly prone to overreaction is not a better strategy than just selecting the same number of stocks based purely on a value measure. Finally, we observe that our proprietary value factor basket is considerably more effective than the various generic approaches, either with or without overreaction indicators.[4]

[4] We note that these results are quite robust with regard to sample choice. For instance, the main results are the same if we consider only the US market instead of the entire global market.

The driving factor

Although it does not seem that overreaction indicators can enhance a generic value strategy, it is still striking that the overreaction indicators themselves are about as effective as the famous book-to-market strategy. One way of interpreting our findings so far is that a book-to-market strategy cannot be enhanced using overreaction indicators, but perhaps it would be just as fair to conclude that given overreaction indicators such as past sales growth and long-term past return, no further enhancement can be achieved by additionally taking book-to-market into account. This then raises the question which factor is really driving future stock returns.

What is the real driving factor?

In order to answer this question we conduct Fama-MacBeth (1973) regressions, meaning that every month we cross-sectionally regress the returns of the stocks in our universe on their ex ante characteristics, which enables us to disentangle by how much return each characteristic is rewarded that month.[5] This analysis is based on the same global universe of stocks over the 1990-2013 period considered before. We next report the average reward for each characteristic over the entire sample period. Besides the variables in which we are particularly interested (book-to-price, past sales growth and long-term reversal) we include a number of control variables that are also known to be important determinants of future stock returns, specifically CAPM beta, size and momentum (MOM). The results are reported in Table 3.

Table 3: Average rewards for cross-sectional Fama-MacBeth regressions

	Intercept	*Beta*	*Size*	*BtM*	*MOM*	*REV*	*SG*
Mean	0.48	-0.01	-0.02	0.14	0.22	-0.03	-0.01
t-statistic	1.77	-0.07	-0.49	3.36	3.31	-1.03	-0.26

Source: Robeco, Factset

Book-to-market factor drives returns

Table 3 shows that when the book-to-market ratio and the overreaction indicators are simultaneously considered, the book-to-market ratio clearly emerges as a highly significant driver of stock returns, while the overreaction indicators are insignificant. In other words, when controlling for book-to-market, the reward for the overreaction indicators is not significant, but this is not true the other way around.[6] Based on these results we conclude that the book-to-market factor really drives returns, and that it encompasses all relevant information that might be contained in the overreaction indicators.

[5] To make the coefficients comparable, we standardize the characteristics every month.

[6] Again, the main results are the same if we consider only the US market instead of the entire global market.

Summary

Although there is by now a consensus that a strong value premium is present in the data, the reasons why this phenomenon exists are still heavily debated. In previous research we provided strong evidence against the distress risk explanation, showing that although simple value strategies can get a large exposure to distressed stocks, this does not explain the high return of value stocks. More risk-based explanations have been proposed in the literature, but next to that there is also a school of thought which attributes the value premium to behavioral factors. In this study we examine one such behavioral explanation, namely the overreaction hypothesis.

Little empirical support for overreaction hypothesis

In short, we find that although overreaction indicators appear to be fairly promising on a stand-alone basis, it turns out that they are not really effective for enhancing a generic value strategy. Moreover, if we disentangle the contribution to return of various factors, valuation is significant while the overreaction indicators are not, indicating that valuation ratios are really driving differences in future stock returns. Based on these findings we conclude that the empirical support for the overreaction hypothesis is quite weak.

Rational investor behavior?

So although the empirical evidence for the existence of the value premium is overwhelming, the key driver of this phenomenon remains unclear. Our conjecture is that the main explanation might be neither risk-based, nor based on systematic behavioral biases that are essentially irrational. Instead we conjecture that the answer may lie in rational investor behavior – or at least behavior that is rational within a certain institutional context. More specifically, agency issues involved with delegated portfolio management may play a large role, such as manager and analyst career considerations, or the strategic gaming of fund-flow patterns. In our future research we intend to look in more detail at such alternative explanations.

David Blitz, PhD
Head Quant Equity Research

Bart van der Grient
Quantitative Researcher

Matthias Hanauer, CFA
Quantitative Researcher

References

Campbell, J.Y., J. Hilscher, and J. Szilagyi, 2008, "In search of distress risk", *Journal of Finance* 63, 2899-2939.

DeBondt, W.F.M., and R.H. Thaler, 1985, "Does the stock market overreact", *Journal of Finance* 40, 793-805.

De Groot, W., and J. Huij, 2011, "Is the value premium really a compensation for distress risk?", SSRN working paper no. 1840551

Dichev, I.D., 1998, "Is the risk of bankruptcy a systematic risk?", *Journal of Finance* 53, 1131-1147.

Doukas, J.A., C.F. Kim, and C. Pantzalis, 2002, "A test of the errors-in-expectations explanation of the value/glamour stock returns performance: evidence from analysts' forecasts", *Journal of Finance* 57, 2143-2165.

Fama, E.F., and J.D. MacBeth, 1973, "Risk, return, and equilibrium: Empirical tests", *Journal of Political Economy* 81, 607-636.

Fama, E.F., and K.R. French, 1992, "The cross-section of expected stock returns", *Journal of Finance* 47, 427-465.

Fama, E.F., and K.R. French, 1996, "Multifactor explanations of asset pricing anomalies", *Journal of Finance* 51, 55-84.

Griffin, J.M., and M.L. Lemmon, 2002, "Book-to-market equity, distress risk, and stock returns", *Journal of Finance* 57, 2317-2336.

Lakonishok, J., A. Shleifer, and R.W. Vishny, 1994, "Contrarian investment, extrapolation, and risk", *Journal of Finance* 49, 1541-1578.

Piotroski, J.D., 2000, "Value investing: The use of historical financial statement information to separate winners from losers", *Journal of Accounting Research* 38, 1-52.

Important Information

Robeco Institutional Asset Management B.V., hereafter Robeco, has a license as manager of UCITS and AIFs from the Netherlands Authority for the Financial Markets in Amsterdam. This statement is intended for professional investors. Therefore, the information set forth herein is not addressed and must not be made available, in whole or in part, to other parties, such as retail clients. Robeco disclaims all liability arising from users other than those specified herein. Without further explanation this presentation cannot be considered complete. It is intended to provide the professional investor with general information on Robeco's specific capabilities, but does not constitute a recommendation or an advice to buy or sell certain securities or investment products. All rights relating to the information in this presentation are and will remain the property of Robeco. No part of this presentation may be reproduced, saved in an automated data file or published in any form or by any means, either electronically, mechanically, by photocopy, recording or in any other way, without Robeco's prior written permission. The information contained in this publication is not intended for users from other countries, such as US citizens and residents, where the offering of foreign financial services is not permitted, or where Robeco's services are not available. The prospectus and the Key Investor Information Document for the Robeco Funds can all be obtained free of charge at www.robeco.com. Investment involves risks. Before investing, please note the initial capital is not guaranteed. The value of the investments may fluctuate. Past performance is no guarantee of future results. Historical returns are provided for illustrative purposes only. The price of units may go down as well as up and the past performance is not indicative of future performance. 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.

Additional Information for investors with residence or seat in France

Robeco is having the freedom to provide services in France. Robeco France has been approved under registry number 10683 by the French prudential control and resolution authority (formerly ACP, now the ACPR) as an investment firm since 28 September 2012. Robeco France is only authorized to offer investment advice service to professional investors.

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 Italy

This document is considered for use solely by qualified investors and private professional clients (as defined in Article 26 (1) (d) of Consob Regulation No. 16190). 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. Therefore, the information set forth herein is not addressed and must not be made available, in whole or in part, to other parties, such as retail clients. Robeco disclaims all liability arising from uses other than those specified herein.

Additional Information for investors with residence or seat in Spain

The Spanish branch Robeco Institutional Asset Management BV, Sucursal en España, having its registered office at Paseo de la Castellana 42, 28046 Madrid, is registered with the Spanish Authority for the Financial Markets (CNMV) in Spain under registry number 24.

Additional Information for investors with residence or seat in Switzerland

This document is exclusively distributed in Switzerland to qualified investors as such terms are defined under the Swiss Collective Investment Schemes Act (CISA). RobecoSAM AG has been authorized by the FINMA as Swiss representative of the Fund(s), and UBS Switzerland AG, Bahnhofstrasse 45, 8001 Zurich, postal address: Badenerstrasse 574, P.O. Box, CH-8098 Zurich, as 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 head office of the Swiss representative RobecoSAM AG, Josefstrasse 218, CH-8005 Zurich.
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 value of the investments may fluctuate. Past performance is no guarantee of future results.

The performance data do not take account of the commissions and costs incurred on the issue and redemption of units.
The prices used for the performance figures of the Luxembourg-based funds are the end-of-month transaction prices net of fees up to 4 August2010. From 4 August 2010, the transaction prices net of fees will be those of the first business day of the month. Return figures versus the benchmark show the investment management result before management and/or performance fees; the fund returns are with dividends reinvested and based on net asset values with prices and exchange rates of the valuation moment of the benchmark. Please refer to the prospectus of the funds for further details. The prospectus is available at the company's offices or via the www.robeco.ch website. Performance is quoted net of investment management fees. The ongoing charges mentioned in this publication is the one stated in the fund's latest annual report at closing date of the last calendar year.

The material and information in this document are provided "as is" and without warranties of any kind, either expressed or implied. Robeco and its related, affiliated and subsidiary companies disclaim all warranties, expressed or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose.
All information contained in this document is distributed with the understanding that the authors, publishers and distributors are not rendering legal, accounting or other professional advice or opinions on specific facts or matters and accordingly assume no liability whatsoever in connection with its use. In no event shall Robeco and its related, affiliated and subsidiary companies be liable for any direct, indirect, special, incidental or consequential damages arising out of the use of any opinion or information expressly or implicitly contained in this document

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 Hong Kong

Investment returns not denominated in HKD/USD are exposed to exchange rate fluctuations. Investors should refer to the fund's Hong Kong prospectus before making any investment decision. Investors should ensure that they fully understand the risk associated with the fund. Investors should also consider their own investment objective and risk tolerance level. Any opinions, estimates or forecasts may be changed at any time without prior warning. If in doubt, please seek independent advice. The content of this document is based upon sources of information believed to be reliable. This fund may use derivatives as part of its investment strategy and such investments are inherently volatile and this fund could potentially be exposed to additional risk and cost should the market move against it. Investors should note that the investment strategy and risks inherent to the fund are not typically encountered in traditional equity long only funds. In extreme market conditions, the fund may be faced with theoretically unlimited losses. This document has not been reviewed by the Securities and Futures Commission. 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 Singapore

This document is not intended as a recommendation or for the purpose of soliciting any action in relation to Robeco Capital Growth Funds or other Robeco Funds (the "Fund") and should not be construed as an offer to sell shares of the Fund (the "Shares") or solicitation by anyone in any jurisdiction in which such an offer or solicitation is not authorised or to any person to whom it is unlawful to make such an offer and solicitation.

Nothing in this document constitutes accounting, legal, regulatory, tax or other advice. Any decision to subscribe for interests in the Fund must be made solely on the basis of information contained in the prospectus (the "Prospectus"), which information may be different from the information contained in this document, and with independent analyses of your investment and financial situation and objectives. The information 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. 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. You 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.

This document is not directed to, or intended for distribution to or 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, publication, availability or use would be contrary to law or regulation or which would subject the Fund and its investment manager to any registration or licensing requirement within such jurisdiction. Investors should note that only the sub-funds listed in the appendix to the section entitled "Important Information for Singapore Investors" of the Prospectus (the "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 are invoking 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 authorised or recognised by the Monetary Authority of Singapore 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 would 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.
This document may contain projections or other forward looking statements regarding future events or future financial performance of countries, markets or companies and such projection or forecast is not indicative of the future or likely performance of the Fund. Neither the Fund, its investment manager nor any of their associates, nor any director, officer or employee accepts any liability whatsoever for any loss arising directly or indirectly from the use of this document. The information contained in this document, including any data, projections and underlying assumptions are based upon certain assumptions, management forecasts and analysis of information available as at the date of this document and reflects prevailing conditions and our views as of the date of the document, all of which are accordingly subject to change at any time without notice and the Fund and its investment manager are under no obligation to notify you of any of these changes. Prospective investors should not view the past performance of the Fund or its investment manager as indicative of future results.

Additional Information for investors with residence or seat in Shanghai
This material may not be copied or used with the public. This material is prepared by Robeco Investment Management Advisory (Shanghai) Limited Company (Robeco Shanghai for short) and is only provided to the specific objects under the premise of confidentiality. This material must not be wholly or partially reproduced, distributed, circulated, disseminated, published or disclosed, in any form and for any purpose, to any third party without prior approval from Robeco Shanghai. The information and/or analysis contained in this material have been compiled or arrived at from sources believed to be reliable but Robeco Shanghai does not make any representation as to their accuracy, correctness, usefulness or completeness and does not accept liability for any loss arising from the use hereof or the information and/or analysis contained herein. Neither Robeco Shanghai or its affiliates, nor any of their directors, officers or employees shall assume any liability or responsibility for any direct or indirect loss or damage or any other consequence of any person acting or not acting in reliance on the information contained herein. The information in this material may contain projections or other forward-looking statements regarding future events, targets, management discipline or other expectations which involve assumptions, risks, and uncertainties and is only as current as of the date indicated. Based on this, there is no assurance that such events will occur, and may be significantly different than that shown here, and we cannot guarantee that these statistics and the assumptions derived from the statistics will reflect the market conditions that may be encountered or future performances of Robeco Shanghai. The information in this material is based on current market conditions, which will fluctuate and may be superseded by subsequent market events or for other reasons. The information contained herein may not reflect the latest information on account of the changes and Robeco Shanghai is not responsible for the updating of the material or the correction of inaccurate or missing information contained in the material. Robeco Shanghai has not yet been registered as the private fund manager with the Asset Management Association of China. This material was prepared solely for informational purposes and does not constitute a recommendation, professional advice, an offer, solicitation or an invitation by or on behalf of Robeco Shanghai to any person to buy or sell any product. This material should not be viewed as a recommendation to buy or sell any investment products or to adopt any investment strategies. Nothing in this material constitutes investment, legal, accounting or tax advice, or a representation that any investment or strategy is suitable or appropriate to your individual circumstances, or otherwise constitutes a personal recommendation to you. Robeco Shanghai is a wholly foreign-owned enterprise established in accordance with the PRC laws, which enjoys independent civil rights and civil obligations. The statements of the shareholders or affiliates in the material shall not be deemed to a promise or guarantee of the shareholders or affiliates of Robeco Shanghai, or be deemed to any obligations or liabilities imposed to the shareholders or affiliates of Robeco Shanghai.

Additional Information for investors with residence or seat in Australia
This document is distributed in Australia by Robeco Hong Kong Limited (ARBN 156 512 659) ('Robeco') which is exempt from the requirement to hold an Australian financial services licence 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 for distribution or dissemination, directly or indirectly, to any other class of persons. It is being supplied to you solely for your information and may not be reproduced, forwarded to any other person or published, in whole or in part, for any purpose. 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 for public distribution in Australia and New Zealand.

Additional Information for investors with residence or seat in the Dubai International Financial Centre (DIFC), United Arab Emirates
Robeco Institutional Asset Management B.V. (Dubai Office), Office 209, Level 2, Gate Village Building 7, Dubai International Financial Centre, Dubai, PO Box 482060, UAE. Robeco Institutional Asset Management B.V. (Dubai office) is regulated by the Dubai Financial Services Authority ("DFSA") and only deals with Professional Clients and does not deal with Retail Clients as defined by the DFSA.

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 have they 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 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 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 document and the offering of [Shares] may be restricted in certain jurisdictions. The information contained in this document is for general guidance only, and it is the responsibility of any person or persons in possession of this document and wishing to make application for the fund to inform themselves of, and to observe, all applicable laws and regulations of any relevant jurisdiction. Prospective applicants for the fund 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 Panama
The distribution of this fund and the offering of Shares may be restricted in certain jurisdictions. The above information is for general guidance only, and it is the responsibility of any person or persons in possession of the prospectus of the fund 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 as to legal requirements also applying and any applicable exchange control regulations and applicable taxes in the countries of their respective citizenship, residence or domicile. This document does not constitute an offer or solicitation to any person in any jurisdiction in which such offer or solicitation is not authorized or to any person to whom it would be unlawful to make such offer or solicitation.

Additional Information for investors with residence or seat in Peru
The fund has not been registered before the Superintendencia del Mercado de Valores (SMV) and are 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 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 in 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.

Additional Information for US offshore investors
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.