Level III

Behavioral Finance and Investment Processes

2020 Exam

Contents

1. Introduction

- Behavioral finance challenges assumption that individuals act rationally
- Investor classification based on behavioral characteristics
- Behavioral factors impact…
  – Adviser-client relationships
  – Portfolio construction
  – Committee decision making
  – Market behavior

2. The Uses and Limitations of Classifying Investors into Types

Psychographic Profile → Behavior

Confident

Exhibit 1

BB&K Model

Bailard, Biehl and Kieser

Careful

Straight Arrow

Impetuous

Anxious

Exercise: draw model and identify where you fit ☺

Exhibit 2

- Adventurer

- Celebrity

Exhibit 2

- Individualist
- Guardian
- Straight Arrow

Behavioral Alpha Approach

A top-down approach to bias-identification

1. Interview client
   a. Indentify active or passive traits — Read the 9 questions
   b. Determine risk tolerance

2. Plot investor on active/passive scale and risk tolerance scale — Exhibit 3

3. Test for behavioral biases — Exhibit 4

4. Classify investor into a behavioral investment type

Exhibit 4: Biases Associated with Each Behavioral Investor Type

General Type	Passive	Active
Risk Tolerance	Low	High
Investment Style		
Bias Type		
BIT		
Emotional Biases		
Cognitive Biases		

Exhibit 5: Behavioral Investor Type Diagnostic Process

Passive Preserver (PP)

Emphasis on financial security and preserving wealth

Focus on taking care of future generations

Some are ‘worriers’ → slow to change

What are the common biases?

Advising PPs:

Difficult to advise because they are driven by emotion

Focus on what money will accomplish

Friendly Follower (FF)

Want to be in latest most popular investments

Often overestimate risk tolerance

What are the common biases?

Advising FFs:

Mainly cognitive biases hence education is effective

Encourage FFs to understand implications of investment options

Independent Individualist (II)

Strong willed, Independent

Enjoy investing

What are the biases?

Advising IIs:

Listen to advise when presented in a way that respects their intelligence

Regular educational sessions

Active Accumulator (AA)

Most aggressive behavioral investor type

Entrepreneurial , quick decision makers

High portfolio turnover

What are the biases?

Hands-on

Advising AAs:

Advisers need to prove to client that they have ability to make wise, objective and long term decisions

2.2 Limitations of Classifying Investors

1. Exhibit both cognitive and emotional biases

2. Exhibit characteristics of multiple investor types

3. Behavioral changes

4. Unique treatment

5. Irrational and unpredictable

3. How Behavioral Factors Affect Client-Adviser Relations

Aspect of Client-Adviser Relationship	Behavioral Considerations
Formulating Financial Goals	
Maintaining a Consistent Approach	
Investing as the Client Expects	
Ensuring Mutual Benefits	

Limitations of Traditional Risk Tolerance Questionnaires

Generally firms require advisers to use a standard tolerance questionnaire

Recognize that these questionnaires have limitations:

Ignore behavioral biases

How are questions framed

How are questions interpreted

4. How Behavioral Factors Affect Portfolio Construction

Inertia and Default

Response: Target Date Fund **Read Example 1**

Naïve Diversification

Simple heuristics

Framing bias

1/n diversification

Company Stock: Investing in the Familiar

Familiarity and overconfidence effects

Naïve extrapolation of past returns

Framing and status quo effect of matching contributions

Loyalty effects

Financial incentives

Excessive Trading

Home Bias

Behavioral Portfolio Theory

5. Behavioral Finance and Analyst Forecasts

Overconfidence in Forecasting Skills

Illusion of knowledge bias

Self attribution bias

Representativeness

Availability bias

Hindsight bias

Example 2

Remedial Actions:

Prompt and accurate feedback

Structure that rewards accuracy

Learn to use Bayes' Formula… properly

Example 3

Influence of Company's Management on Analysis

What information is presented

How is the information presented

→ External Analysts

Faming Bias (see Exhibit 9)

Anchoring and Adjustment Bias → Analysis influence by initial default position or anchor

Availability Bias → Greater importance to more easily available information

Remedial Action: Disciplined and Systematic Approach

Analyst Biases in Conducting Research

Excessive unstructured information → **Illusion of knowledge** → **Overconfidence**

↓

Representativeness Bias: Analyst estimates probability of forecast based on how much outcome resembles available data

Confirmation Bias

Gamblers' Fallacy: analysts wrongly project reversal to mean in a give time period

Example 4

"stock market will decline in the near future and then rise…" **Conjunction fallacy**

Fact: probability of two independent happening is always less than probability of either event

Remedial Actions for Analyst Biases in Conducting Research

Focus on objective data

Systematic and structured approach

Follow Standard V: Investments Analysis, Recommendations and Actions

Seek contrary facts and opinions

Prompt feedback

Documentation and record retention

6. How Behavioral Factors Affect Committee Decision Making

Social Proof Bias: Individuals biased to follow beliefs of a group

Group decision → **Overconfidence Bias**

Investment Committee Dynamics

What happens to nail that sticks out?

Committees do not learn from experience

Solution

Diversity in skills, experience and culture

Respect for different views

Collect individual views before meeting

7. How Behavioral Finance Influences Market Behavior

Markets are generally efficient but behavioral biases can lead to market anomalies

7.1 Defining Market Anomalies

7.2 Momentum

7.3 Bubbles and Crashes

7.4 Value and Growth

7.1 Defining Market Anomalies

Anomalies are apparent deviations from efficient market hypothesis

Possible explanations

- Shortcoming of underlying asset pricing model
- Small sample
- Survivorship bias
- Data mining bias
- Temporary disequilibrium behavior

7.2 Momentum

Momentum or trending effect: future price behavior correlates with recent past behavior
Correlation is positive in the short-term (one-two years)
Negative in long-term (two-five years)

Herding

Anchoring to purchase price → Short-term under-reaction

Availability bias → Recency effect

Hindsight bias → Regret → Trend-chasing effect

Loss aversion → Hold on to losers longer than necessary → Disposition effect

7.3 Bubbles and Crashes

Definition: Periods of unusual positive or negative asset returns

Bubble

Technology bubble of 1999-2000   Residential property boom of 2005-2007

“Irrational Exuberance”

Rational and behavioral finance explanations for asset bubbles (Read Exhibit 12)

Overconfidence → Overtrading, under-estimation of risk ← Confirmation and Self Attribution Bias

Illusion of Knowledge

Crash

As bubble unwinds → Disposition effect → Initial under-reaction followed by capitulation

7.4 Value and Growth

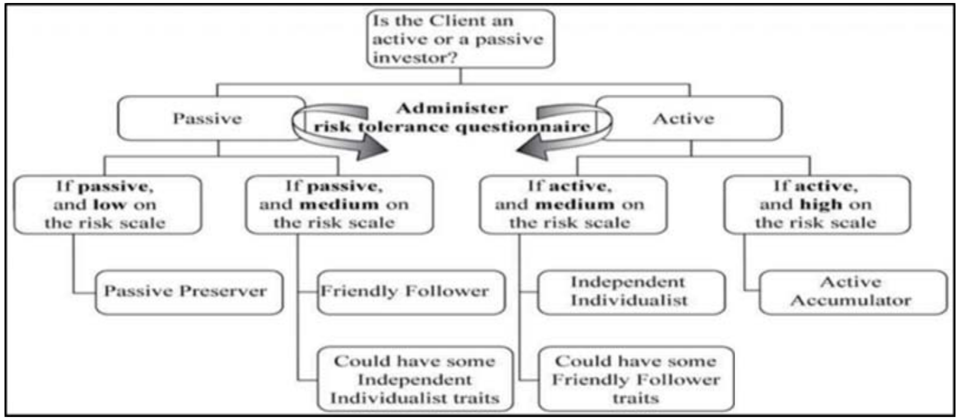
Value stocks outperform growth stocks over long periods

Summary 1/3

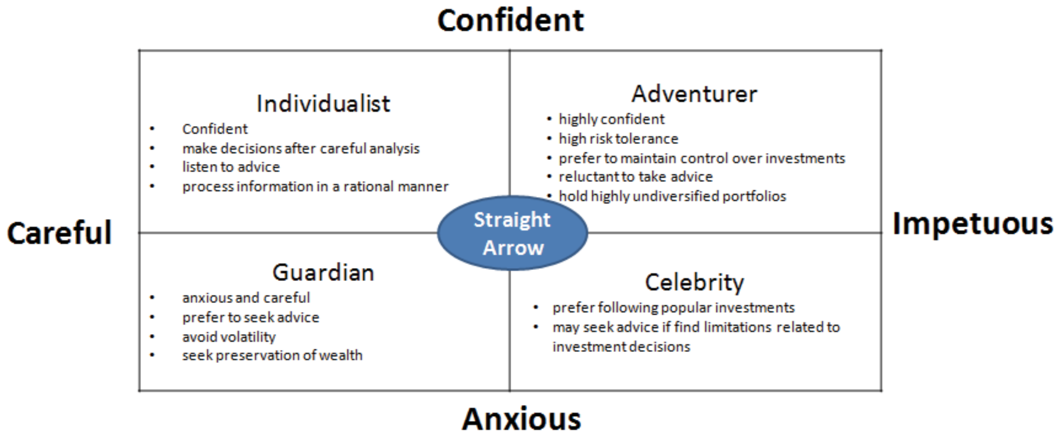
Uses of classifying investors into personality types:

- Investors can be classified by their psychographic profile i.e. behavior, personality, attitudes and interests.

According to Barnewall, there are two types of investors: active and passive as follows.



The Ballad, Biehl, and Kaiser (BBK) model plots investors along two axes, confident-anxious and careful-impetuous



Limitations of Classifying Investors: An individual may:

- exhibit both cognitive and emotional biases at the same time.
- reflect characteristics of multiple investor types.
- exhibit changing behavior over time.
- need unique treatment.
- act irrationally and in an unpredictable manner.

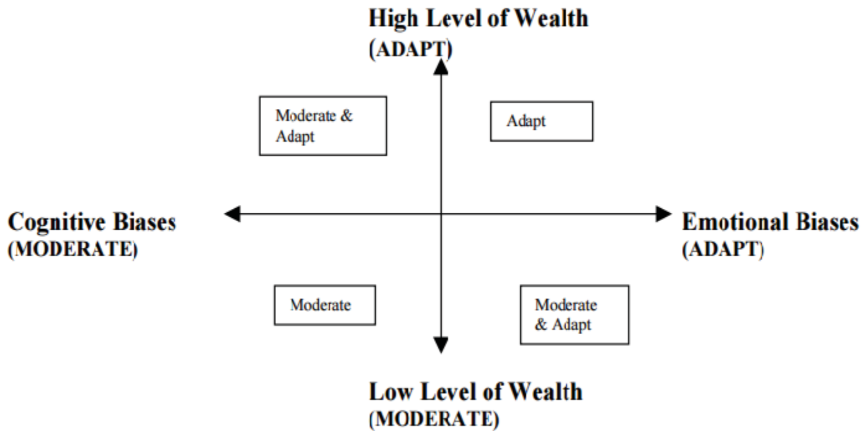
Understanding client's behavioral tendencies allows advisors to:

- better formulate financial goals.
- better understand the client before delivering any investment advice.
- formulate an appropriate asset allocation for the client.
- develop a stronger bond by satisfying clients.

Summary 2/3

Behavioral Factors/Biases	Impact on Portfolio Construction
Status quo bias	Sticking with default portfolio allocation despite changes in risk tolerance level or other circumstances.
Regret aversion and framing biases	Naïve diversification or 1/n strategy: allocating an equal amount of money to available investment options regardless of the different risk profiles of these options.
Overconfidence, representativeness & availability, status-quo, framing, endowment biases	Investing in the familiar: a classic example is being overweight in own-company stock.
Regret aversion, overconfidence, and disposition effect (loss aversion) biases	Excessive trading which results in high transaction costs and poor portfolio performance.
Availability, illusion of control, endowment, familiarity, and status quo biases	Investors invest a relatively high portion of their funds in domestic stocks. Home bias.

- Rather than recommending a portfolio that maximizes expected return for a given level of risk, advisors should recommend an asset allocation that best suits the client's natural psychological & behavioral preferences (Recall "***Behaviorally modified asset allocation***"). The decision whether to moderate or adapt to a client's behavioral biases during the asset allocation process depends fundamentally on 2 factors, i) client's level of wealth and ii) type of behavioral bias the client exhibits.



Summary 3/3

Social proof bias: Individuals biased to follow beliefs of a group.

<u>Implications:</u>

- Group members become overconfident among themselves leading to excessive risk exposure.
- Group decisions are more vulnerable to confirmation bias.
- Group member avoids divergent opinions to avoid unpleasant tensions within a group.

<u>Remedial Actions</u>

- Individual views should be collected before the meeting.
- Committee composition should have diversity in culture, knowledge, skills, experience and thought processes.
- Chair of the committee should be impartial.
- Committee members should respect opinions of each other.
- At least one member of a group should play a role of "devil's advocate".

Behavioral Factors	Biases	Remedial Actions
Overconfidence in forecasting skills	Overconfidence (encouraged by complex models), representativeness, availability, hindsight	Prompt and accurate feedback, structure that rewards accuracy, learn to use Bayes' formula
Influence of company's management on analysis	Framing, anchoring and adjustment (analysis influenced by initial default position or anchor), availability (greater importance to more easily available information)	Disciplined and systematic approach
Analyst biases in conducting research	Excessive unstructured information → illusion of knowledge → overconfidence Excessive information feeds representativeness bias (classify new information based on past experiences) Confirmation bias	Focus on objective data, systematic and structured approach, follow Standard V, seek contrary facts and opinions

Observed Market Behavior	Behavioral Explanation
Momentum or trending effect	Herding behaviour Availability bias: more recent events easily recalled and given relatively high weight (recency effect) Hindsight bias → regret → trend-chasing effect
Bubbles	Overconfidence bias (illusion of knowledge and self attribution) leads to underestimation of risk and over-trading
Crashes	Disposition effect in the context of loss aversion bias: tendency to sell winners quickly and hold on to losers too long
Value stocks outperform growth stocks in the long-run	Halo effect: tendency of people to generalize positive views/beliefs about one characteristic of a product/person to another characteristic; related to representativeness bias refers to classifying new information based on past experiences