

P I M C O



PIMCO EDUCATION

# Know Your Own Mind:

WHAT DRIVES  
INVESTMENT DECISIONS

A company of **Allianz** 

# Factoring in the Human Factor

We make decisions all day long. Some are minor, like where to stop for coffee, but others, like where to invest your money, can have significant consequences. Behavioral science tells us that our decision-making process often relies on mental shortcuts (heuristics) and intuition – tools that support us when we are constrained by factors such as time, information, capacity and attention. While these tools can be beneficial, they can also lead to unconscious biases and predictable mistakes.

This booklet is designed to help you understand the behavioral forces influencing your financial decisions and how a professional financial advisor can help you recognize and counter the most common biases and errors, making it easier for you to stay on track towards your investment goals.



## Know your mind...

Understanding your own biases can help you make more rational decisions. The quiz at the end of this booklet will assess your attitude toward risk and reward, which can influence when and why you buy and sell investments.

# What are Heuristics and Biases?

Classical economic theories assume that investors are rational – that we take in all the available information, consider the probable outcomes, and choose the best option. But, behavioral science studies have shown that numerous factors affect our decision-making, often leading us to behave in ways that do not maximize our well-being.

Specifically, heuristics and biases play a central role in judgment and decision-making. Heuristics are mental shortcuts, such as a rule of thumb, an educated guess, or intuitive judgment. While these shortcuts can be beneficial in our fast-paced world, they can give rise to behavioral biases. Biases favor speed and ease at the expense of effort and accuracy, often leading to predictable mistakes.

Read on to learn about some of the most common biases impacting financial decisions and how a professional financial advisor can help you put behavioral guardrails in place to mitigate these biases.

“

**To err is human.**  
One way for humans to make better decisions is to become alert to the most common errors.

**Richard Thaler**

Charles R. Walgreen Distinguished Service Professor of Behavioral Science and Economics at the University of Chicago Booth School of Business and Senior Advisor on Retirement and Behavioral Economics at PIMCO.

2017 recipient of the Nobel Memorial Prize in Economic Sciences for his contributions to Behavioral Economics.

# Making Decisions with Limited Information



Most of us aren't experts at investing -- we don't make financial decisions often and we aren't overly familiar with the sources and data needed to evaluate options. This section covers some of the biases associated with this type of situation, when someone is trying to make decisions too quickly and with insufficient information.



# 1 Anchoring & Adjustment

Anchoring bias is the tendency to rely too heavily on the first piece of information we learn and use it as a reference point for future adjustments.

For example, an investor may let the original price of an investment “anchor” their decision on, whether to hold or sell, ignoring the realities of changing market or company-specific conditions.

Conditions	Final settlement price	
	When the seller made first offer	When the buyer made first offer
No intervention	\$24.8 million	\$19.7 million
Considering alternatives	\$21.5 million	\$21.6 million



Studies<sup>1</sup> on negotiations show that, without interventions, the party who makes the first offer whether it's the buyer or the seller, tends to get a better outcome.

1 Galinsky, A. D., & Mussweiler, T. (2001). First offers as anchors: The role of perspective-taking and negotiator focus. *Journal of Personality and Social Psychology*, 81(4), 657-669.

## A FINANCIAL ADVISOR CAN PROVIDE...

### Perspective:

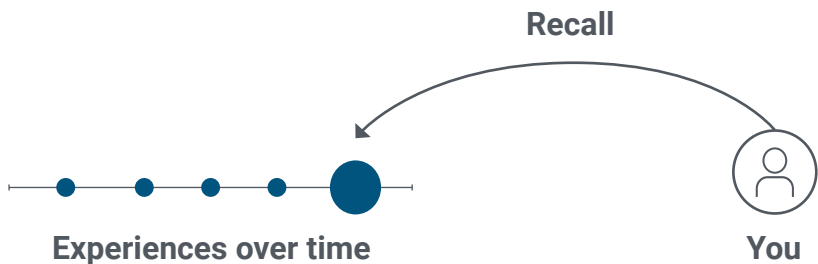


Advisors can help investors look beyond an investment's original price to understand the multiple factors affecting the investment's value, and evaluate the investment based on whether it does, or does not, continue to support the investor's long-term plan.

## 2 Recency

Recency bias occurs when we over-emphasize the importance of the last piece of information we learn.

This bias can lead investors to focus too much on an investment's recent performance, making it appear more or less attractive than it actually is.



## A FINANCIAL ADVISOR CAN PROVIDE...

### Context:

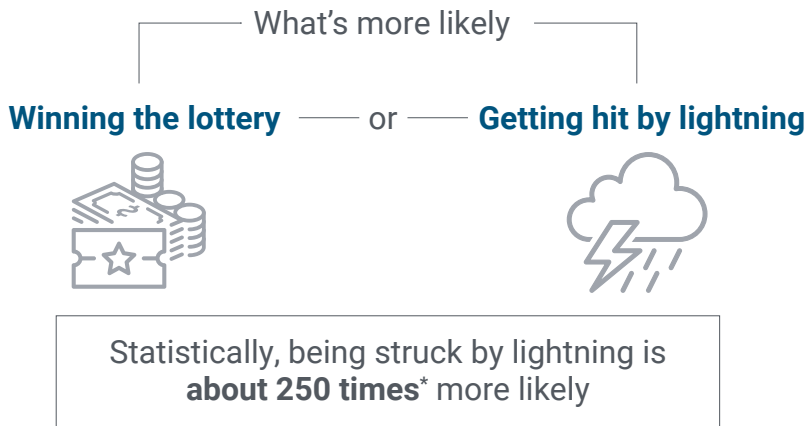


Advisors can provide a more complete view of an investment, presenting and analyzing enough historical data to identify trends and anomalies, and consider how the investment may perform under different market conditions.

### 3 Availability

Availability bias is the tendency to judge the likelihood of an event based on how easily we can recall examples of similar events.

This bias can affect how investors evaluate risk, leading them to under or overestimate an investment's risk based on recent news stories – even when the stories are unrelated to the specific investment.



\*Lotto: 1 in 302.6M Struck by lightning in a given year: 1 in 1.2M  
<https://fortune.com/2023/01/10/1-1-billion-mega-millions-jackpot-odds/>  
<https://www.weather.gov/safety/lightning-odds>

## A FINANCIAL ADVISOR CAN PROVIDE...

### Relevance:



Advisors can help investors filter out unrelated information and provide a more complete picture of the relevant information needed to make an informed investment decision.



## 4 Confirmation

Confirmation bias is when we actively seek out information that aligns with our existing beliefs or preferences.

This bias can lead investors to discount – or even ignore – negative information about a current investment, causing investors to miss a potentially important warning sign or overlook other attractive opportunities.



## A FINANCIAL ADVISOR CAN PROVIDE...

### Objectivity:

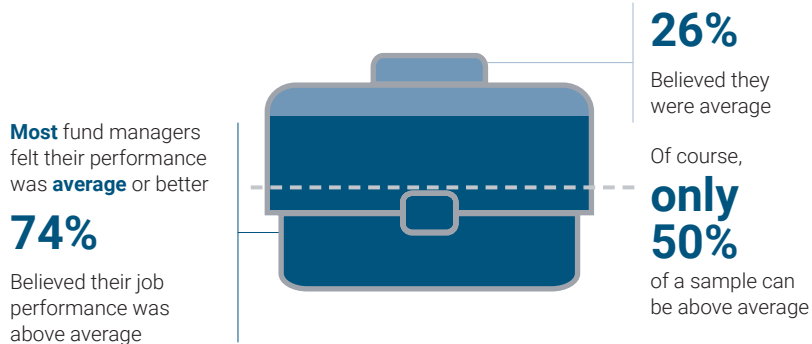


Advisors can help investors access all the available information, without preconceived ideas about how the data will impact decisions.

## 5 Overconfidence

Overconfidence bias is when we overestimate our own abilities, believing that we are smarter or more well informed than we really are.

Overconfident investors tend to assume that familiarity with a topic equates to expertise, empowering them to make hasty or ill-informed investment decisions.



A study<sup>2</sup> of 300 fund managers found that most had overestimated or exaggerated their ability to outperform – a tendency that is common among people in all professions.

2 Montier, J. (2006). Global Equity Strategy: Behaving Badly. SSRN 890563.

## A FINANCIAL ADVISOR CAN PROVIDE...

### Research:



No one knows it all, but a financial advisor has access to professional research and additional support that can help investors make reasoned decisions.

# The Psychology of Choice



Behavioral models can help predict behavior and explain anomalies and inconsistencies by taking a number of factors into consideration: intuition, impulses, emotions, past experiences, and context. For example, Prospect Theory\* is a behavioral model of how people decide between options that involve risk and uncertainty – two common elements present in investment decision-making. This section covers some lessons from Prospect Theory, focusing on the biases that may affect investors' decision-making processes and strategies for more rational evaluation of options.



\*Prospect Theory was developed by researchers Amos Tversky and Daniel Kahneman, who won the Nobel Prize in Economic Sciences for their work.

# 1 Loss Aversion

Loss aversion is the tendency to feel the painful sting of a loss twice as much as the pleasure of the same gain.

This imbalance can drive impulsive reactions to financial risks, leading investors to exit markets during downturns and re-enter after conditions improve. But, despite what our biases attempt to tell us, it is impossible to time the markets.



Take the quiz at the back of this booklet to assess your susceptibility to loss aversion bias.

## A FINANCIAL ADVISOR CAN PROVIDE...

### Temperance:



An advisor can help temper investor's impulses by reminding them of their overall long-term investment goals, rather than focusing too much on any single investment, or one period of market uncertainty.

## 2 Disposition Effect

The disposition effect is when investors are so worried about losses that they sell winners early, locking in profits but missing out on the potential for further gains.

At the same time, investors hold on to assets that are performing poorly to avoid acknowledging a loss. The end result can be a risky portfolio full of losers.



For illustrative purposes only.

## A FINANCIAL ADVISOR CAN PROVIDE...

### Discipline:



An advisor can work with investors to set clear stop-loss and profit-taking guidelines in advance, preventing them from acting reacting to their fear of loss.

## 3 Endowment Effect

The endowment bias inspires investors to disproportionately value an investment they already own.

This means that investors may hold on to losing or inappropriate assets, instead of selling them, because they assign the assets greater value than they should. This focus can also make investors miss out on other, perhaps better, opportunities.



If the endowment bias didn't exist, the price at which people would be willing to buy would be the same at which they would be willing to sell – something that rarely happens. In a classic study<sup>3</sup>, the median selling price for a range of nominal items was more than twice the median buying price.

3 Kahneman, D., Knetsch, J. L., & Thaler, R. H. (1990). Experimental tests of the endowment effect and the Coase theorem. *Journal of Political Economy*, 98 (6), 1325-1348.

## A FINANCIAL ADVISOR CAN PROVIDE...

### Analysis:



An advisor can re-frame how investors evaluate assets – encouraging decisions on buying, selling and holding – that are informed by data rather than personal attachment.

## 4 Present Bias

Present bias is when we prioritize our immediate needs and desires over long-term goals, often neglecting the long-term consequences of our decisions.

For investors, present bias can make it difficult to put aside money for long-term investment goals, such as retirement.



For illustrative purposes only.

## A FINANCIAL ADVISOR CAN PROVIDE...

### Vision:

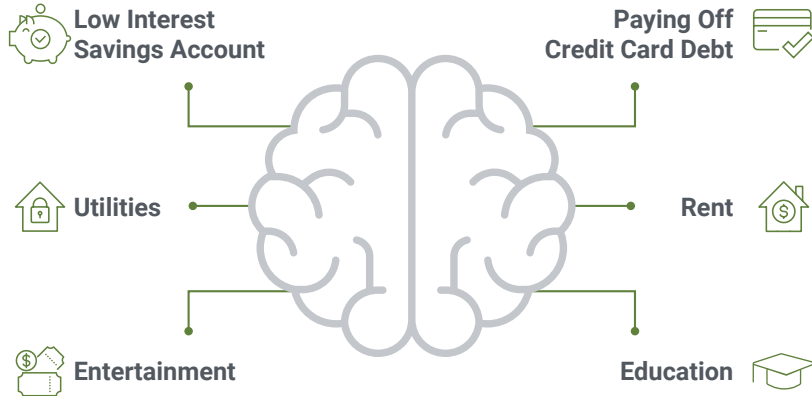


An advisor can help investors plan for their short-, intermediate-, and long-term needs, and setup an automatic investing plan to avoid present bias.

## 5 Mental Accounting

Mental accounting is when we group our assets into different “buckets” and make decisions based on those technically arbitrary classifications.

All money is the same and should be treated the same. But, it’s common for investors to protect cash in low interest savings accounts while neglecting to pay off high interest debt or invest in better returning low risk assets.



## A FINANCIAL ADVISOR CAN PROVIDE...

### Totality:



An advisor can keep investors aware of their total portfolio and its performance relative to their goals, rather than focusing on individual investments or “buckets” of their portfolio.



# Should you take the gamble?

Are you a risk-seeking or risk-averse person? It actually might depend on the situation. Research has found that people tend to be more risk-seeking when facing a potential loss, and more risk-averse when facing a potential gain. This is because the anticipated pain of losing a given amount typically feels worse than the joy of gaining the same amount. As a result, we're very concerned about potential losses, but the urge to avoid those losses tempts us to take unwise risks.

Assessing your susceptibility to the loss aversion bias is a key first step in making more rational decisions.

## TAKE THE LOSS AVERSION QUIZ<sup>4</sup>

These scenarios are designed to help you understand your preferences. In each scenario, please select the option you prefer the most.

4 Mindworks, Roman Family Center for Decision Research at Chicago Booth School of Business Adapted from Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, 47 (2), 263-291.



**YOU HAVE A WINNING TICKET IN A CHARITY RAFFLE WITH A \$1,000 GRAND PRIZE. WHICH OUTCOME WOULD YOU PREFER?**

- A.** A sure win of \$250
- B.** A 25% chance to win \$1,000 and a 75% chance to win \$0

**YOU MADE A BAD INVESTMENT OF \$1,000. WHICH OUTCOME WOULD YOU PREFER?**

- C.** A sure loss of \$750
- D.** A 25% chance to lose \$0 and a 75% chance to lose \$1,000

IF YOU CHOSE **A** AND **D**

<b>A</b> A sure win of \$250	<b>C</b> A sure loss of \$750
<b>B</b> A 25% chance to win \$1,000 and a 75% chance to win \$0	<b>D</b> A 25% chance to lose \$0 and a 75% chance to lose \$1,000

## LOSS AVERSE

This combination demonstrates a high susceptibility to loss aversion bias. Your decision-making was inconsistent: You preferred a guaranteed outcome of \$250 in the first scenario but reversed this preference in the second scenario. You avoided taking the risk for a potentially higher return, but were willing to take more risk when faced with a higher potential loss.

Good news! **You're not alone. About 44% of participants typically show this pattern**, which is more than double any other combination. This is because loss aversion is a heuristic, which means it's a mental shortcut that generally helps us make good decisions. But sometimes, like in this case, it can lead us to make inconsistent choices.

## WHAT IF YOU PICKED A DIFFERENT COMBINATION?

Susceptibility can vary. Most people's decisions are influenced by loss aversion, but their strong preferences override the shortcut. We use mental shortcuts most often when we don't have strong intuitive ideas about what the correct decision should be.

**However, if you know that you almost never like to gamble, then you'll choose A and C—in fact, 21% of people do!**

**Conversely, those more inclined to take risks might opt for options B and D, as about 22% of participants do.**

# How It Works

Look closely and you'll see that the outcomes in each gamble are actually the same — just described differently as “wins” versus “losses.” In both scenarios, you can guarantee that you will end up with \$250 or risk losing it all for a 25% chance of \$1000.

If we behaved consistently, then our choices would show the same preference in both scenarios for either the risky choices or the choices with guaranteed outcomes. Instead, it's common to prefer the sure win, but take our chances when faced with a potential loss.

The way that outcomes are presented influences the choices we ultimately make. To think clearly about risk, try reframing losses in terms of gains (and vice versa) to have a more balanced view of the possible outcomes.

## All investments contain risk and may lose value.

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

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. | **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. | **PIMCO (Schweiz) GmbH (registered in Switzerland, Company No. CH-020.4.038.582-2, Brandschenkestrasse 41 Zurich 8002, Switzerland)**. 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 Carteiras Ltda. Av. Brg. 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.



Roman Family Center  
for Decision Research

PIMCO  
Decision Research Laboratories

## 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.

PBBB\_4093416

CMR2024-0311-3442343

## LEARN MORE ABOUT HOW YOUR MIND WORKS

**Mindworks**, a working lab and an interactive discovery center for behavioral science in downtown Chicago, welcomes visitors to explore its interactive exhibits and take part in engaging, hands-on research studies.

Learn more > <https://www.chicagobooth.edu/mindworks>

Free to the public, Mindworks is operated by the Roman Family Center for Decision Research at the University of Chicago Booth School of Business and is home to the center's PIMCO Decision Research Laboratories.

Photo credit: Tom Rossiter

