Mary “Kit” Mac Nee, CFP®, CRPC ®, CSPG®, AEP®
Financial Advisor

Her expertise is about conditioning your financial life for strength, health and endurance. Kit joined Morgan Stanley Wealth Management as a Financial Advisor in Pasadena, CA in 2013. Prior to joining Morgan Stanley, Kit was with Merrill Lynch Wealth Management for nearly nine years.

On her way to becoming a CERTIFIED FINANCIAL PLANNER™, Kit served a community foundation in Southern California as its Director of Gift Planning. She worked with donors and local charitable organizations to gain philanthropic assets that would provide a legacy of financial resources.

Kit raised three children, all now grown and leading fulfilling lives in different parts of the United States. I love traveling to visit my family, including trips to Detroit, my original hometown. She lives in Santa Monica, California and travels throughout Southern California and the U.S. for public speaking engagements, to support clients and the community organizations she works with. Her volunteer work continues as a executive committee member for the National Association of Estate Planners and Councils and board member of St. Barnabas Senior Services, Los Angeles. Kit is a graduate of the University of Minnesota, Carlson School of Management, earned the Certified Specialist in Planned Giving ® from California State University Long Beach, American Institute of Philanthropy in 2001, became a CERTIFIED FINANCIAL PLANNER™ and Accredited Estate Planner® in 2013.

Morgan Stanley

Behavioral Finance

Which is it Rational & Efficient
or Irrational & Inefficient?

Kit Mac Nee, CFP®CRPC® AEP® CSPG®
Financial Advisor
Morgan Stanley
Thursday, November 19, 2020

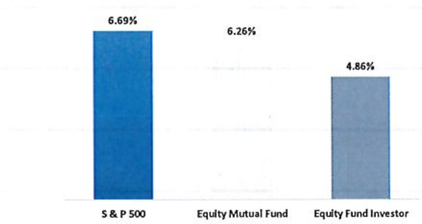
Behavioral Finance

1

Morgan Stanley

Are humans rational?

Average Annualized Returns for 15-year Period ending December 31, 2016



Source: Morningstar Direct SM. Funds used to compute average Investor Returns and Mutual Fund Returns meet the following criteria: 1) Broad Category Group is Equity, 2) Primary Prospectus Benchmark is S&P 500 TR, 3) Morningstar Category is Large Blend, 4) Equity Style Box (Long) is Large Blend, 5) Oldest share class = yes. 56 funds with available data met these criteria. Within this dataset, average Investor Return is 4.86% and average Fund Return is 6.26%.

The S&P 500 Index is a capitalization-weighted index of 500 stocks designed to measure the performance of the broad domestic economy. **Past performance is no guarantee of future results.** All indices are unmanaged and unavailable for direct investment.

Behavioral Finance

2

Morgan Stanley

Behavioral Finance

- Cab drivers stop driving after they reach a certain level of income.
- On rainy days, drivers reach goal quickly & quit early
- On slow days, it takes longer

- Why do they choose to work less when it is easy and work longer hours when it is more difficult? Is this rational?

Behavioral Finance

3

Morgan Stanley

Behavioral Finance

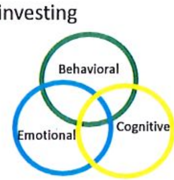
- Supposedly irrelevant factors are in fact highly relevant in predicting behavior – Tversky & Kahneman 1974.
- Liberal Paternalism


4

Morgan Stanley

Topics for Discussion

- Foundations of Behavioral Finance
- Heuristics/Biases
- What does this have to do with investing
- Lessons for Practitioners



5

Morgan Stanley

Traditional Finance

- Human Beings are Rational
  - Investors have all the information
- Efficient Market Hypothesis
  - No trading advantage
  - No arbitrage
  - "The Price is Right"
  - CAPM – only risk is the correlation with the rest of the market (beta)

6

Morgan Stanley

Behavioral Finance

- Finance/economics with reality
- Choice Architecture
- Rational & Irrational
- Inefficient

Behavioral Finance

7

Morgan Stanley

Decision Making Bias

Heuristics
- o Availability
  - o Relies on information that's handy, recent
- o Anchoring
  - o Original reference points/1st piece of information
- o Similarity
  - o Quick judgement
  - o Appearance conforms to reality

Behavioral Finance

8

Morgan Stanley

Heuristics/Mental Shortcuts

Mental Accounting

- Richard Thaler, Cornell University
- Categorize and evaluate economic outcomes, dividing current and future assets into separate groups
- Rationally, all dollars should be fungible
- We treat income and spending in a different way
- Plays a role in "Goals Based Investing"/bucketing

Behavioral Finance

9

Morgan Stanley

Cognitive & Emotional Biases

- Framing
- Narrow Framing
- Loss Aversion
- Myopic Loss Aversion
- Overconfidence
- Optimism Bias
- Endowment Effect
- Confirmation Bias
- Hindsight Bias
- Recency Bias

10

Morgan Stanley

Behavioral Biases

Framing

- One of the strongest biases
- Focus on mental shortcuts
- Deals with
  - Cognitive bias (errors in thinking)
  - emotional biases (distortions caused by feelings)

11

Morgan Stanley

I
AM
BLIND

12

Morgan Stanley

IT IS SPRINGTIME
AND
I AM BLIND

Behavioral Finance

13

Morgan Stanley

Behavioral Biases

Narrow Framing

- Narrow framing consider problems as singular
- Kahneman and Lovallo
- Humans too optimistic about future outcomes – *anchored* on plans rather than results
- Too timid – focus on risks associated with a single action rather than considering risk in the aggregate
- Use intuition shared in large part by how accessible information is, or importantly, how easily that information may come to mind.
- Involves binary thinking, in terms of either/or

Behavioral Finance

14

Morgan Stanley

Behavioral Biases

Loss Aversion

- Kahneman & Tversky found that individuals feel the pain of losses two to 2.5 times more deeply than they feel gains
- The length and severity of those losses matter
- Eric Johnson, Columbia University, older adults evidenced a pain from losses 5 times greater than any pleasure from gains –"Hyper Loss Aversion"

- Source: *Prospect Theory: An analysis of Decision under Risk*, Daniel Kahneman and Amos Tversky, Econometrica, 47(2), pages 263-291, page 273
- March 1979. Hypothetical example for educational purposes only. Not representative of an actual client or transaction.

Behavioral Finance

15

Morgan Stanley

Behavioral Biases

Loss Aversion

Example 1

Award of $100,000 AND

(a) Certain gain of $50,000

OR

(b) Flip a coin in which you have:

H: 50% chance of a *gain* of $100,000

T: 50% chance of gain of $0

Example 2

Award of $200,000 AND

(a) Certain loss of $50,000

OR

(b) Flip a coin in which you have:

H: 50% chance of *loss* of $100,000

T: 50% chance of loss of $0

- Source: *Prospect Theory: An analysis of Decision under Risk*, Daniel Kahneman and Amos Tversky, Econometrica, 47(2), pages 263-291, page 273
- March 1979. Hypothetical example for educational purposes only. Not representative of an actual client or transaction.

Behavioral Finance

16

Morgan Stanley

Behavioral Biases

Myopic Loss Aversion

- Intense pain due to losses
- 1997 study
  - Reviewed 2 portfolios on a monthly basis vs. an annual basis
  - Monthly review lead to 59% bonds and 42% stocks.
  - Annual review lead to 70% stocks and 30% bonds
  - Those with most feedback took less risk

Behavioral Finance

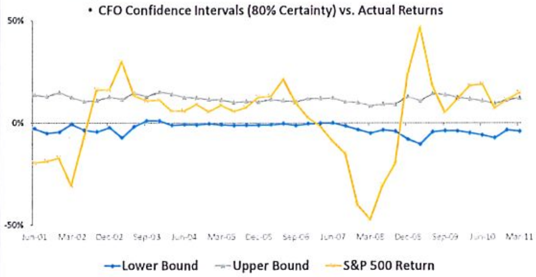
17

Morgan Stanley

Behavioral Biases

Overconfidence

- CFO Confidence Intervals (80% Certainty) vs. Actual Returns



- Source: "Managerial Miscalibration", Itzhak Ben-David, John R. Graham, and Campbell R. Harvey, SSRN working paper.

Behavioral Finance

18

Morgan Stanley

Behavioral Biases

Optimism Bias

Belief that our chances of experiencing a negative event are lower than that of the average person.

1980 study by Neil Weinstein; comes from both cognitive and emotional reasons. Not everyone is above average

- 120 Female College Students
- 93% Above average drivers

Protects our self-esteem

Behavioral Finance

19

Morgan Stanley

Behavioral Biases

Confirmation Bias

- The human tendency to select information or evidence which corroborates what we already believe
- Select the facts which confirm what we already believe and filter our contradictory facts, even if they are extremely relevant
- Research shows that most physicians already have in mind two or more possible diagnoses within minutes of meeting a patient, and that they tend to develop their hunches from very incomplete information, heuristics

Behavioral Finance

20

Morgan Stanley

Behavioral Biases

Endowment Effect

- Tendency to give a greater value to what we already own
- Thaler, Kahneman and Knetsch study
  - Students would not part with mugs at a reasonable price, Asked 3xs more than students that didn't own the mug
  - Boston Condo owners between 1990-97
  - Linked to loss aversion
  - Ownership-relation between people and their stuff
- Linked to Loss Aversion

Behavioral Finance

21

Morgan Stanley

Behavioral Biases

Hindsight Bias

- The belief the event was really inevitable, foregone conclusion
- We knew it all along
- Fail to dig deeper
- Pay less attention to alternative explanations
- Those with greater hindsight bias underestimated volatility & had poorer results

Behavioral Finance

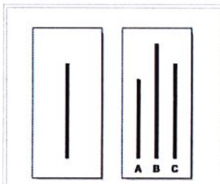
22

Morgan Stanley

Herd Mentality

Asch Experiment of Social Conformity

- 8 group members – 7 control, 1 test
- Members asked which of three lines is the same length as the reference line
- When 7 members purposely give wrong answer, **33% of test members give same wrong answer.**
- Why?
  - Distortion of perception
  - Distortion of judgment
  - Distortion of action



One of the pairs of cards used in the experiment. The card on the left has the reference line and the one on the right shows the three comparison lines.

- Source: S.E. Asch, "Effects of Group Pressure Upon the Modification and Distortion of Judgment," in Harold Guetzkow, 1951.

Behavioral Finance

23

Morgan Stanley

Bubbles Mania Exuberance

- Extreme forecasts based on flimsy data
- Benjamin Graham – Intelligent Investor 1949
  - P/E Ratios
  - 1937 30 stocks of DJIA ranked them based on
  - Formed two portfolios
    - 10 highest P/Es
    - 10 lowest P/Es
  - Cheap stocks outperformed
    - Cheap portfolio $10K into $66,900
    - Expensive portfolio $10 into $23,300
    - Buying the entire portfolio - $44,000

Behavioral Finance

24

Morgan Stanley

Bubbles Mania Exuberance

- Reversion to mean – can't happen
- No such thing as a cheap stock – mispricing
- Overreactions of markets
  - Three year period loser portfolio did better
  - With lower beta (1.03 vs 1.37)
- Robert Shiller – financial markets are too volatile
  - Means the prices are wrong "Stock Prices and & Social Dynamics"
  - Used Keynes term "Animal Spirits"

Misbehaving. The Making of Behavioral Economics, Richard H Thaler, W.W. Norton & Company, NY & London 2015.

Behavioral Finance

25

Morgan Stanley

Law of One Price

- Splitting company up should not raise value
- 3Com and Palm
- Magically worth more separated

EMH: 3Com = Palm + remainder of 3Com

$40/share = Palm + remainder of 3Com (12-13-99)

$100/share = Palm + remainder of 3Com (3-1-2000)

Day of IPO divide into 2 investments

1 share new 3Comm = 1.5 shares Palm + remainder of 3Comm

$82.00 = $143 + (-$61)

Misbehaving. The Making of Behavioral Economics, Richard H Thaler, W.W. Norton & Company, NY & London 2015.

Behavioral Finance

26

Morgan Stanley

Closed End Funds

Benjamin Graham

"an expensive monument erected to the inertia and stupidity of stockholders."

- Market price vs. NAV
- Violates EMH – can't have two prices
- Larry Summer's – Noise Traders
  - SIF = noise
  - News
  - Noise influences asset prices
    - "THERE ARE IDIOTS. Look around"
  - Small firm effect

Misbehaving. The Making of Behavioral Economics, Richard H Thaler, W.W. Norton & Company, NY & London 2015.

Behavioral Finance

27

Morgan Stanley

Conclusions for Financial Markets

- EMH normative benchmark of how the world should be
  - Active money managers don't beat the market
  - Even when all the information is out there, the prices can still be wrong. And stay wrong for a long time.
- Low opinion of the price is Right
  - Price is often wrong
  - Sometimes very wrong
  - Causes for misallocation of resources
  - Example: Housing prices, NASDAQ 2000-2002 decline

Misbehaving, The Making of Behavioral Economics, Richard H Thaler, W.W. Norton & Company, NY & London 2015.

Behavioral Finance

28

Morgan Stanley

Lessons for Practitioners

- Language makes a difference
- Clients have a wide range of biases.
- Biases and Heuristics are not always wrong
- Be aware of our own biases

Behavioral Finance

29

Morgan Stanley

Lessons for Professionals

- Ideas conform to observable reality
- Know what we "don't know"
- Focus on individual goals
- Recognize loss aversion (fear)

"Not ignorance, but ignorance of ignorance is the death of knowledge."

Alfred North Whitehead

Behavioral Finance

30

Morgan Stanley

Lessons for Practitioners

- Educate yourself
  - Seek out information which challenges assumptions
  - Add other alternatives to enrich the process
  - Consider context of past data as well as current circumstances
  - Evaluate this new information fairly and fully

Behavioral Finance

31

Morgan Stanley

Lessons for Practitioners

- Look at the whole picture – business cycle, geopolitical context
- Rely on consistent benchmarks against the goals
- Consider using the "Ulysses Strategy" - a behavioral solution to a bias
- Mental accounting is not always a fool's game.

Behavioral Finance

32

Morgan Stanley

Thank you for your time and attention.

Kit Mac Nee, CFP® CRPC® CSPG® AEP®
Morgan Stanley
310-443-0534
Mary.Mac.Nee@morganstanley.com

Behavioral Finance

33

Morgan Stanley

Disclosures

- Tax laws are complex and subject to change. Morgan Stanley Smith Barney LLC ("Morgan Stanley"), its affiliates and Morgan Stanley Financial Advisors and Private Wealth Advisors do not provide tax or legal advice and are not "fiduciaries" (under ERISA, the Internal Revenue Code or otherwise) with respect to the services or activities described herein except as otherwise provided in writing by Morgan Stanley and/or as described at www.morganstanley.com/disclosures/dol. Individuals are encouraged to consult their tax and legal advisors (a) before establishing a retirement plan or account, and (b) regarding any potential tax, ERISA and related consequences of any investments made under such plan or account.
- Morgan Stanley Smith Barney LLC is a registered Broker/Dealer, Member SIPC, and not a bank. Where appropriate, Morgan Stanley Smith Barney LLC has entered into arrangements with banks and other third parties to assist in offering certain banking related products and services.
- **Investment, insurance and annuity products offered through Morgan Stanley Smith Barney LLC are: NOT FDIC INSURED | MAY LOSE VALUE | NOT BANK GUARANTEED | NOT A BANK DEPOSIT | NOT INSURED BY ANY FEDERAL GOVERNMENT AGENCY**
- Residential mortgage loans/home equity lines of credit are offered by Morgan Stanley Private Bank, National Association, an affiliate of Morgan Stanley Smith Barney LLC. With the exception of the pledged-asset feature, an investment relationship with Morgan Stanley Smith Barney LLC does not have to be established or maintained to obtain the residential mortgage products offered by Morgan Stanley Private Bank, National Association. All residential mortgage loans/home equity lines of credit are subject to the underwriting standards and independent approval of Morgan Stanley Private Bank, National Association. Rates, terms, and programs are subject to change without notice. Residential mortgage loans/home equity lines of credit may not be available in all states; not available in Guam, Puerto Rico and the U.S. Virgin Islands. Other restrictions may apply. The information contained herein should not be construed as a commitment to lend. Morgan Stanley Private Bank, National Association is an Equal Housing Lender and Member FDIC that is primarily regulated by the Office of the Comptroller of the Currency. Nationwide Mortgage Licensing System Unique Identifier #663185. **The proceeds from a residential mortgage loan (including draws and advances from a home equity line of credit) are not permitted to be used to purchase, trade, or carry eligible margin stock; repay margin debt that was used to purchase, trade, or carry margin stock; or to make payments on any amounts owed under the note, loan agreement, or loan security agreement; and cannot be deposited into a Morgan Stanley Smith Barney LLC or other brokerage account.**
- Tailored Lending is a loan/line of credit product offered by Morgan Stanley Private Bank, National Association, an affiliate of Morgan Stanley Smith Barney LLC. A Tailored Lending credit facility may be a committed or demand loan/line of credit. All Tailored Lending loans/lines of credit are subject to the underwriting standards and independent approval of Morgan Stanley Private Bank, National Association. Tailored Lending loans/lines of credit may not be available in all locations. Rates, terms, and programs are subject to change without notice. Other restrictions may apply. The information contained herein should not be construed as a commitment to lend. Morgan Stanley Private Bank, National Association is a Member FDIC that is primarily regulated by the Office of the Comptroller of the Currency. **The proceeds from a Tailored Lending loan/line of credit (including draws and other advances) may not be used to purchase, trade, or carry margin stock; repay margin debt that was used to purchase, trade, or carry margin stock; and cannot be deposited into a Morgan Stanley Smith Barney LLC or other brokerage account.**
- **Securities based loans are provided by Morgan Stanley Smith Barney LLC, Morgan Stanley Private Bank, National Association or Morgan Stanley Bank, N.A., as applicable.**
- **Important Risk Information for Securities Based Lending:** You need to understand that: (1) Sufficient collateral must be maintained to support your loan(s) and to take future advances; (2) You may have to deposit additional cash or eligible securities on short notice; (3) Some or all of your securities may be sold without prior notice in order to maintain account equity at required maintenance levels. You will not be entitled to choose the securities that will be sold. These actions may interrupt your long term investment strategy and may result in adverse tax consequences or in additional fees being assessed; (4) Morgan Stanley Bank, N.A., Morgan Stanley Private Bank, National Association or Morgan Stanley Smith Barney LLC (collectively referred to as "Morgan Stanley") reserves the right not to fund any advance request due to insufficient collateral or for any other reason except for any portion of a securities based loan that is identified as a committed facility; (5) Morgan Stanley reserves the right to increase your collateral maintenance requirements at any time without notice; and (6) Morgan Stanley reserves the right to call securities based loans at any time and for any reason.

34

Morgan Stanley

Disclosures (Cont'd)

- The Morgan Stanley Credit Card from American Express or the Platinum Card® from American Express exclusively for Morgan Stanley is only available for clients who have an eligible Morgan Stanley Smith Barney LLC brokerage account ("eligible account"). Eligible account means a Morgan Stanley Smith Barney LLC brokerage account held in your name or in the name of a revocable trust where the client is the grantor and trustee, except for the following accounts: Charitable Remainder Annuity Trusts, Charitable Remainder Unitrusts, irrevocable trusts and employer-sponsored accounts. Eligibility is subject to change. American Express may cancel your Card Account and participation in this program, if you do not maintain an eligible account. Morgan Stanley Smith Barney LLC may compensate your Financial Advisor and other employees in connection with your acquisition or use of either the Morgan Stanley Credit Card from American Express or the Platinum Card® from American Express exclusively for Morgan Stanley.
- The Morgan Stanley Cards from American Express are issued by American Express Bank, FSB, not Morgan Stanley Smith Barney LLC. Services and rewards for the Cards are provided by Morgan Stanley Smith Barney LLC, American Express or other third parties. Restrictions and other limitations apply. See the terms and conditions for the Cards for details. Clients are urged to review fully before applying.
- The lending products referenced are separate and distinct, and are not connected in any way. The ability to qualify for one product is not connected to an individual's eligibility for another.
- The Morgan Stanley Debit Card is currently issued by UMB Bank, N.A., pursuant to a license from MasterCard International Incorporated. MasterCard and Maestro are registered trademarks of MasterCard International Incorporated. The third-party trademarks and service marks contained herein are the property of their respective owners.
- Reserved clients are eligible for unlimited ATM fee rebates and Non-Reserved clients are eligible for up to $200 in ATM fee rebates per calendar year. The $200 per calendar year cap does not apply to Premier Cash Management Accounts.
- The Morgan Stanley Mobile App is currently available for iPhone® and iPad® from the App StoreSM and AndroidTM on Google PlayTM. Standard messaging and data rates from your provider may apply.
- Premier Cash Management is an incentive program that recognizes and rewards clients for choosing Morgan Stanley for their everyday cash management needs. Clients must meet certain criteria in order to qualify for the Premier Cash Management program, and Morgan Stanley Smith Barney LLC reserves the right to change or terminate the program at any time and without notice. Where appropriate, Morgan Stanley Smith Barney LLC has entered into arrangements with affiliated and non-affiliated parties to assist in offering certain products and services related to Premier Cash Management. Please refer to the Premier Cash Management Terms and Conditions for further details.
- Send Money with Zelle is available on the Morgan Stanley Mobile App for iPhone and Android. Enrollment is required and dollar and frequency limits may apply. Domestic fund transfers must be made from an eligible account at Morgan Stanley Smith Barney LLC (Morgan Stanley) to a US-based account at another financial institution. Morgan Stanley maintains arrangements with JP Morgan Chase Bank, N.A. and UMB Bank, N.A. as NACHA-participating depository financial institutions for the processing of transfers on Zelle. Data connection required, and message and data rates may apply, including those from your communications service provider. See the Morgan Stanley Send Money with Zelle terms for details. Zelle and the Zelle related marks are wholly owned by Early Warning Services, LLC and are used herein under license. Morgan Stanley is not affiliated with Zelle. Zelle is available to U.S. bank account holders only. Transactions typically occur within minutes.
- To understand the differences between brokerage and advisory relationships, you should consult your Financial Advisor, or review our Understanding Your Brokerage and Investment Advisory Relationships brochure available at http://www.morganstanley.com/ourcommitment/
- Insurance products are offered in conjunction with Morgan Stanley Smith Barney LLC's licensed insurance agency affiliates.
- Morgan Stanley Smith Barney LLC does not accept appointments nor will it act as a trustee but it will provide access to trust services through an appropriate third-party corporate trustee.
- Although they may be admitted attorneys, planning directors and other wealth planning center personnel holding legal degrees are acting purely in a non-representative capacity. Neither they nor Morgan Stanley provide tax or legal advice to clients or to Morgan Stanley.
- The Morgan Stanley Global Impact Funding Trust, Inc. ("MS GIFT, Inc.") is an organization described in Section 501(c) (3) of the Internal Revenue Code of 1986, as amended. MS Global Impact Funding Trust ("MS GIFT") is a donor advised fund. Morgan Stanley Smith Barney LLC provides investment management and administrative services to MS GIFT.

CRC 203402 9/18

35