

PIMCO

ADVISOR EDUCATION

Behavioral Science Reference Guide



For Investment Professional Use Only - Not for Public Distribution

A company of **Allianz** 

PIMCO's Education team is dedicated to helping financial professionals address emerging issues and challenges.

PROGRAM OVERVIEW

Our courses aim to help financial professionals:



Deliver client-centric advice beyond investment management



Build the breadth and value of your services to successfully grow your practice



Enhance relationships with clients through more holistic offerings

To see a full list of course offerings or to learn more about the program contact your PIMCO Account Manager or visit [pimco.com](https://www.pimco.com).

Why Behavioral Science Matters

Investors are prone to a host of behavioral biases that can effect decision-making and derail long-term financial goals. Financial professionals can help clients manage these biases and stay on track by incorporating behavioral science insights into their advice.

This reference guide provides common investment-related biases and outlines some implications of these biases on decision making. It also shares questions and thought-starters to help financial professionals and their clients identify biases and mitigate negative outcomes.

BEHAVIORAL SCIENCE IN ACTION

PIMCO's deep commitment to behavioral science is embodied by our partnership with The Roman Family Center for Decision Research (CDR) at The University of Chicago Booth School of Business. Leaders in their field, CDR researchers are constantly engaged in studies investigating how people form judgments and make decisions. Many of these studies take place at the PIMCO Decision Research Laboratories – facilities on and off The University of Chicago campus that bring behavioral insights to the mainstream by fostering greater engagement with the public.

Learn more at global.pimco.com/pimcolabs



Roman Family Center
for Decision Research



The information contained herein is current only as of the date set forth in the guide and neither PIMCO nor its consultants has any obligation to update such information. This material has been prepared without taking into account the objectives, financial situation or needs of any specific investors. The information is summary in nature and is not intended to be all inclusive.

For Investment Professional Use Only - Not for Public Distribution



Behavioral Biases

ANCHORING BIAS

Occurs when investors are influenced by purchase points or arbitrary price levels

Implication	Client Type	Questions for Clients	Potential Solutions
<ul style="list-style-type: none"> • Clients may cling to arbitrary numbers or values when they decide whether to buy or sell an investment • May prevent clients from viewing investments holistically • During a period of volatility, clients may anchor to a market highpoint or their last investment statement 	<ul style="list-style-type: none"> • Retirees • Baby Boomers • Silent Generation • Low-risk investors/preservers 	<ul style="list-style-type: none"> • What do you think this security should be valued at? How did you arrive at that figure? • How do you think this investment has performed and what are your expectations going forward? • Where does this asset fit in with your larger financial plan? 	<ul style="list-style-type: none"> • Goals-based planning • Rebalance regularly • Long-term focus

RECENCY BIAS

When an investor looks at recent market returns when making important financial decisions

Implication	Client Type	Questions for Clients	Potential Solutions
<ul style="list-style-type: none"> • Clients may choose an investment based on recent returns or some news that was recently heard rather than perform a thorough analysis • May cause clients to chase performance – buying high and selling low 	<ul style="list-style-type: none"> • General/inexperienced investors • Generation X 	<ul style="list-style-type: none"> • How do you decide where to invest your money? • What are the most common sources of information or guidance that you have relied upon? • What is your view on the direction of the market? 	<ul style="list-style-type: none"> • Rebalance regularly • Investment policy statement

CONFIRMATION BIAS

When investors seek out information that confirms their claims

Implication	Client Type	Questions for Clients	Potential Solutions
<ul style="list-style-type: none"> • Clients may ignore or devalue evidence that might discount their view on a particular security • May lead to an inappropriate allocation or risk tolerance 	<ul style="list-style-type: none"> • Corporate executives • Business owners • Millennials • Generation X • Baby Boomers 	<ul style="list-style-type: none"> • What is your view on the direction of the market? • What are the most common sources of information or guidance that you have relied upon? • How do you decide where to invest? 	<ul style="list-style-type: none"> • Systematic processes • Investment policy statement • Broad framing (as opposed to narrow)



Behavioral Biases

OVERCONFIDENCE

The tendency to overestimate or exaggerate an investor's ability to successfully perform a given task

Implication	Client Type	Questions for Clients	Potential Solutions
<ul style="list-style-type: none"> Irrationally high level of overconfidence Common among C-suite executives May lead to excessive risk-taking 	<ul style="list-style-type: none"> Corporate executives Business owners Baby Boomers 	<ul style="list-style-type: none"> Tell me about your past investment experiences. What has worked well, and what has not? Tell me about your greatest investment success and your most unfortunate investment? What did you learn from these experiences? How much of your time do you spend on investment and financial planning? How do you keep current or improve your abilities? 	<ul style="list-style-type: none"> Investment policy statement Rebalance regularly

ILLUSION OF CONTROL

Investors believe they can control or influence investment outcomes that they cannot

Implication	Client Type	Questions for Clients	Potential Solutions
<ul style="list-style-type: none"> During bouts of volatility, clients may try to time the market, sitting with cash on the sidelines waiting to get back in Common among trading-oriented clients who may believe that they have more control over a particular outcome because they've pulled the trigger on the decision 	<ul style="list-style-type: none"> Corporate executives Business owners 	<ul style="list-style-type: none"> How do you define risk? What do you do to manage risk? What is your view on the direction of the market? 	<ul style="list-style-type: none"> Systematic processes Investment policy statement Broad framing as opposed to narrow



Behavioral Biases

MENTAL ACCOUNTING

When investors treat various sums of money differently based on where these sums are mentally categorized

Implication	Client Type	Questions for Clients	Potential Solutions
<ul style="list-style-type: none"> Risk-averse clients may prefer to segregate assets into safe buckets such as college, vacation, retirement, etc. 	<ul style="list-style-type: none"> Retirees Low risk investors/preservers Generation X Baby Boomers 	<ul style="list-style-type: none"> What if you received new funds today, how would you invest them? How do you expect to invest your assets during the withdrawal phase in retirement? What are your top concerns surrounding your retirement assets? 	<ul style="list-style-type: none"> Investment policy statement Rebalance regularly

FRAMING EFFECTS

The tendency of investors to respond to situations differently based on the context in which a choice is presented or framed

Implication	Client Type	Questions for Clients	Potential Solutions
<ul style="list-style-type: none"> Clients may avoid looking at the facts themselves and out of two equal choices, select the one that suggests a gain rather than a loss Risk tolerance questionnaires can lead to greater risk taking or less risk, depending on how questions are framed 	<ul style="list-style-type: none"> General/inexperienced investors Millennials Silent Generation 	<ul style="list-style-type: none"> What action would you take if your portfolio increased 10% next month? Declined 10% next month? Shall we create an investment policy statement? This will allow us to create a written document that states your investment objectives, asset allocation guidelines, and rebalancing methodology. 	<ul style="list-style-type: none"> Systematic processes Investment policy statement Broad framing (as opposed to narrow)



Behavioral Biases

LOSS AVERSION BIAS

Investors typically feel the pain of loss more profoundly than the joy of an equivalent gain

Implication	Client Type	Questions for Clients	Potential Solutions
<ul style="list-style-type: none"> • May prevent clients from unloading unprofitable investments • Causes investors to take on additional risk to avoid pain from losses 	<ul style="list-style-type: none"> • Retirees • Low risk investors/preservers • Baby Boomers • Silent Generation 	<ul style="list-style-type: none"> • What would be more disturbing: selling a security that continues to rise or holding one that continues to fall? • If you were presented with cash equal to the value of your stock, how much would you allocate to your stock? 	<ul style="list-style-type: none"> • Systematic processes • Investment policy statement • Broad framing as opposed to narrow

ENDOWMENT EFFECT

Causes an investor to value an owned security higher, often irrationally, than its market value

Implication	Client Type	Questions for Clients	Potential Solutions
<ul style="list-style-type: none"> • Clients are more likely to retain an object that is owned than acquire the same object when it is not owned • Common among inherited portfolio holdings • May lead to inappropriate asset allocation or risk tolerance 	<ul style="list-style-type: none"> • Corporate executives • Retirees • Low risk investors/preservers 	<ul style="list-style-type: none"> • Describe your strategy for managing your assets? • What steps have you taken to reduce the inherent risk of holding a concentrated position? • What is your view of your company stock? • If you didn't work at your current company, how much of the stock would you own in your portfolio? 	<ul style="list-style-type: none"> • Goals-based planning • Rebalance regularly • Long-term focus

STATUS QUO BIAS

When faced with an array of options, investors are predisposed to select options that keeps conditions the same

Implication	Client Type	Questions for Clients	Potential Solutions
<ul style="list-style-type: none"> • Principle of inertia – resistance to change • Common among C-suite executives with company stock • May lead to lack of diversification • May cause clients to avoid rebalancing especially after market gains or declines 	<ul style="list-style-type: none"> • Corporate executives • General/inexperienced investors (e.g. 401ks) 	<ul style="list-style-type: none"> • When was the last time you reviewed your portfolio allocation? Rebalanced your portfolio? • If we chose to work together, how would you define success? • What services do you want or would you expect? • Tell me about the relationship you had with your previous financial professional? • What did they do well, and where did they fall short? 	<ul style="list-style-type: none"> • Rebalance regularly • Investment policy statement • Team decisions/devil's advocate

INTERESTED IN ADDITIONAL EDUCATION TO ENHANCE YOUR PRACTICE?

Visit pimco.com**All investments contain risk and may lose value.**

PIMCO does not provide legal or tax advice. Please consult your tax and/or legal counsel for specific tax or legal questions and concerns. The discussion herein is general in nature and is provided for informational purposes only. There is no guarantee as to its accuracy or completeness. Any tax statements contained herein are not intended or written to be used, and cannot be relied upon or used for the purpose of avoiding penalties imposed by the Internal Revenue Service or state and local tax authorities. Individuals should consult their own legal and tax counsel as to matters discussed herein and before entering into any estate planning, trust, investment, retirement, or insurance arrangement.

This material contains the current opinions of the author and such opinions are subject to change without notice. This material is distributed for informational purposes only and should not be considered as investment advice or a recommendation of any particular security, strategy or investment product. Information contained herein has been obtained from sources believed to be reliable, but not guaranteed.

PIMCO as a general matter provides services to qualified institutions, financial intermediaries and institutional investors. Individual investors should contact their own financial professional to determine the most appropriate investment options for their financial situation. This is not an offer to any person in any jurisdiction where unlawful or unauthorized. | **Pacific Investment Management Company LLC**, 650 Newport Center Drive, Newport Beach, CA 92660 is regulated by the United States Securities and Exchange Commission. | **PIMCO Europe Ltd (Company No. 2604517, 11 Baker Street, London W1U 3AH, United Kingdom)** is authorised and regulated by the Financial Conduct Authority (FCA) (12 Endeavour Square, London E20 1JN) in the UK. The services provided by PIMCO Europe Ltd are not available to retail investors, who should not rely on this communication but contact their financial adviser. Since PIMCO Europe Ltd services and products are provided exclusively to professional clients, the appropriateness of such is always affirmed. | **PIMCO Europe GmbH (Company No. 192083, Seidlstr. 24-24a, 80335 Munich, Germany)**, **PIMCO Europe GmbH Italian Branch (Company No. 10005170963, via Turati nn. 25/27 (angolo via Cavalieri n. 4), 20121 Milano, Italy)**, **PIMCO Europe GmbH Irish Branch (Company No. 909462, 57B Harcourt Street Dublin D02 F721, Ireland)**, **PIMCO Europe GmbH UK Branch (Company No. FC037712, 11 Baker Street, London W1U 3AH, UK)**, **PIMCO Europe GmbH Spanish Branch (N.I.F. W2765338E, Paseo de la Castellana 43, Oficina 05-111, 28046 Madrid, Spain)** and **PIMCO Europe GmbH French Branch (Company No. 918745621 R.C.S. Paris, 50-52 Boulevard Haussmann, 75009 Paris, France)** are authorised and regulated by the German Federal Financial Supervisory Authority (BaFin) (Marie-Curie-Str. 24-28, 60439 Frankfurt am Main) in Germany in accordance with Section 15 of the German Securities Institutions Act (WpIG). The Italian Branch, Irish Branch, UK Branch, Spanish Branch and French Branch are additionally supervised by: (1) Italian Branch: the Commissione Nazionale per le Società e la Borsa (CONSOB) (Giovanni Battista Martini, 3 - 00198 Rome) in accordance with Article 27 of the Italian Consolidated Financial Act; (2) Irish Branch: the Central Bank of Ireland (New Wapping Street, North Wall Quay, Dublin 1 D01 F7X3) in accordance with Regulation 43 of the European Union (Markets in Financial Instruments) Regulations 2017, as amended; (3) UK Branch: the Financial Conduct Authority (FCA) (12 Endeavour Square, London E20 1JN); (4) Spanish Branch: the Comisión Nacional del Mercado de Valores (CNMV) (Edison, 4, 28006 Madrid) in accordance with obligations stipulated in articles 168 and 203 to 224, as well as obligations contained in Title V, Section I of the Law on the Securities Market (LSM) and in articles 111, 114 and 117 of Royal Decree 217/2008, respectively and (5) French Branch: ACPR/Banque de France (4 Place de Budapest, CS 92459, 75436 Paris Cedex 09) in accordance with Art. 35 of Directive 2014/65/EU on markets in financial instruments and under the surveillance of ACPR and AMF. The services provided by PIMCO Europe GmbH are available only to professional clients as defined in Section 67 para. 2 German Securities Trading Act (WpHG). They are not available to individual investors, who should not rely on this communication. According to Art. 56 of Regulation (EU) 565/2017, an investment company is entitled to assume that professional clients possess the necessary knowledge and experience to understand the risks associated with the relevant investment services or transactions. Since PIMCO Europe GmbH services and products are provided exclusively to professional clients, the appropriateness of such is always affirmed. | **PIMCO (Schweiz) GmbH (registered in Switzerland, Company No. CH-020.4.038.582-2, Brandschenkestrasse 41 Zurich 8002, Switzerland)**. According to the Swiss Collective Investment Schemes Act of 23 June 2006 ("CISA"), an investment company is entitled to assume that professional clients possess the necessary knowledge and experience to understand the risks associated with the relevant investment services or transactions. Since PIMCO (Schweiz) GmbH services and products are provided exclusively to professional clients, the appropriateness of such is always affirmed. The services provided by PIMCO (Schweiz) GmbH are not available to retail investors, who should not rely on this communication but contact their financial adviser. | **PIMCO Asia Pte Ltd** (8 Marina View, #30-01, Asia Square Tower 1, Singapore 018960, Registration No. 199804652K) is regulated by the Monetary Authority of Singapore as a holder of a capital markets services licence and an exempt financial adviser. The asset management services and investment products are not available to persons where provision of such services and products is unauthorised. | **PIMCO Asia Limited** (Suite 2201, 22nd Floor, Two International Finance Centre, No. 8 Finance Street, Central, Hong Kong) is licensed by the Securities and Futures Commission for Types 1, 4 and 9 regulated activities under the Securities and Futures Ordinance. PIMCO Asia Limited is registered as a cross-border discretionary investment manager with the Financial Supervisory Commission of Korea (Registration No. 08-02-307). The asset management services and investment products are not available to persons where provision of such services and products is unauthorised. | **PIMCO Investment Management (Shanghai) Limited**. Office address: Suite 7204, Shanghai Tower, 479 Lujiazui Ring Road, Pudong, Shanghai 200120, China (Unified social credit code: 91310115MA1K41MU72) is registered with Asset Management Association of China as Private Fund Manager (Registration No. P1071502, Type: Other). | **PIMCO Australia Pty Ltd** ABN 54 084 280 508, AFSL 246862. This publication has been prepared without taking into account the objectives, financial situation or needs of investors. Before making an investment decision, investors should obtain professional advice and consider whether the information contained herein is appropriate having regard to their objectives, financial situation and needs. To the extent it involves Pacific Investment Management Co LLC (PIMCO LLC) providing financial services to wholesale clients, PIMCO LLC is exempt from the requirement to hold an Australian financial services licence in respect of financial services provided to wholesale clients in Australia. PIMCO LLC is regulated by the Securities and Exchange Commission under US laws, which differ from Australian laws. | **PIMCO Japan Ltd**, Financial Instruments Business Registration Number is Director of Kanto Local Finance Bureau (Financial Instruments Firm) No. 382. PIMCO Japan Ltd is a member of Japan Investment Advisers Association, The Investment Trusts Association, Japan and Type II Financial Instruments Firms Association. All investments contain risk. There is no guarantee that the principal amount of the investment will be preserved, or that a certain return will be realized; the investment could suffer a loss. All profits and losses incur to the investor. The amounts, maximum amounts and calculation methodologies of each type of fee and expense and their total amounts will vary depending on the investment strategy, the status of investment performance, period of management and outstanding balance of assets and thus such fees and expenses cannot be set forth herein. | **PIMCO Taiwan Limited** is an independently operated and managed company. The reference number of business license of the company approved by the competent authority is (112) Jin Guan Tou Gu Xin Zi No. 015. The registered address of the company is 40F., No.68, Sec. 5, Zhongxiao East Rd., Xinyi District, Taipei City 110, Taiwan (R.O.C.), and the telephone number is +886 2 8729-5500. | **PIMCO Canada Corp.** (199 Bay Street, Suite 2050, Commerce Court Station, P.O. Box 363, Toronto, ON, M5L 1G2) services and products may only be available in certain provinces or territories of Canada and only through dealers authorized for that purpose. | **Note to Readers in Colombia:** This document is provided through the representative office of Pacific Investment Management Company LLC located at Carrera 7 No. 71-52 TB Piso 9, Bogota D.C. (Promoción y oferta de los negocios y servicios del mercado de valores por parte de Pacific Investment Management Company LLC, representada en Colombia.). **Note to Readers in Brazil:** PIMCO Latin America Administradora de Cartejas Ltda. Av. Br. Faria Lima, 3477 Itaim Bibi, São Paulo - SP 04538-132 Brazil. **Note to Readers in Argentina:** This document may be provided through the representative office of PIMCO Global Advisors LLC AVENIDA CORRIENTES, 299, Buenos Aires, Argentina. | No part of this publication may be reproduced in any form, or referred to in any other publication, without express written permission. PIMCO is a trademark of Allianz Asset Management of America LLC in the United States and throughout the world. ©2024, PIMCO.

For Investment Professional Use Only - Not for Public Distribution

PAEBSVG_5032486