UBS

Check out the interactive report

ubs.com/leverage

How leverage can be the best option to enhance returns and achieve your goals

Daniel Scansaroli, Head of Portfolio Strategy & UBS Wealth Way Solutions Americas
Justin Waring, Investment Strategist Americas
Leslie Falconio, Senior Fixed Income Strategist Americas

July 2021

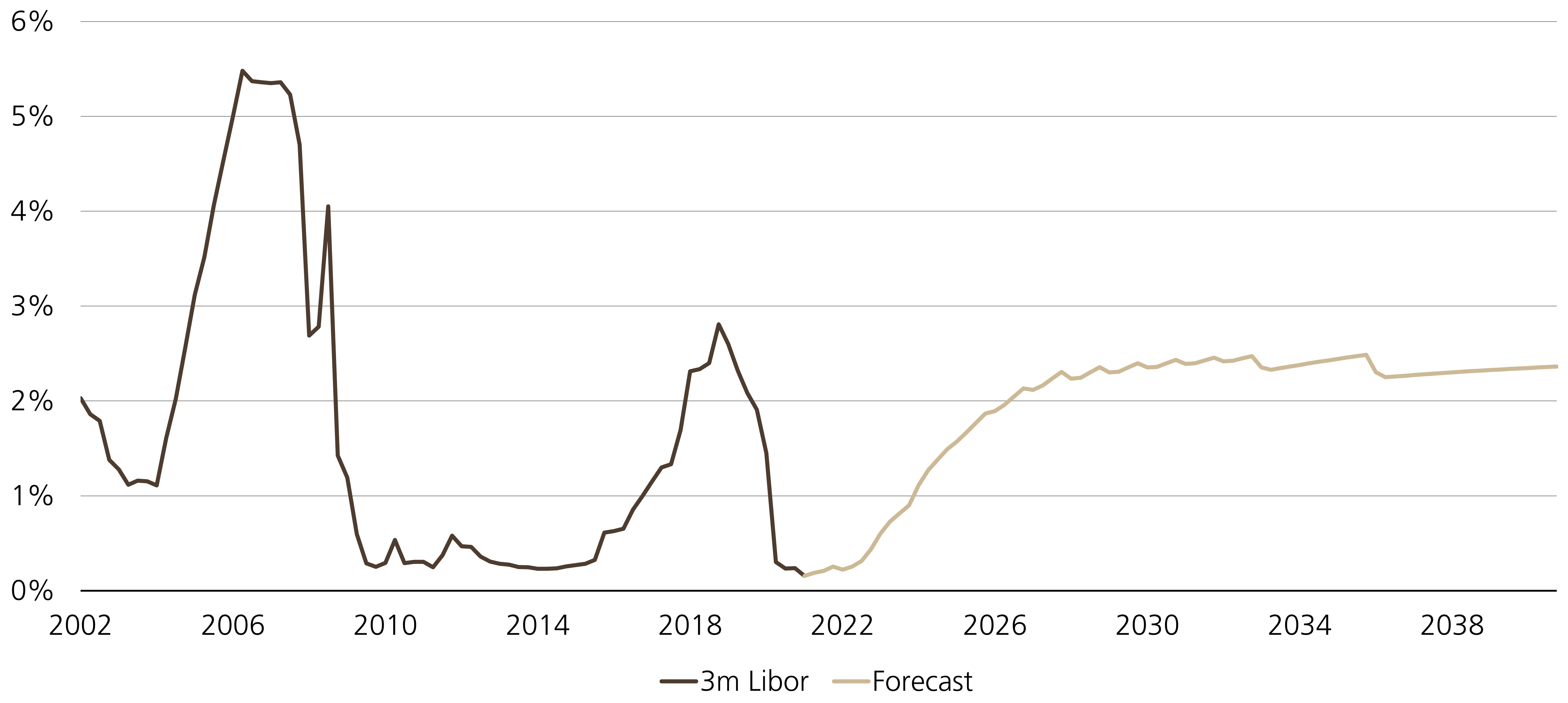
This report has been prepared by UBS Financial Services, Inc.
Please see important disclaimers and disclosures at the end of the document.

UBS Wealth Way is an approach incorporating Liquidity. Longevity. Legacy. strategies that UBS Switzerland AG, UBS AG and UBS Financial Services Inc. and our advisors can use to assist clients in exploring and pursuing their wealth management needs and goals over different timeframes. This approach is not a promise or guarantee that wealth, or any financial results, can or will be achieved. All investments involve the risk of loss, including the risk of loss of the entire investment. Timeframes may vary. Strategies are subject to individual client goals, objectives and suitability.

Timeframes may vary. Strategies are subject to individual client goals, objectives, and suitability. This approach is not a promise or guarantee that wealth, or any financial results, can or will be achieved.

Borrowing costs are near all-time lows, but are set to rise

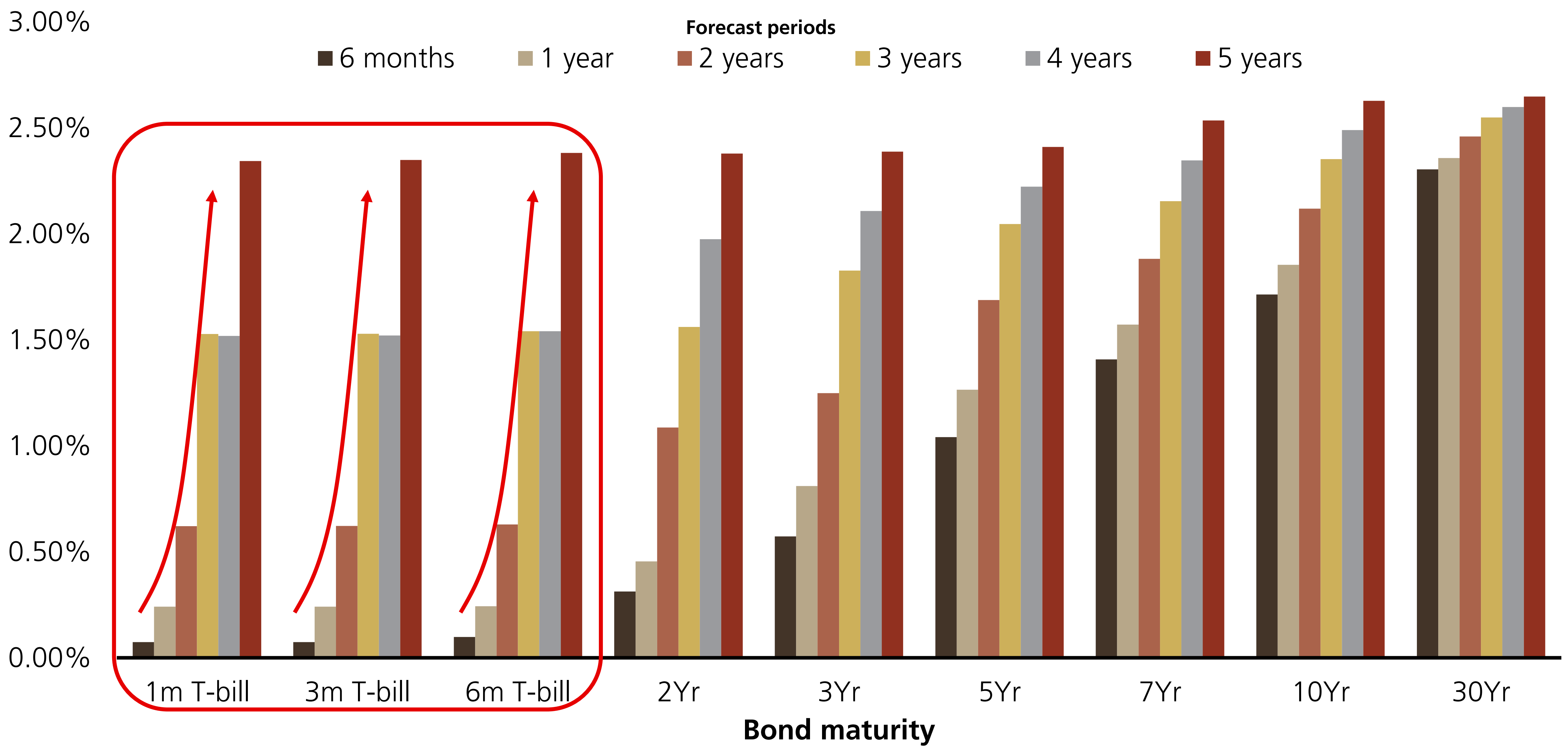
3-month London Interbank Offered Rate (LIBOR), with forecasts through 2040



UBS Source: Bloomberg, UBS

With short-term rates set to rise, fixed-rate loans look attractive

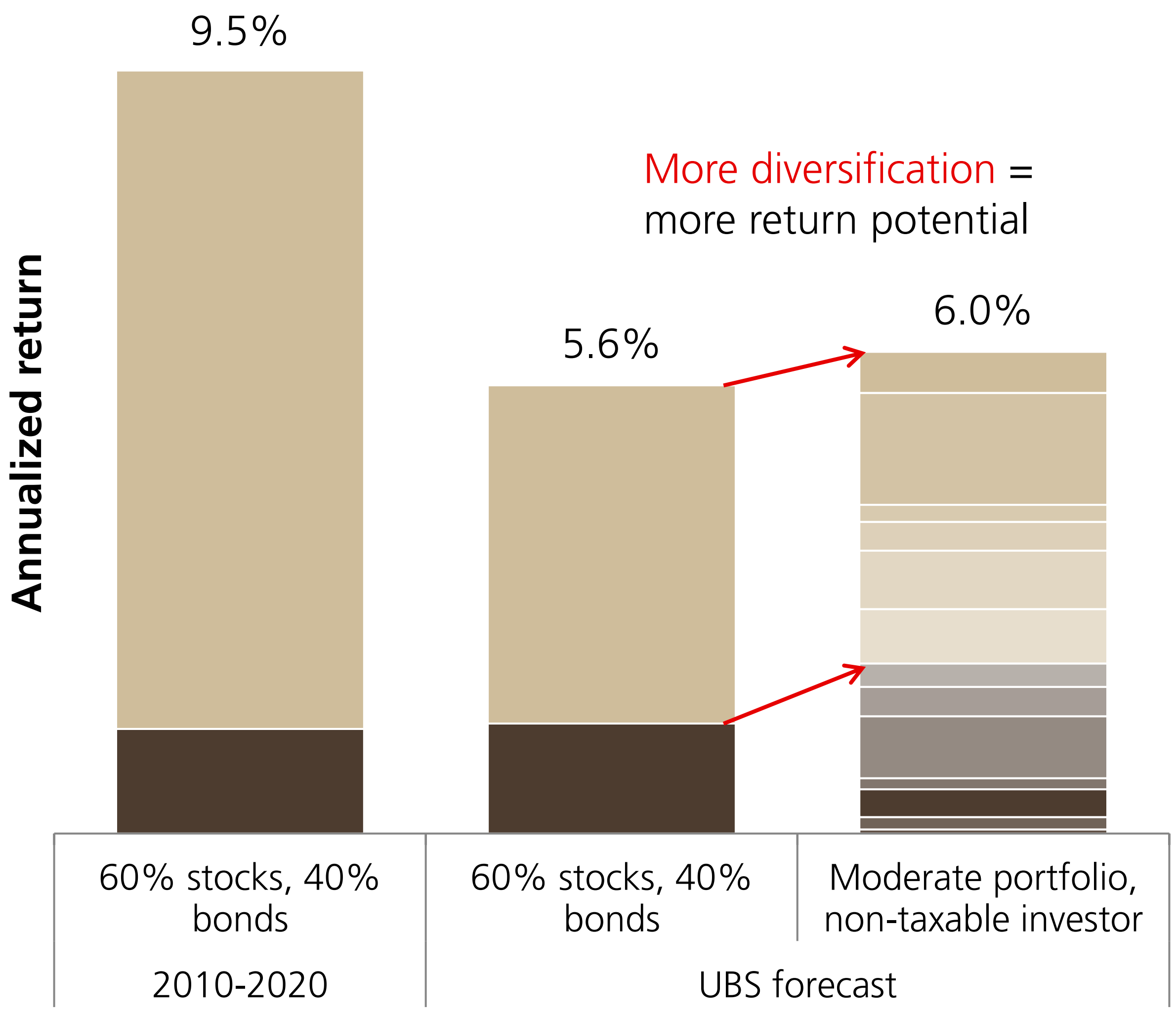
Current market projection of forward interest rates



UBS Source: Bloomberg, UBS

Future market returns are likely to be lower, but diversification can help

Realized returns from 2010-2020, forward-looking return expectations, and return contributions by asset class



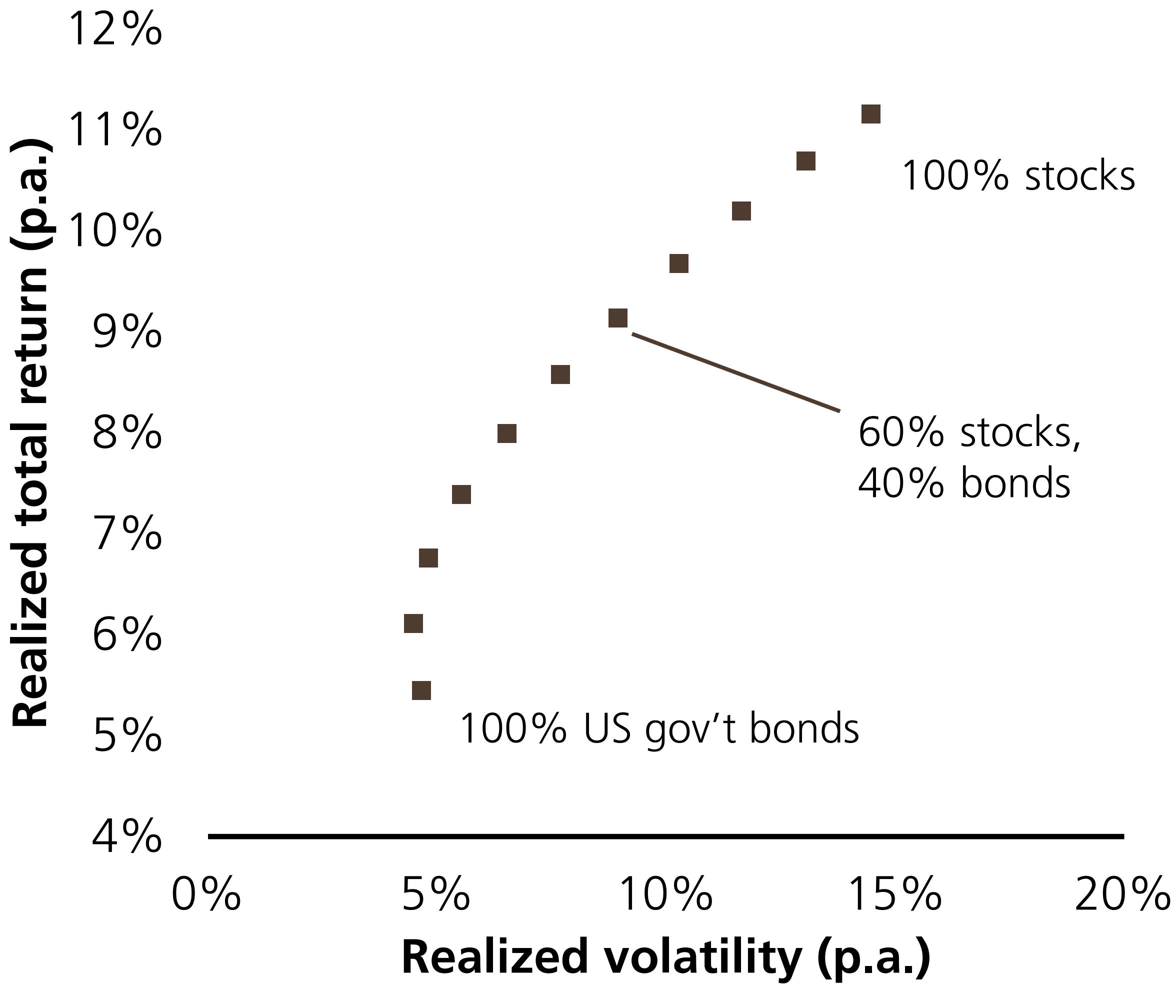
	Realized returns, 2010–2020	Equilibrium Capital Market Assumptions (CMAs)	
	60% stocks, 40% bonds	60% stocks, 40% bonds	Moderate portfolio, non-taxable investor
Annualized return	9.5%	5.6%	6.0%
Annualized risk	7.1%	9.4%	8.8%
Risk-adjusted return	1.3	0.6	0.7

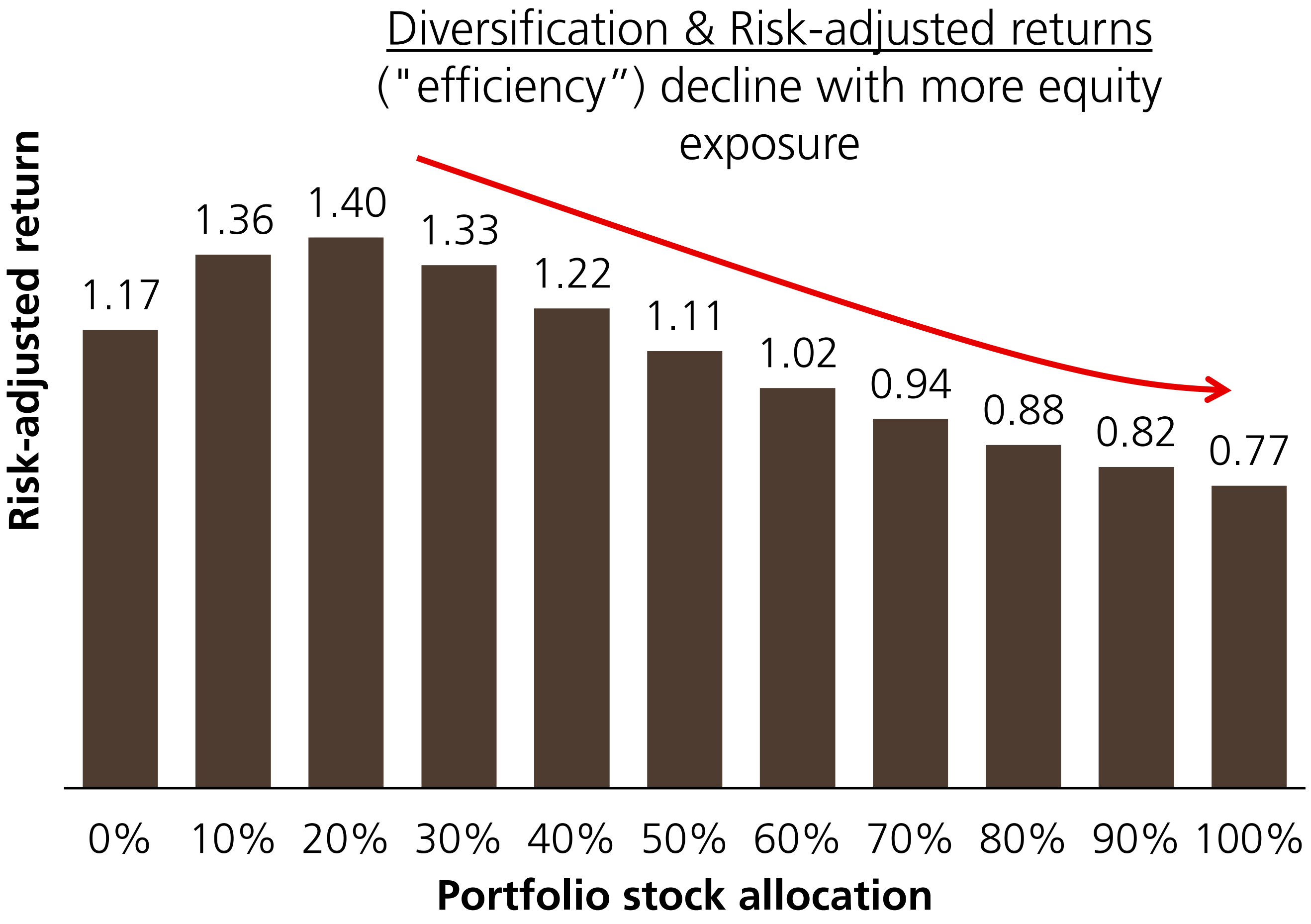
UBS

Source: MorningstarDirect, UBS, as of February 2021. Risk-adjusted return is calculated by dividing annualized return by annualized risk (the standard deviation of returns). The 60% stocks, 40% bonds portfolio is invested only in US equities and intermediate US government bonds. The moderate portfolio is globally diversified, including corporate bonds, emerging market stocks, and small- and mid-cap stocks.

Diversification can provide better risk-adjusted returns...

Historical returns, standard deviations, and return/risk ratios for stock/bond portfolios, from 1945 to 2020

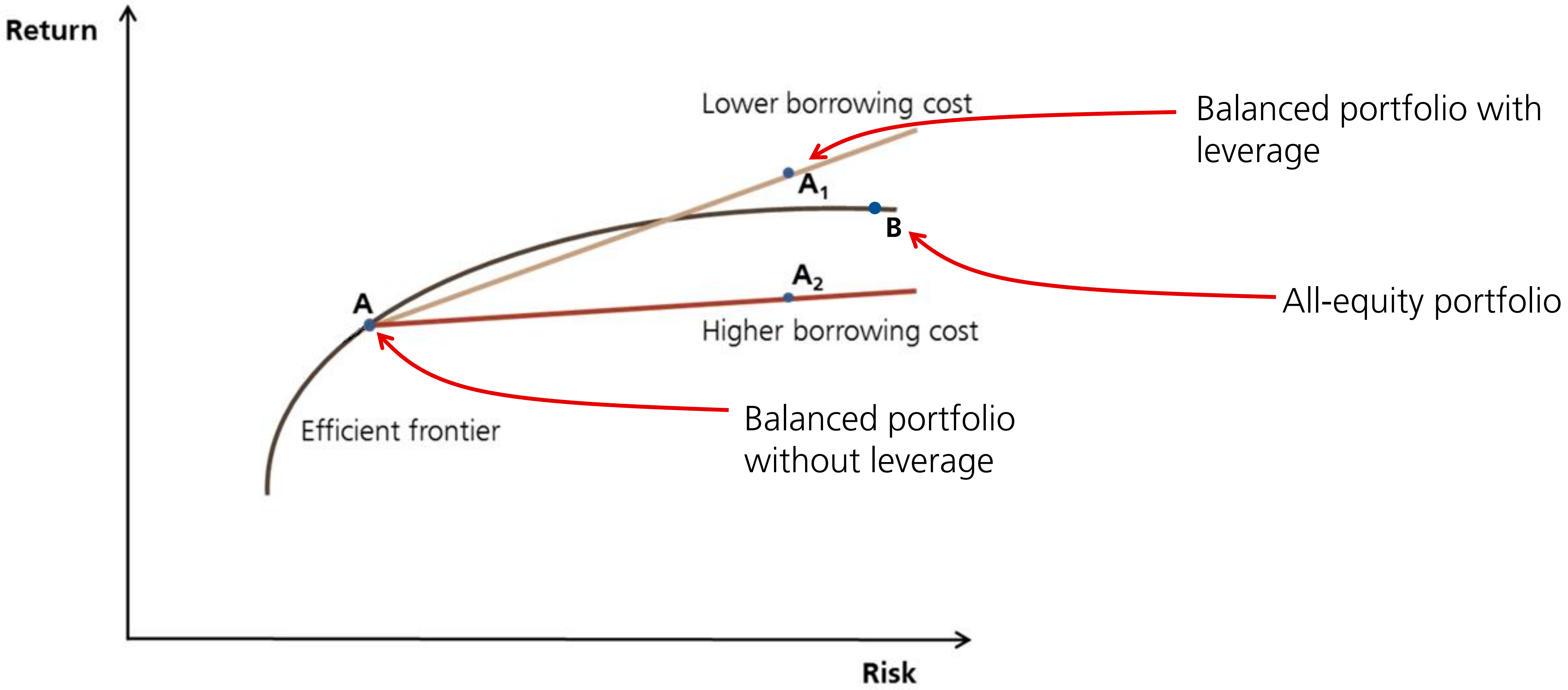




Source: Morningstar Direct, UBS. Illustration shows US large-cap stocks and intermediate US government bonds.

...and with low-cost leverage, can compete with higher-risk portfolios

Efficient frontier and capital allocation line, based on borrowing cost assumptions

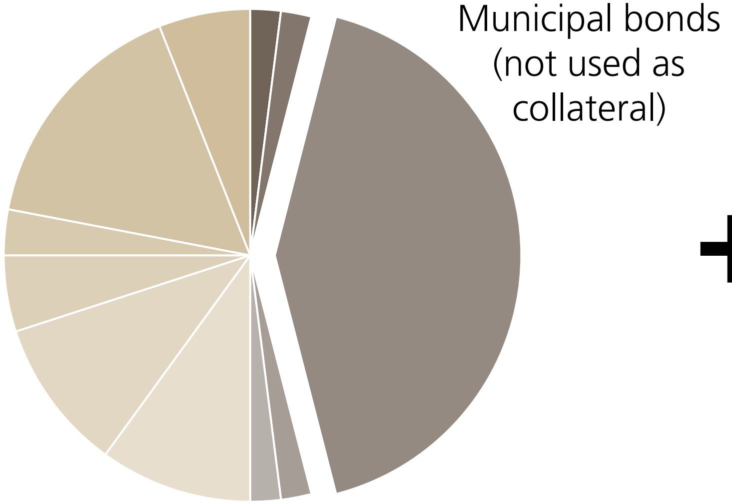


Source: UBS. For illustration purposes. Note: **A** reflects the investor's gross portfolio, while $\mathbf{A_1}$ and $\mathbf{A_2}$ represent the characteristics of the net portfolio accounting for the loan balance.

Applying portfolio leverage in practice

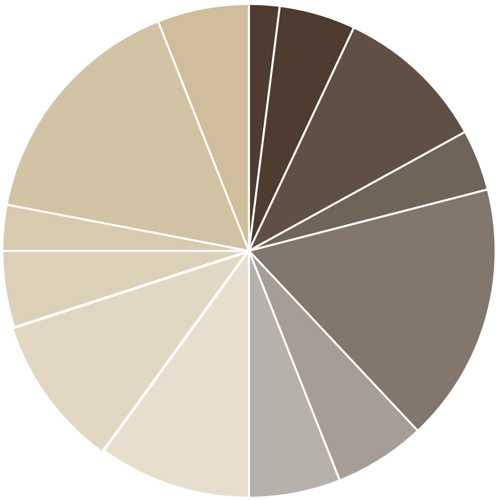
Illustration of implementing portfolio leverage

Original portfolio: USD 10 million Moderate portfolio for taxable investors



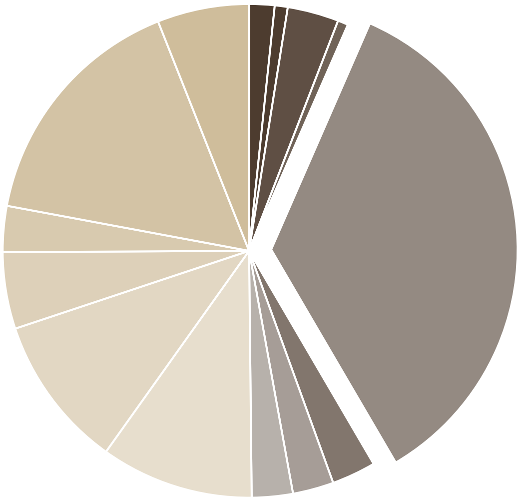
+

USD 2 million from loan proceeds invested in Moderate portfolio for non-taxable investors



=

Total portfolio after 20% leverage (USD 12 million invested, USD 2 million loan balance)



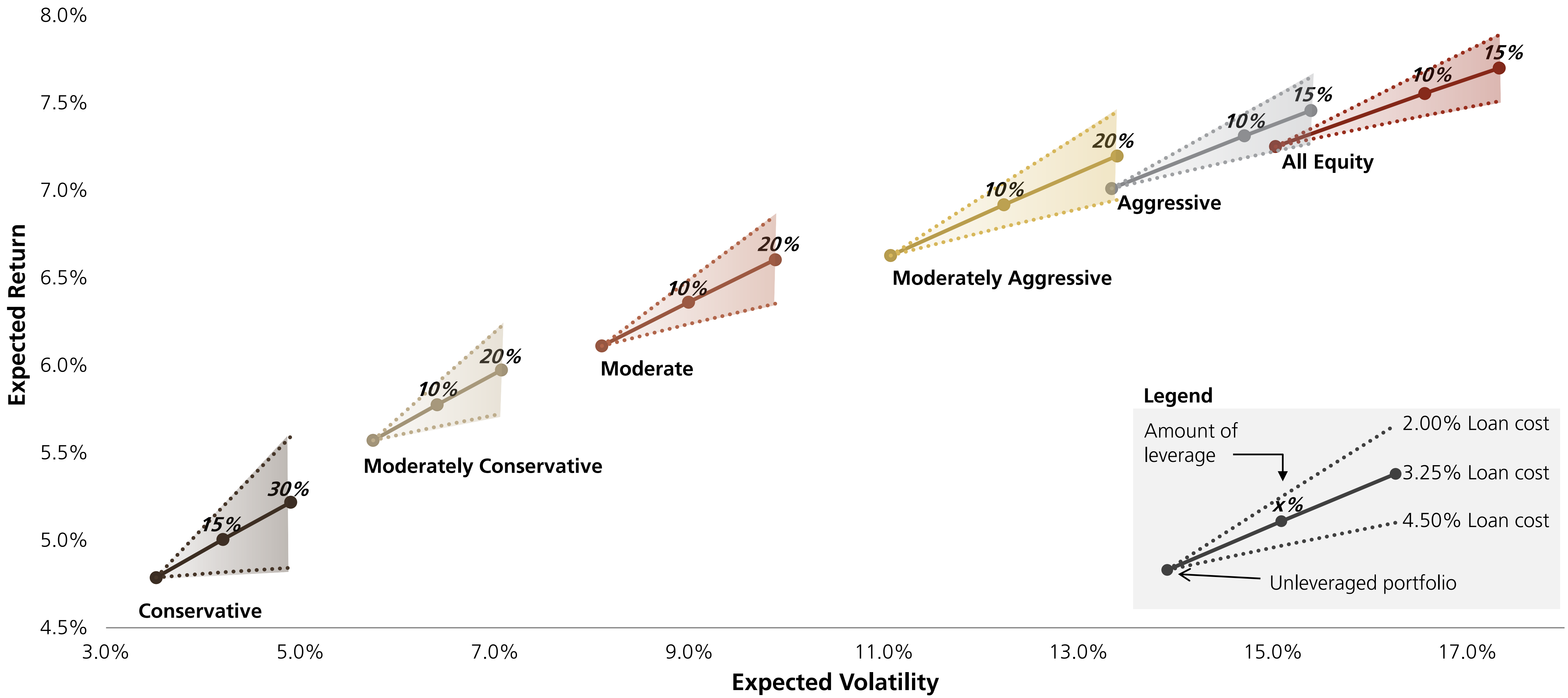
- Cash
- US Government FI Short
- US Government FI Intermediate
- US Government FI Long
- Municipal Bonds
- IG Credit
- High Yield Bonds
- Emerging Markets Fixed Income (Blend)
- US Large Cap Equity Growth
- US Large Cap Equity Value
- US Mid Cap Equity
- US Small Cap Equity
- Int'l Developed Markets Equity Core
- Emerging Market Equity

UBS

Source: UBS. These example Strategic Asset Allocations do not include Non-Traditional Asset Classes. To preserve the potential for interest deductibility, the municipal bonds in the original portfolio should be held in a separate account that is not used as collateral for the loan, and the loan proceeds should not be used to purchase municipal bonds. UBS does not provide tax advice, so please consult a tax professional when considering how to structure your investment portfolio and borrowing strategy.

Prudent leverage may improve returns more than adding to risk assets

Expected risk & returns after various borrowing costs and amounts of leverage



Source: UBS. Expected return and volatility are based on UBS Equilibrium Capital Market Assumptions.

With a prudent leverage strategy, a greater potential for better results

Expected risk & return statistics with borrowing costs of 3.25% and various amounts of leverage

	Conservative - taxable no-alts			Moderately Conservative - taxable no-alts			Moderate - taxable no-alts		
	No Leverage	15% Leverage	30% Leverage	No Leverage	10% Leverage	20% Leverage	No Leverage	10% Leverage	20% Leverage
Volatility	3.5%	4.2%	4.9%	5.7%	6.4%	7.1%	8.1%	9.0%	9.9%
Expected Return*	4.8%	5.0%	5.2%	5.6%	5.8%	6.0%	6.1%	6.4%	6.6%
Return Enhancement (%)		105%	109%		104%	107%		104%	108%
Risk Adjusted Return	1.36	1.19	1.06	0.97	0.90	0.85	0.75	0.71	0.67

	Moderately Aggressive - taxable no-alts			Aggressive - taxable no-alts			All Equity - taxable no-alts		
	No Leverage	10% Leverage	20% Leverage	No Leverage	10% Leverage	15% Leverage	No Leverage	10% Leverage	15% Leverage
Volatility	11.1%	12.2%	13.4%	13.3%	14.7%	15.4%	15.0%	16.6%	17.3%
Expected Return*	6.6%	6.9%	7.2%	7.0%	7.3%	7.5%	7.3%	7.6%	7.7%
Return Enhancement (%)		104%	109%		104%	106%		104%	106%
Risk Adjusted Return	0.60	0.57	0.54	0.53	0.50	0.48	0.48	0.46	0.44
Loan Financing Rate	3.25%								

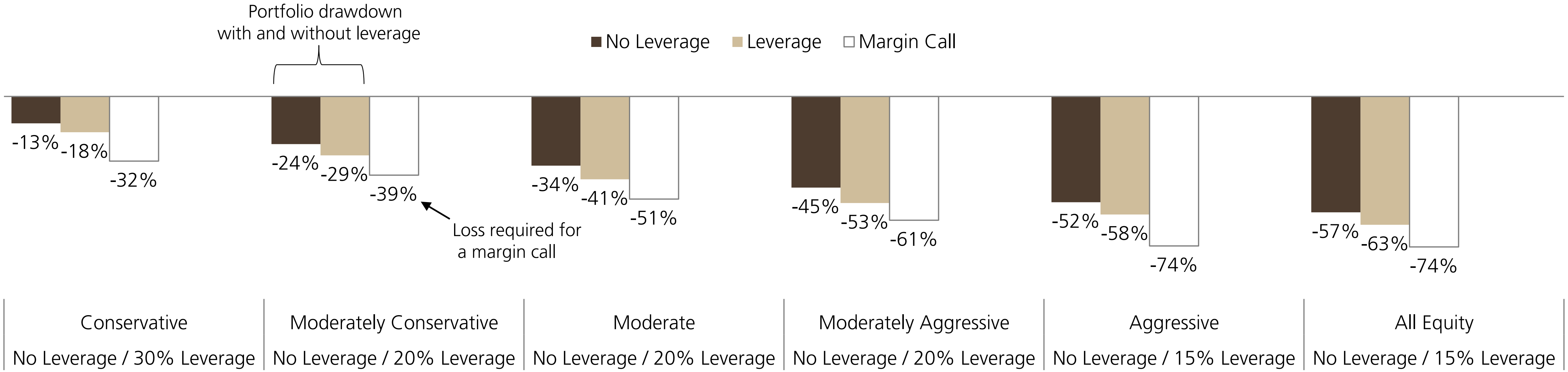
* Expected Returns remove the cost of the loan

UBS Source: UBS. Expected return and volatility are based on UBS Equilibrium Capital Market Assumptions.

Keeping a prudent level of leverage helps to avoid margin calls

Prudent levels of leverage would have avoided a margin call during the worst drawdown in modern history

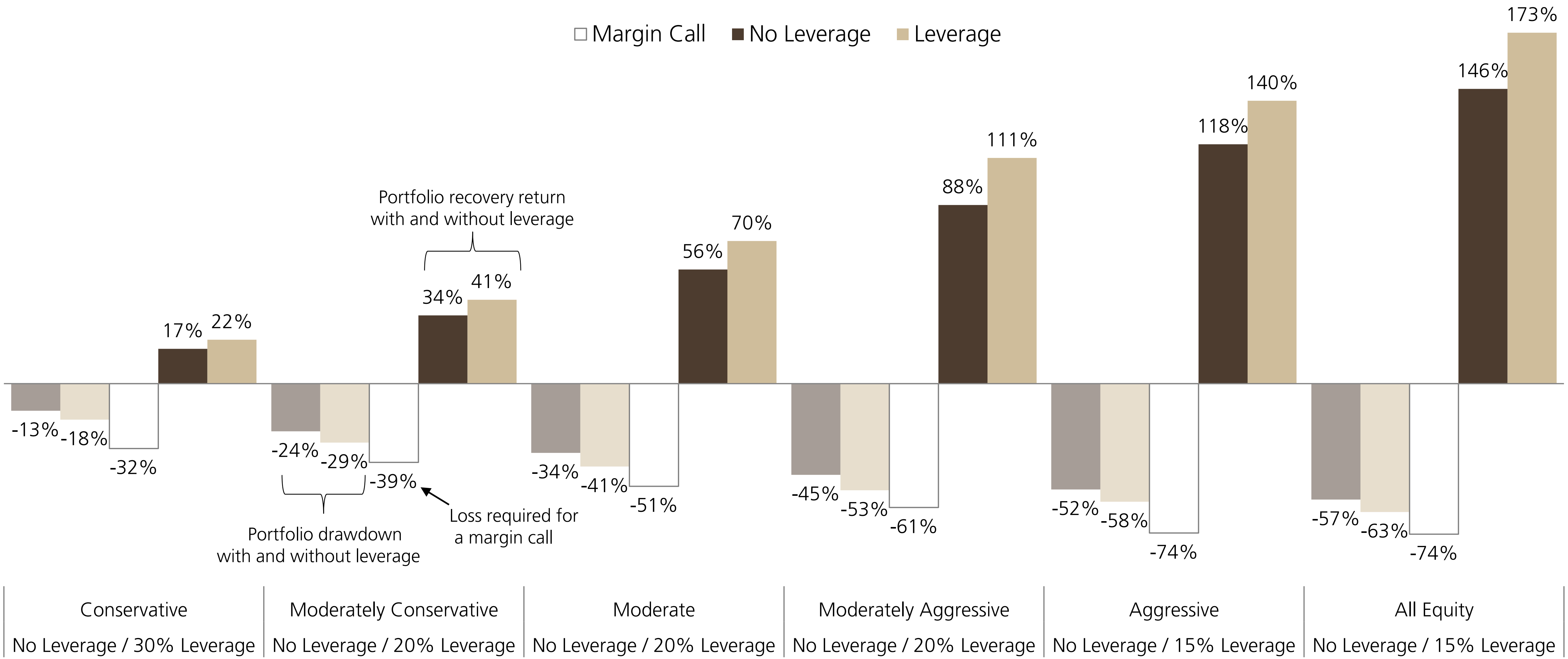
	Max Recommended Leverage	Max Drawdown			LTV	
		No Leverage	With Leverage	Peak-to-Trough	Max Drawdown LTV	Margin Call
Conservative	30%	-13%	-18%	4 months 26 days	59%	77%
Moderately Conservative	20%	-24%	-29%	1 year 4 months 8 days	54%	63%
Moderate	20%	-34%	-41%	1 year 4 months 6 days	48%	58%
Moderately Aggressive	20%	-45%	-53%	1 year 4 months 6 days	44%	55%
Aggressive	15%	-52%	-58%	1 year 4 months 6 days	33%	53%
All Equity	15%	-57%	-63%	1 year 4 months 6 days	35%	51%



Source: UBS. This historical analysis uses daily returns on indices that correspond to each broad asset class, and assumes a loan cost of LIBOR + 2.75%. Past performance is not indicative of future results. Your performance may vary based on implementation and asset allocation differences.

Leverage can enhance growth during recovery rallies and bull markets

Staying invested with leverage is critical to capturing upside potential and recovering from drawdowns. Here, we look at each portfolio's returns during the global financial crisis, the largest drawdown in recent history



UBS Source: UBS. This historical analysis uses daily returns on indices that correspond to each broad asset class, and assumes a loan cost of LIBOR + 2.75%. Past performance is not indicative of future results. Your performance may vary based on implementation and asset allocation differences.

What would asset allocations look like before and after borrowing?

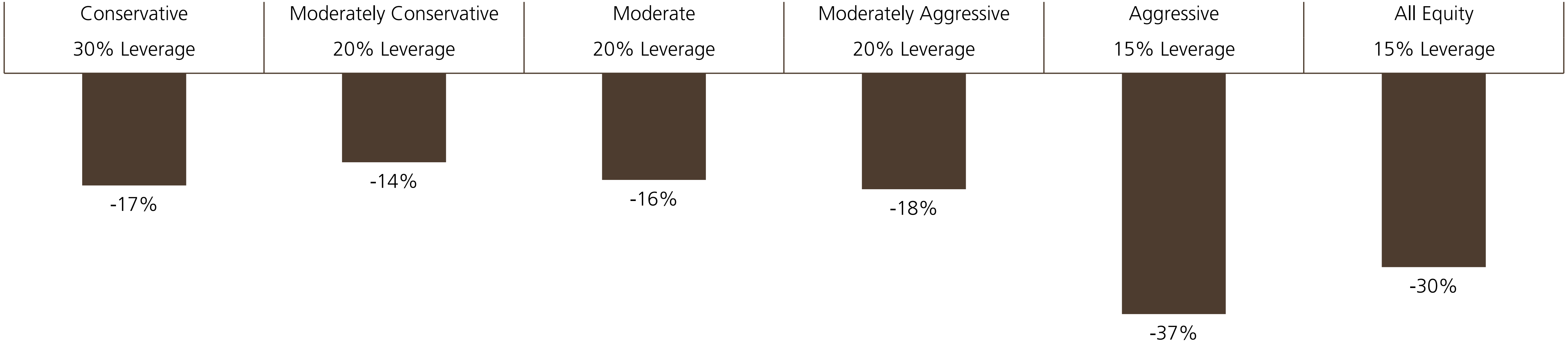
Asset allocations with maximum recommended leverage level for each risk profile

Portfolio	US Cash	US Government FI Short	US Government FI Intermediate	US Government FI Long	Municipal Bonds	US Investment Grade FI	US Corporate High Yield FI	EM Hard Currency FI	EM Local Currency FI	US Large-Cap Growth	US Large-Cap Value	US Mid-Cap	US Small-Cap	Int'l Developed Market Equities	Emerging Market Equities	Borrowing	Total
Conservative - taxable no-alts	2.0%	12.0%	7.0%	0.0%	56.0%	4.0%	0.0%	1.0%	1.0%	4.0%	4.0%	2.0%	1.0%	6.0%	0.0%	0.0%	100.0%
Conservative - tax-exempt no-alts	2.0%	22.0%	16.0%	0.0%	0.0%	30.0%	6.0%	4.5%	2.5%	4.0%	4.0%	2.0%	1.0%	6.0%	0.0%	0.0%	100.0%
30% Leverage	**2.0%**	**18.7%**	**11.9%**	**0.0%**	**56.0%**	**13.2%**	**1.8%**	**2.4%**	**1.8%**	**5.2%**	**5.2%**	**2.6%**	**1.3%**	**7.8%**	**0.0%**	**-30.0%**	**100.0%**
Moderately Conservative - taxable no-alts	2.0%	0.0%	2.0%	0.0%	57.0%	2.0%	2.0%	1.0%	1.0%	7.0%	7.0%	4.0%	2.0%	10.0%	3.0%	0.0%	100.0%
Moderately Conservative - tax-exempt no-alts	2.0%	12.0%	12.0%	4.0%	0.0%	24.0%	6.0%	4.5%	2.5%	7.0%	7.0%	3.0%	2.0%	10.0%	4.0%	0.0%	100.0%
20% Leverage	**2.0%**	**2.4%**	**4.4%**	**0.8%**	**57.0%**	**6.9%**	**3.2%**	**1.9%**	**1.5%**	**8.4%**	**8.4%**	**4.6%**	**2.4%**	**12.0%**	**3.8%**	**-20.0%**	**100.0%**
Moderate - taxable no-alts	2.0%	0.0%	2.0%	0.0%	42.0%	0.0%	2.0%	1.0%	1.0%	10.0%	10.0%	5.0%	3.0%	16.0%	6.0%	0.0%	100.0%
Moderate - tax-exempt no-alts	2.0%	5.0%	10.0%	4.0%	0.0%	17.0%	6.0%	4.0%	2.0%	10.0%	10.0%	5.0%	3.0%	16.0%	6.0%	0.0%	100.0%
20% Leverage	**2.0%**	**1.0%**	**4.0%**	**0.8%**	**42.0%**	**3.5%**	**3.2%**	**1.8%**	**1.4%**	**12.0%**	**12.0%**	**6.0%**	**3.6%**	**19.3%**	**7.2%**	**-20.0%**	**100.0%**
Moderately Aggressive - taxable no-alts	2.0%	0.0%	2.0%	0.0%	22.0%	0.0%	2.0%	1.0%	1.0%	14.0%	14.0%	8.0%	4.0%	21.0%	9.0%	0.0%	100.0%
Moderately Aggressive - tax-exempt no-alts	2.0%	0.0%	4.0%	4.0%	0.0%	12.0%	5.0%	1.5%	1.5%	13.0%	13.0%	7.0%	4.0%	24.0%	9.0%	0.0%	100.0%
20% Leverage	**2.0%**	**0.0%**	**2.8%**	**0.8%**	**22.0%**	**2.4%**	**3.0%**	**1.3%**	**1.3%**	**16.7%**	**16.7%**	**9.4%**	**4.8%**	**25.9%**	**10.8%**	**-20.0%**	**100.0%**
Aggressive - taxable no-alts	2.0%	0.0%	0.0%	5.0%	6.0%	0.0%	0.0%	0.0%	0.0%	16.0%	16.0%	9.0%	6.0%	28.0%	12.0%	0.0%	100.0%
Aggressive - tax-exempt no-alts	2.0%	0.0%	0.0%	6.0%	0.0%	5.0%	0.0%	0.0%	0.0%	16.0%	16.0%	8.0%	6.0%	29.0%	12.0%	0.0%	100.0%
15% Leverage	**2.0%**	**0.0%**	**0.0%**	**5.9%**	**6.0%**	**0.8%**	**0.0%**	**0.0%**	**0.0%**	**18.4%**	**18.4%**	**10.2%**	**6.9%**	**32.4%**	**13.8%**	**-15.0%**	**100.0%**
All Eq / FI - All Equity	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	19.5%	19.5%	10.0%	6.0%	31.0%	12.0%	0.0%	100.0%
15% Leverage	**2.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**22.5%**	**22.5%**	**11.5%**	**6.9%**	**35.7%**	**13.8%**	**-15.0%**	**100.0%**

UBS Source: UBS.

Additional losses until a margin call

Maximum recommended levels of leverage maintained a significant buffer for a margin call during the worst drawdown in modern history



	Max Recommended Leverage	Max Drawdown			LTV		Recovery		
		No Leverage	With Leverage	Peak-to-Trough	Max Drawdown LTV	Margin Call	No Leverage	With Leverage	Trough-to-Recovery
Conservative	30%	-13%	-18%	4 months 26 days	59%	77%	17%	22%	10 months 25 days
Moderately Conservative	20%	-24%	-29%	1 year 4 months 8 days	54%	63%	34%	41%	1 year 8 days
Moderate	20%	-34%	-41%	1 year 4 months 6 days	48%	58%	56%	70%	1 year 7 months 26 days
Moderately Aggressive	20%	-45%	-53%	1 year 4 months 6 days	44%	55%	88%	111%	2 years 1 month 19 days
Aggressive	15%	-52%	-58%	1 year 4 months 6 days	33%	53%	118%	140%	3 years 9 months 24 days
All Equity	15%	-57%	-63%	1 year 4 months 6 days	35%	51%	146%	173%	4 years 1 month 2 days

Source: UBS. This historical analysis uses daily returns on indices that correspond to each broad asset class, and assumes a loan cost of LIBOR + 2.75%. Past performance is not indicative of future results. Your performance may vary based on implementation and asset allocation differences.

Should you tap your loan for spending?

Portfolio growth, in USD, assuming 6.67% p.a. investment return and 2.25% borrowing cost, following a 1-year investment period

	Option #1 Spend from portfolio	**Option #2** Borrow for spending
Initial Moderately Aggressive portfolio	3,000,000	3,000,000
Credit line	0	350,000
Spending	(350,000)	(350,000)
Remaining portfolio value	**2,650,000**	**3,000,000**
Return on portfolio	176,695	200,032
Annual loan cost	-	(7,875)
Net investment return	**176,695**	**192,157**
Total value added		**+15,462**

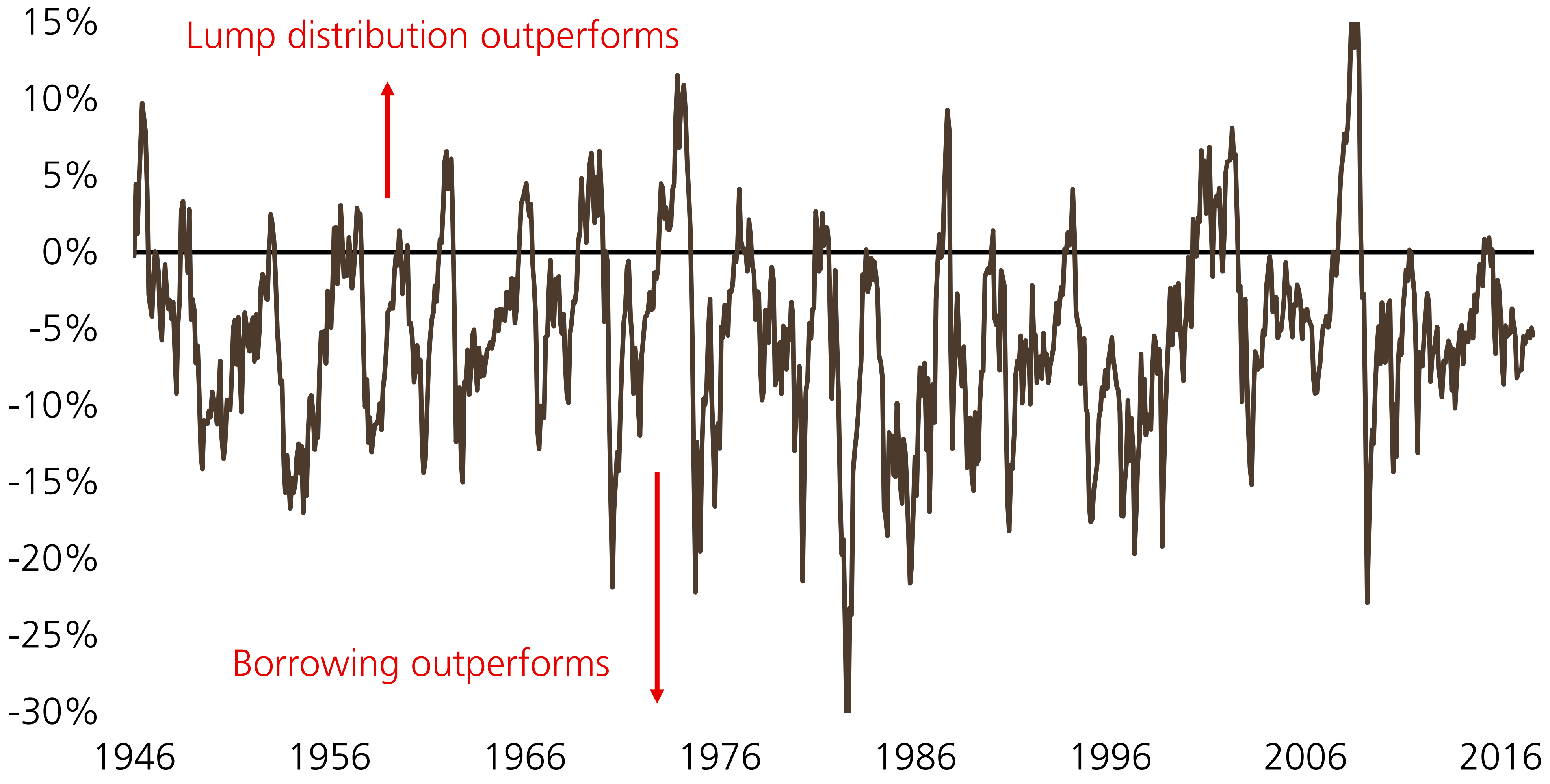
Borrowing allows investors to stay invested…

…and increase potential for additional growth after loan costs

Source: UBS. Expected return is based on UBS Equilibrium Capital Market Assumptions for the Moderately Aggressive Strategic Asset Allocation for taxable investors.

Should you tap your loan for spending? (continued)

Hypothetical performance—selling out of the 60/40 portfolio all at once, or borrowing and paying off the loan using 12 months of paychecks.



 Source: Morningstar Direct, UBS, as of 31 December 2019. Does not include capital gains taxes or interest cost on the loan.

Disclaimer

UBS Chief Investment Office's ("CIO") investment views are prepared and published by the Global Wealth Management business of UBS Switzerland AG (regulated by FINMA in Switzerland) or its affiliates ("UBS").
The investment views have been prepared in accordance with legal requirements designed to promote the **independence of investment research**.

Generic investment research – Risk information:
This publication is **for your information only** and is not intended as an offer, or a solicitation of an offer, to buy or sell any investment or other specific product. The analysis contained herein does not constitute a personal recommendation or take into account the particular investment objectives, investment strategies, financial situation and needs of any specific recipient. It is based on numerous assumptions. Different assumptions could result in materially different results. Certain services and products are subject to legal restrictions and cannot be offered worldwide on an unrestricted basis and/or may not be eligible for sale to all investors. All information and opinions expressed in this document were obtained from sources believed to be reliable and in good faith, but no representation or warranty, express or implied, is made as to its accuracy or completeness (other than disclosures relating to UBS). All information and opinions as well as any forecasts, estimates and market prices indicated are current as of the date of this report, and are subject to change without notice. Opinions expressed herein may differ or be contrary to those expressed by other business areas or divisions of UBS as a result of using different assumptions and/or criteria.

In no circumstances may this document or any of the information (including any forecast, value, index or other calculated amount ("Values")) be used for any of the following purposes (i) valuation or accounting purposes; (ii) to determine the amounts due or payable, the price or the value of any financial instrument or financial contract; or (iii) to measure the performance of any financial instrument including, without limitation, for the purpose of tracking the return or performance of any Value or of defining the asset allocation of portfolio or of computing performance fees. By receiving this document and the information you will be deemed to represent and warrant to UBS that you will not use this document or otherwise rely on any of the information for any of the above purposes. UBS and any of its directors or employees may be entitled at any time to hold long or short positions in investment instruments referred to herein, carry out transactions involving relevant investment instruments in the capacity of principal or agent, or provide any other services or have officers, who serve as directors, either to/for the issuer, the investment instrument itself or to/for any company commercially or financially affiliated to such issuers. At any time, investment decisions (including whether to buy, sell or hold securities) made by UBS and its employees may differ from or be contrary to the opinions expressed in UBS research publications. Some investments may not be readily realizable since the market in the securities is illiquid and therefore valuing the investment and identifying the risk to which you are exposed may be difficult to quantify. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS, into other areas, units, divisions or affiliates of UBS. Futures and options trading is not suitable for every investor as there is a substantial risk of loss, and losses in excess of an initial investment may occur. Past performance of an investment is no guarantee for its future performance. Additional information will be made available upon request. Some investments may be subject to sudden and large falls in value and on realization you may receive back less than you invested or may be required to pay more. Changes in foreign exchange rates may have an adverse effect on the price, value or income of an investment. The analyst(s) responsible for the preparation of this report may interact with trading desk personnel, sales personnel and other constituencies for the purpose of gathering, synthesizing and interpreting market information.

Tax treatment depends on the individual circumstances and may be subject to change in the future. UBS does not provide legal or tax advice and makes no representations as to the tax treatment of assets or the investment returns thereon both in general or with reference to specific client's circumstances and needs. We are of necessity unable to take into account the particular investment objectives, financial situation and needs of our individual clients and we would recommend that you take financial and/or tax advice as to the implications (including tax) of investing in any of the products mentioned herein.

This material may not be reproduced or copies circulated without prior authority of UBS. Unless otherwise agreed in writing UBS expressly prohibits the distribution and transfer of this material to third parties for any reason. UBS accepts no liability whatsoever for any claims or lawsuits from any third parties arising from the use or distribution of this material. This report is for distribution only under such circumstances as may be permitted by applicable law. For information on the ways in which CIO manages conflicts and maintains independence of its investment views and publication offering, and research and rating methodologies, please visit www.ubs.com/research. Additional information on the relevant authors of this publication and other CIO publication(s) referenced in this report; and copies of any past reports on this topic; are available upon request from your client advisor.

Disclaimer

Options and futures are not suitable for all investors, and trading in these instruments is considered risky and may be appropriate only for sophisticated investors. Prior to buying or selling an option, and for the complete risks relating to options, you must receive a copy of "Characteristics and Risks of Standardized Options". You may read the document at https://www.theocc.com/about/publications/character-risks.jsp or ask your financial advisor for a copy.

Investing in structured investments involves significant risks. For a detailed discussion of the risks involved in investing in any particular structured investment, you must read the relevant offering materials for that investment. Structured investments are unsecured obligations of a particular issuer with returns linked to the performance of an underlying asset. Depending on the terms of the investment, investors could lose all or a substantial portion of their investment based on the performance of the underlying asset. Investors could also lose their entire investment if the issuer becomes insolvent. UBS Financial Services Inc. does not guarantee in any way the obligations or the financial condition of any issuer or the accuracy of any financial information provided by any issuer. Structured investments are not traditional investments and investing in a structured investment is not equivalent to investing directly in the underlying asset. Structured investments may have limited or no liquidity, and investors should be prepared to hold their investment to maturity. The return of structured investments may be limited by a maximum gain, participation rate or other feature. Structured investments may include call features and, if a structured investment is called early, investors would not earn any further return and may not be able to reinvest in similar investments with similar terms. Structured investments include costs and fees which are generally embedded in the price of the investment. The tax treatment of a structured investment may be complex and may differ from a direct investment in the underlying asset. UBS Financial Services Inc. and its employees do not provide tax advice. Investors should consult their own tax advisor about their own tax situation before investing in any securities.

Important Information About Sustainable Investing Strategies: Sustainable investing strategies aim to consider and incorporate environmental, social and governance (ESG) factors into investment process and portfolio construction. Strategies across geographies and styles approach ESG analysis and incorporate the findings in a variety of ways. Incorporating ESG factors or Sustainable Investing considerations may inhibit the portfolio manager's ability to participate in certain investment opportunities that otherwise would be consistent with its investment objective and other principal investment strategies. The returns on a portfolio consisting primarily of sustainable investments may be lower or higher than portfolios where ESG factors, exclusions, or other sustainability issues are not considered by the portfolio manager, and the investment opportunities available to such portfolios may differ. Companies may not necessarily meet high performance standards on all aspects of ESG or sustainable investing issues; there is also no guarantee that any company will meet expectations in connection with corporate responsibility, sustainability, and/or impact performance.

External Asset Managers / External Financial Consultants: In case this research or publication is provided to an External Asset Manager or an External Financial Consultant, UBS expressly prohibits that it is redistributed by the External Asset Manager or the External Financial Consultant and is made available to their clients and/or third parties.

USA: Distributed to US persons by UBS Financial Services Inc., UBS Securities LLC or UBS Swiss Financial Advisers AG, subsidiaries of UBS AG. UBS Switzerland AG, UBS Europe SE, UBS Bank, S.A., UBS Brasil Administradora de Valores Mobiliarios Ltda, UBS Asesores Mexico, S.A. de C.V., UBS Securities Japan Co., Ltd, UBS Wealth Management Israel Ltd and UBS Menkul Degerler AS are affiliates of UBS AG. UBS Financial Services Incorporated of Puerto Rico is a subsidiary of UBS Financial Services Inc. **UBS Financial Services Inc. accepts responsibility for the content of a report prepared by a non-US affiliate when it distributes reports to US persons. All transactions by a US person in the securities mentioned in this report should be effected through a US-registered broker dealer affiliated with UBS, and not through a non-US affiliate. The contents of this report have not been and will not be approved by any securities or investment authority in the United States or elsewhere. UBS Financial Services Inc. is not acting as a municipal advisor to any municipal entity or obligated person within the meaning of Section 15B of the Securities Exchange Act (the "Municipal Advisor Rule") and the opinions or views contained herein are not intended to be, and do not constitute, advice within the meaning of the Municipal Advisor Rule.**

For country information, please visit ubs.com/cio-country-disclaimer-gr or ask your client advisor for the full disclaimer.

Version C/2020. CIO82652744

UBS