Portfolio
Construction
Forum

Backgrounder: Finology

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PREFACE

> "Finology knowledge and skills enable us all to better understand how our own preferences, biases and perspectives influence our portfolio construction philosophy and practices – and to better uncover and understand the preferences, needs and objectives of individual investors to help them achieve their goals. It's where investing meets investors."
> - Portfolio Construction Forum[1]

Successful portfolio construction practitioners use their experience and people skills to build strong, meaningful client relationships. All of us, through our professional and social interactions, build up a set of "rules of thumb" to understand how people behave in different situations. As a result, much of Finology may seem like common sense. But that misses the point. Finology is important because it allows us to formalise and systematise our rules of thumb, providing a broad structural framework for our already developed understanding of human nature – so that we may identify the "why", as well as the "how". Attaining this deeper level of comprehension is crucial, given the ever-changing nature of portfolio construction and the growing regulatory oversight of financial advice.

It should be noted that Finology is an emerging field, and that the related research and academic literature is evolving. The aim of this Backgrounder is therefore to summarise some of the key concepts, and to outline how these ideas may be applied to managing client portfolios, and to financial planning more broadly. It does not attempt to extend the current research.

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We trust this Backgrounder enhances your understanding of the emerging field of Finology. We believe that Finology knowledge and skills will substantially enhance your ability to communicate with clients, and to manage their portfolios more effectively.

Graham Rich
Managing Partner & Dean, Portfolio Construction Forum

INTRODUCTION

Financial literacy studies show that people often struggle with financial concepts, including relatively simple ideas such as interest rates.[2] Portfolio construction practitioners therefore face a daunting task, as they seek to guide clients through the decisions required to achieve financial wellbeing. To reach successful outcomes for their clients, practitioners may need to play several roles, including those of investment specialist, legal expert, software expert, salesperson and counsellor.

Yet initial and ongoing practitioner education typically focuses on developing technical skills in the fields of investment, portfolio construction, tax planning, social security and superannuation. Little time is spent building the softer skills needed to do the job well – such as persuading clients to hold higher risk/return assets, increase their contributions, or to remain invested during volatile market conditions. Practitioners may only achieve such outcomes with an understanding of clients' motivations, their relationships with money, their personalities and their biases.

1.1 What is Finology?

The term "Finology" was coined by the late Richard Wagner, former head of the US-based Institute of Certified Financial Planners (now the Financial Planning Association), and founder of WorthLiving, a consultancy located in Denver, Colorado. Wagner argued that, while people are surrounded by money in their daily lives, they have little understanding of their relationships with money. By developing Finology as a concept, Wagner sought to encourage research and education in this area.

Shortly before his death, Wagner published a book in 2017 which set out his approach. In it, he proposed that money should be considered from the perspectives of individuals and families – rather than in terms of macroeconomics and investment theory.[3]

The book defined finology as:

- The study of human value exchange;
- The study of money and human value exchange;
- The study of the relationships between human beings and money;
- The study of minds, brains, customs and behaviours with respect to money and the money forces;
- The study of money and the forces it generates; and,
- The theories or systems of finology.

1.2 Portfolio Construction Forum's focus on Finology

Portfolio Construction Forum believes that, in our society, it is crucial that individuals have a clear perspective about money, and the role that it plays in their present and future wellbeing. But money means different things to different people. People also have different perspectives on money, based on their experiences. Finology skills enable portfolio construction practitioners to understand how their own preferences, biases and perspectives influence their philosophy and behaviour in constructing portfolios, as well as the preferences, needs and objectives of clients, and to communicate more effectively.

Without developing Finology skills, practitioners risk undermining their ability to deliver financial wellbeing to individuals. In short, Finology is about reconnecting people with money, which enhances portfolio construction implementation.

In accordance with this belief, Finology forms one of the five Knowledge Domains which inform the content of Portfolio Construction Forum's continuing education and certification programs. The Forum's focus on Finology is as it relates to investment portfolio construction, and incorporates the relationships between people and money, behavioural economics, and behaviour change.

1.3 Aim and scope of this Backgrounder

This Backgrounder seeks to foster greater understanding and interest in the field of Finology, and is structured to reflect Portfolio Construction Forum's main areas of focus: the relationships between people and money; behavioural economics; and, behaviour change.

It begins with a discussion of personality type theory, to show the evolution of this body of knowledge. Current best models of personality were developed in the 1960s, and behavioural finance emerged in the late 1970s. However, it was not until the 1980s that these fields were sufficiently established, for the ideas to be applied within finance and investment. Indeed, many Finology concepts have only been developed during the past 20 years.

Further, little of the available research has been applied to the giving of financial advice, and this Backgrounder does not seek to develop the concepts introduced here – this should be the focus of ongoing research and discussion.

Rather, this Backgrounder introduces established and well-researched ideas that are central to Finology, and outlines some of their applications, while seeking to avoid the pop psychology[4] that often infiltrates this area.

PERSONALITY TYPES

Most people have completed a Myers Briggs personality assessment at some point. For many people, this is as far as their knowledge of personality research goes. However, the Myers Briggs test does not represent the latest thinking in personality research. In fact, psychology still does not have a conclusive definition for personality. Personality may refer to a set of characteristics which influences emotions and behaviours, or to a pattern of thought and behaviours which influences values and attitudes. It can predict reactions to various people, problems or risks.

2.1 The 'big five' of personality

The most widely recognised theory of personality is the Five Factor Theory (or Big Five), which originated in the 1960s, but which became increasingly accepted as the standard personality model in the early 1980s.[5] [6] It has slowly usurped the Myers Briggs indicators (which can be tracked to the five factors), as the dominant theory of personality.[7]

The five factors[8] are:

1. Extraversion;
2. Agreeableness;
3. Conscientiousness;
4. Neuroticism; and,
5. Openness to experience/intellect.[9]

Research shows that these factors tend to become more stable and enduring – or change at a slower rate – from about the age of 30.[10] This does not mean that personality is completely stable – humans show increased self-confidence, warmth, self-

control and emotional stability over time, particularly between the ages of 20 and 40.[11] However, from the age of 50, people are generally stable.[12]

2.2. Personality and risk taking

Left to their own devices, people usually take risks which are consistent with their personality traits, to achieve goals. As a general rule, people with high levels of extraversion and openness[13] tend to take on more financial risk. People with higher levels of the other three factors – neuroticism, agreeableness and conscientiousness – tend to be more risk averse.[14] [15]

But there is more subtlety around this. Openness is associated with risk-taking to achieve gains. However, openness is not linked to overconfidence.[16] People who are high in this trait seek to learn, and become confident when they are knowledgeable. Openness can be described as a tolerance of uncertainty. Extraverts, on the other hand, are more likely to be overconfident.[17]

Those high in conscientiousness – a desire for achievement under conditions of conformity and control – can be expected to be low risk-takers. People with high conscientiousness pursue benefits through disciplined striving or saving, rather than risk-taking. This strategy seems to work well – couples with high conscientiousness have higher levels of wealth, similar to the effects of higher mathematical ability and education.

Those high in conscientiousness and openness also tend to be more short term in their investment horizons.[18]

People who are happier to take on risk are generally more resilient and tend to score lower in neuroticism. Those with high scores in neuroticism (which can also be thought of as emotional sensitivity) tend to want diversification and prefer to take on only systematic risk.[19] People high in this trait also prefer to take on risk to protect against loss, as opposed to gain. That is, they will pick a chance of loss against a sure loss.

Couples high in agreeableness tend to have lower wealth. One characteristic of agreeableness is soft-heartedness", and this trait may work against saving.[20]

Investors who score highly in agreeableness, neuroticism or openness are more disposed to the herding effect – buying high and selling low.[21]

3. BEHAVIOURAL FINANCE

> "The brain is designed with blind spots, and one of its cleverest tricks is to confer on us the comforting delusion that we, personally, do not have any... the inescapable conviction that we perceive objects and events clearly, "as they really are". We assume that other reasonable people see things the same way we do. If they disagree with us, they obviously aren't seeing clearly. Naïve realism creates a logical labyrinth because it presupposes two things. One, people who are open-minded and fair ought to agree with a reasonable opinion. And two, any opinion I hold must be reasonable, if it weren't, I wouldn't hold it. Therefore, if I can just get my opponents to sit down here and listen to me, so I can tell them how things really are, they will agree with me. And if they don't, it must be because they are

biased."
- Excerpt from Mistakes Were Made (But Not By Me)[22]

Classic finance revolves around the idea that investors are rational, leading to a mean variance investment framework. But people are irrational. They have biases and make mistakes, often in a systematic way. This is the focus of the field of behavioural finance.[23]

3.1 Prospect theory

Prospect theory represents the most successful melding of psychology and finance in the modern era. The seminal paper on the topic was published by Daniel Kahneman and Amos Tversky in 1979[24] and won Kahneman a half-share of the 2002 Nobel Prize in economics (Tversky died in 1996). Simply put, Kahneman and Tversky showed that human beings are not rational when faced with decisions of risk and return. In fact, people act irrationally in consistent ways.

Instead of thinking about wealth in absolute terms, people consider gains and losses in a relative sense. For example, if a man becomes richer than his neighbour, this is more valuable to him than both of them becoming wealthier. Kahneman and Tversky would say that keeping up with the Joneses – in fact, beating the Joneses – is not a personality flaw. It is hardwired into us.[25]

In addition, people are willing to give up potential gains in order to achieve certainty. Kahneman and Tversky showed that people attach greater importance to losses than gains – for example, losing $100 is more painful than the happiness gained from winning $100. This is known as loss aversion.

Further, people respond differently depending on how decisions are framed, even if the choice is in reality the same.[26] This is known as the framing effect.

The Framing Effect and Loss Aversion – an example
You are given $50. You have two choices:
1. Keep $20
2. Flip a coin. Heads, you keep the $50. Tails you keep nothing.
Most people choose option one.

What about this choice? You are given $50 and your choices are:
1. Give up $30
2. Gamble with a 50:50 chance of keeping the whole $50.
Most people choose option two. Yet this choice is the same as the previous bet. When the alternative is framed in the context of a loss, people are more likely to gamble.

There are many such cognitive biases.[27] Some take the form of emotional or moral motivations, such as loss aversion, while others are heuristics – mental short cuts or rules. Some are more relevant to investing than others.[28] Importantly, many of these cognitive biases adversely affect investor behaviour, if left unchecked.

For example, investors who manage their own portfolios are generally under-diversified, and hold significant overweight positions in equities. They typically hold about four stocks, which are highly correlated to the broader market, and tend to prefer local and familiar names. In addition, they often have more than a home country bias – they even display a city bias.[29] They also have a preference for the company or industry in which they work.

Further, investors are more likely to hold stocks which have received greater press coverage.

Many investors additionally display a disposition effect – that is, they systematically sell winning stocks, while retaining loss-making positions.[30]

There are also well documented gender differences. Male investors are overconfident, relative to their female counterparts, and trade 45% more. The extra loss from this trading activity is estimated at 1% per annum.[31] [32]

3.2 Mental accounting

Investors also suffer the effects of mental accounting – a phenomenon identified in 1980 by Richard Thaler, winner of the 2017 Nobel Prize in economics. Mental accounting describes the process by which people save money in a bank account or term deposit, while simultaneously making purchases with a high-interest loan. This occurs because people think of money as being in accounts.[33]

To use this bias to a client's advantage, separate accounts or portfolios may be set up for individual goals. This approach is particularly useful for people who have difficulty exercising self-control (in personality terms, those people who are low in conscientiousness).

4. RELATIONSHIPS WITH MONEY

By understanding the relationships between people and money, practitioners may improve the effectiveness of their interactions with clients. Attitudes towards money are partly genetic and partly learned, so early environment is influential. Unfortunately, there is a lack of research that is directly applicable to the giving of financial advice – this is an area ripe for more work.

Sigmund Freud, the father of psychoanalysis, suggested that people subconsciously equate money to faeces. Some people are fascinated by money; others find it a source of embarrassment and even repulsion. Freud's view carried substantial weight for many decades.

More advanced work emerged in the late 1970s and early 1980s. Since this time, several tools or scales were developed to help categorise attitudes to money.[34]

One of the most commonly used scales of people's attitudes and relationships to money – the Money Attitude Scale (MAS)[35] – was developed in 1982 by Yamauchi and Templer.[36] It proposed that money attitudes comprise four factors:

- **Power-Prestige** – people use money to impress, influence others and as a symbol of success. These people are often Machiavellian in personality.
- **Retention-Time** – some people enjoy planning for their financial future, or may have a goal of security. Such people are likely good at budgeting, and may have obsessive personalities.
- **Distrust** – people high in this factor tend to be hesitant and suspicious, with respect to money transactions.
- **Anxiety** – for people high in this factor, money is a source of anxiety, as well as a source of protection from anxiety.

An alternative measure – the Money Beliefs and Behaviour Scale (MBBS) – cites six similar factors.[37] But while the MBBS is still referenced in research, several studies dispute whether it is actually valid.

Another widely used, and comparatively well-regarded gauge, is the Money Ethic Scale (MES). Developed by Tang in 1992, the MES identifies six major beliefs about money:

1. Money is good;
2. Money is evil;
3. Money represents achievement;
4. Money is a sign of respect;
5. Budgeting is important; and,
6. Money is power.

A further scale, the Klontz Money Script Inventory[38] was developed with the financial planning industry in mind. It has similarities with the scales above. Money scripts are core beliefs about money, which drive financial behaviours. Klontz et al identified four main scripts:

- **Money avoidance** – money is bad and I do not deserve money. People with this belief do not like to think about money, plan or budget. Money is a source of fear and disgust, and they may view rich people as greedy or corrupt. Money avoiders tend to have lower incomes and lower net worth. They are often young and single. They may give money away while working hard to make it. They have an increased risk of overspending. They avoid looking at bank statements and have trouble sticking to a budget. This script tends to decline with age.
- **Money worship** – money will solve my problems. Worshippers are typically young, single and have lower levels of income and net worth. They tend not to pay off their credit cards and often think that they will never have enough money. They often put work ahead of family and give money to others, even if they cannot afford it. Money worship may be linked to disorders such as compulsive hoarding or spending.
- **Money status** – this is associated with self-worth. Money status seekers are materialistic and interested in social class. They enjoy owning the newest and best things. They are likely to be young, single, less educated and less wealthy. They tend to be less happy. They are likely to pretend that they are wealthier than they are. They tend to grow up in poorer families. This script is linked to pathological gambling and lying about spending habits.
- **Money vigilance** – to these people, money is a source of shame and secrecy. They are discreet about their financial status. Money vigilance encourages positive savings habits, but people with this script may be anxious. These people are often non-white, have lower incomes, and do not use credit.[39]

Importantly, individuals exhibit all four of these scripts, to varying degrees. The first three scripts have a negative impact on financial health, although Klontz et al propose that these scripts may be disrupted, once they are identified as significant.

Further, there are links between certain scripts and professions. For example, mental health professionals tend to be higher in avoidance scripts than financial planners.[40]

It should be noted that the effectiveness of the above scales may be affected by culture. For instance, some scales do not appear to be effective in certain European countries, while some have only been tested in the US.[41]

4.1 Risk profiling

Practitioners often use risk profiling techniques as a way to better understand the relationships between individual clients and money. Such tools are typically based on questionnaires which gauge an individual's attitudes and past behaviours, with respect to risk. Through analysis of the responses, a practitioner may assign risk tolerance scores to each client and construct appropriate investment portfolios. Risk profile questionnaires may additionally be incorporated into automated robo-advice services, allowing the systematic mapping of individuals to pre-built, risk-graded portfolios.

Critics of the questionnaire-based – or "stated preferences" – approach argue that it suffers from significant drawbacks. First, construction of a risk questionnaire is not supported by mathematical theory. Second, there is no statistical theory for how survey results should be analysed. And third, surveys are not user-friendly – the process is time-consuming, and participants are often unable to articulate their attitudes to risk. Recently-developed tools claim to address such concerns by testing how individuals react to risk/reward trade-offs in a game-based environment – enabling practitioners to quickly and accurately recover the "revealed preferences" of each client.

A 2006 study by Choi et al uses revealed preferences techniques previously developed by Hal Varian, emeritus professor in the economics department at Berkeley.[42] [43] Specifically, Choi et al propose that risk preferences may be recovered via a video game interface, which asks individuals to make a series of risk/reward trade-offs, along randomly-generated budget lines. According to Choi et al, the technique offers several advantages, providing more information than binary choice models, and allowing the assessment of a wider range of choices, relative to traditional "pencil-and-paper" questionnaires. Further, such an approach may be adapted to test decision-making across a broader range of common economic problems, than with other experimental designs.

4.2 Is there a relationship between risk profiles, other financial behaviours and attitudes to money?

In short, yes. The long answer is that there is little research on this topic, but what there is does indicate some link, although it is difficult to quantify.[44]

Using the MAS scale, research shows that investors with retention-planning and achievement-esteem attitudes toward money tend to have higher risk profiles. Those with money anxiety tend to be low-risk investors. Investors with higher levels of distrust and lower levels of anxiety tend to engage in more recommended financial management and saving behaviours.[45]

Using Tang's MES scale, other studies show that investors who associate money with success and motivation tend not to think money is evil, and have higher risk profiles. They are also less budget conscious.[46]

4.3 Is there a relationship between happiness and money?

While discussing relationships with money, it is important to consider the link between money and human happiness.[47]

Studies show a correlation between money and happiness, but suggest the link is weaker than widely believed. For example, Daniel Kahneman and Angus Deaton find that less money is associated with emotional pain. However, once people reach a certain level of stable income (US$75,000 in 2010), further pay rises are insufficient to deliver improvements in emotional wellbeing. In other words, beyond a particular income threshold, wellbeing is constrained by other factors.[48]

There are many reasons why the link is not stronger – several of them behavioural. People tend to overestimate the happiness certain material goods and experiences will bring them. That is, most people do not know how to maximise their happiness with money.

In addition, there is a negative relationship between the importance people place on money and happiness. Those who find money important are often driven by motives related to social standing, attainment of power and self-doubt. Such individuals are typically less happy.[49]

Money can buy – or at least help to buy – most of the things research tells us are needed for long-term happiness. These elements include good nutrition, exercise, close bonds with others, the ability to control daily activities, and the ability to take on meaningful labour.[50]

However, money has been shown to bring about a self-sufficient orientation – people prefer to be free of dependency and dependents, as their wealth increases. Studies find that people with more money prefer to play alone, work alone, and put more physical distance between themselves and a new acquaintance.[51] Yet such connections are crucial to human happiness.

5. OTHER THEORIES

5.1 Behavioural Life Cycle Theory

Introduced in 1988, Behavioural Life Cycle Theory (BLCT) extends Thaler's mental accounting model, and incorporates cognitive biases such as framing. BLCT argues that people tend to divide their wealth into three mental accounts:

- Current income
- Current assets
- Future income

Income and assets are not typically transferrable between the buckets. In addition, people are more likely to spend current income, rather than future income.[52]

5.2 Behavioural Portfolio Theory

In an extension of BLCT, Behavioural Portfolio Theory (BPT), which emerged in the early 21st century, proposes that investors should build portfolios as pyramids of assets.[53]

Each pyramid layer is a separate mental account representing a different aspiration level. For example, the lowest level may be a pool or fund designed to avoid poverty,

while the next level may seek to provide an acceptable standard of living, and so on. The highest level may be a travel fund.

Investors hold a different attitude toward risk for each layer, with risk profiles rising in line with aspiration levels. In other words, people are more willing to risk funds designed to provide non-essential benefits.

The model helps explain the so-called Friedman-Savage paradox, in which people simultaneously buy insurance and lottery tickets, despite each action suggesting a very different attitude to risk. In essence, people take a conservative approach to ensuring base levels of wealth or living standards are met (insurance), but accept large odds in relation to aspirational wealth (lottery tickets).

BPT also develops an efficient frontier, based on mental accounting and prospect theory. The frontier does not coincide with that of MPT, because BPT efficient portfolios depend on factors such as expected wealth, aspiration levels and the need for security – rather than risk and return.

Later extensions of the theory – devised by a group including Harry Markowitz and Meir Statman – combine mental accounting and the standard Capital Asset Pricing Model (CAPM).[54] In essence, the research shows that a mental accounting framework accommodates portfolios which lie on the efficient frontier. In other words, each goal, with its different risk characteristics, can generally be met by a portfolio which sits on the efficient frontier. Other studies confirm these findings.[55]

5.3 Behavioural Asset Pricing Model

Based on BPT, the Behavioural Asset Pricing Model (BAPM) proposes that market participants comprise two groups – rational, CAPM-like investors, and less rational "noise" investors. As a result, the model accounts for occurrences that would be considered inconsistencies in a CAPM world – for example, ethical investing or the excitement generated by an initial public offering.[56]

The model additionally provides an explanation for the Fama-French factors of value and size.[57]

Companies are more than the sum of their parts – they often elicit emotions and feelings in people. This additional element is commonly referred to as "brand", although a broader term may be required, which incorporates reputation, representation in the media, and other factors.

People often mistake good companies for good investments. "Good", or desirable, companies may include those which are large, or which trade at high price/earnings (P/E) multiples. Smaller companies, or those with low P/Es, are typically considered less attractive. Consequently, the prices of good companies are bid higher, and performance subsequently fails to match expectations.[58]

BAPM therefore differs from standard three-factor theory, in terms of explaining the factors.[59]

6. BEHAVIOUR CHANGE

This Backgrounder provides two examples, to illustrate how Finology skills may support the day-to-day work of a portfolio construction practitioner.

6.1 What investors really want

Investors are consistently irrational, and in more ways than is commonly believed. Not only do investors display the types of biases discussed in this Backgrounder, they also endow investments with characteristics and qualities with which they may (or may not) want to be associated.

BPT theorises that people assign sets of characteristics to companies, and that these characteristics affect the attractiveness and prices of those firms. Similar behaviours may be observed in relation to managed funds.[60]

People bestow three groups of benefits on any good:

- **Utilitarian** – the physical or mental benefits a product provides;
- **Expressive** – status-related benefits which help define "who we are"; and,
- **Emotional** – benefits which relate to joy and other emotions.

Taking cars as an example, it is likely a 15 year-old Holden Commodore will provide sufficient utility to meet an individual's transport needs. So why do so many people drive new luxury cars? Because such vehicles help define who they are, and make them feel "happy" – temporarily, at least.[61]

In the context of investments, utilitarian benefits include risk and return, or having enough money for retirement. Standard finance theory assumes these are the only benefits that investors look for in retirement. For investors, this is the equivalent of a 15 year-old Commodore portfolio.

Finology asks that we consider all of the benefits people derive from investing, and that we tailor portfolios to suit the expressive and emotional needs of each individual. Such needs may include removing the fear of poverty, nurturing families and social responsibility; as well as the prestige associated with leading brands, institutional investments, closed-ended offers, or hedge funds.

Individuals may seek expressive benefits which are linked to their personalities and relationships with money. Some will value banishment of poverty as more important than prestige – others may feel the opposite. By understanding such considerations, a practitioner may adjust the way in which various products and strategies are presented to different clients.

For example, people may attribute expressive benefits to active funds over index funds, or vice versa.

Index fund investors may be saying to the world: "I am practical and no-nonsense. I drive down costs in my portfolio." Emotionally, the index fund owner may take pride in being "smarter than those big fund management houses that want to take my money". Passive strategies may appeal to people who score highly in conscientiousness (personality theory), or to someone with a retention or distrust attitude to money, according to the MAS scale.

Actively managed fund investors may be saying: "I think there are fund managers with skill and talent, and I am wise to invest with them". Emotionally, such individuals may derive joy from investing with "the smart crowd". They may feel intellectually superior as a

result. Active funds may appeal to investors with high levels of openness or extraversion, or those who see money as power.

Research[62] suggests that, while risk and return remain the most important characteristics of investments, portfolios additionally provide investors with:

- the chance to analyse problems and learn;
- a free-time activity;
- a good conversation topic; and,
- an affiliation with others.

6.2 Tailoring portfolios

By taking such considerations into account, practitioners may create portfolios which provide more than risk and return, and which more fully meet the needs of individuals – increasing the likelihood that a client will remain invested during adverse market conditions. Such portfolios may be sub-optimal from an MPT perspective, but result in higher levels of satisfaction and engagement.

Research suggests that a "layered" approach to portfolio construction – similar to ideas discussed earlier in this paper, and comparable to lifecycle investing – may be appropriate.

In essence, practitioners should ensure that basic needs are funded from "boring and conservative" layers of a portfolio for which risk should be defined as the chance of not meeting goals, rather than standard deviation. The next layers may be allocated to more expressive or emotional needs, such as child education. Monies allocated to more aspirational activities (such as bequests or donations) are invested with higher risk, and provide investors with the opportunity to be actively involved.

6.3 Other strategies

It is important to do the "boring" things, such as lowering debt, building an emergency fund or paying off the mortgage, particularly when times are good. Such strategies reduce the risk of investors selling assets during a crisis, as their basic needs – the first layers of the pyramid, which probably include staying out of poverty – are met. The approach additionally helps reduce return-seeking behaviour (selling assets which are falling in value, to buy those increasing in value), which is estimated to cost investors who manage their own money between 2% and 4% each year.[63] [64]

Many practitioners know clients who are reluctant to invest when markets fall, due to herding and framing. However, practitioners may alter such behaviours by reframing a situation – for example, by presenting a market decline as a buying opportunity. Such decisions may be positioned as "being smarter than the crowd" thereby appealing to investors who are high in openness and extraversion (and who are therefore happy to try new things), and perhaps to some expressive or emotional needs. They may additionally provide a topic for discussion with friends. This same approach may be used to encourage investment in areas such as small cap, value or momentum.[65] It may be considered primarily for portfolio layers that are designed to meet aspirational needs.

To ensure a practitioner understands a client's ever-changing pyramid of needs, it may be useful to test the risk tolerance associated with various goals, on an ongoing basis. For example, practitioners may ask clients: "What if X happened tomorrow to this particular

pot of money (which is designated to be used for Y)?" As the answers change, the portfolio may be adjusted.

To further emphasise the goals-based approach, reporting may be tailored so that goals are monitored individually.

7. RETIREMENT

As the baby boomer generation continues to exit the workforce, portfolio construction practitioners increasingly deal with clients who are either approaching, or already in, retirement.

Practitioners require a combination of financial planning and interpersonal skills to successfully manage the client retirement process. Retirement is an emotive topic for many individuals, and may mark the beginning of psychological and physiological change. For example, studies show that retirement leads to a greater incidence of depression among men.[66]

7.1 Behavioural finance[67]

For people who have spent most of their lives in work, retirement may be viewed negatively – from both a financial and emotional standpoint. Employment plays an important role in terms of social connection and self-worth, and most people gain a sense of accomplishment and identity through work. The more active and socially engaged a person is through work, the harder adjusting to retirement is likely to prove. However, many people ignore such considerations, leading them to plan insufficiently for life after retirement, or – where possible – to delay leaving the workforce.

Practitioners require clients to actively engage with the topic of retirement, and should therefore frame retirement as a positive experience. If clients actively bypass the subject, the conversation is best kept short (say, to 10 minutes) and should be included as part of a broader discussion.[68]

Even individuals who are comfortable with the notion of retirement often need coaching to invest for the seemingly distant future. This is partly because people are subject to hyperbolic discounting, and display inconsistencies in their decision making, when choices are pushed into the future. Methods to overcome hyperbolic discounting include showing people age-progressed images of themselves. Such techniques encourage individuals to more closely identify with their future selves and increase the likelihood that they will sign up to a "pre-commitment strategy" – for example, to begin saving an extra 5% of income for retirement, in five years' time.[69]

7.2 Personality

Some personalities struggle more than others with the prospect of retirement.

Studies show that pre-retirees who are high in neuroticism tend to hold more negative views on retirement, as well as the circumstances leading to retirement. Framing retirement as a positive experience is therefore particularly important for such individuals.

People high in conscientiousness relate better to the aspirational reasons for retirement, so retirement should be framed in these terms. Individuals high in this trait also tend to be good savers and are usually the best prepared for retirement. In general, these are good clients to have.[70] [71]

7.3 Behavioural portfolio theory

BPT and its offshoots are fairly consistent in telling us that in the pre-retirement phase, retirement should be funded in a conservative way, to ensure people feel comfortable.

Further, as discussed above, it may be beneficial to fund different parts of retirement consumption in different levels. For example, basic needs such as food and shelter may be funded via a relatively conservative investment strategy, while funds required for more aspirational requirements – such as an overseas trip every two years – may be subject to higher risk.[72]

For investors who are approaching or in retirement, it is important to protect the downside risk attached to funding for basic needs. The emotional aspect of people's investment needs means that individuals may find it difficult to cope with income volatility, during this phase.

7.4 What makes people happy in retirement?

> "A person with a flexible schedule and average resources will be happier than a rich person who has everything except a flexible schedule. Step one in your search for happiness is to continually work toward having control of your schedule."
> - Scott Adams (creator of Dilbert)[73]

If the above statement were completely accurate, retired people would be wholly contented. Of course, the truth is more complex. Nonetheless, most retirees describe themselves as happy, suggesting that the transition is generally made fairly successfully.

Happiness tends to be stable. Individuals who describe themselves as happy typically remain so, and while happiness levels may be temporarily affected by life changes such as retirement, they tend to bounce back. However, this rule does not apply to the death of a spouse, which tends to have a more profound effect on the happiness of retired individuals.

The following factors may help us identify individuals who are happy:

- **Control over life choices** – in the transition to retirement, this can be as simple as choosing when to leave a job, rather than being told when to go. Gradual retirement may be beneficial, if the employee is able to enter such an arrangement voluntarily.
- **Social relationships** – individuals who find much of their identity in their work should begin building or strengthening links with the community, family and friends, in the transition to retirement. Assisting with this process may be worthwhile for practitioners. Research suggests that relationships are the most important factor in creating happiness.
- **Good health** – any expenditure on health should be considered as a type of investment for people who are transitioning to, or already in, retirement.[74]

As discussed above, research suggests that happiness is affected by the way people spend money in retirement. Among other strategies, retirees and advisers may consider:

- Buying more experiences and fewer material goods – travel may be more beneficial than a new car, for example;
- Using money to benefit others – helping a child may be a valuable strategy; and,
- Buying many small pleasures rather than fewer, more expensive luxuries – for example, several short trips may be better than one long holiday.[75]

CONCLUSION

Finology overlays a portfolio construction practitioner's technical skills by asking: "How do I best communicate with the person sitting in front of me?" It is about an individual's relationship with money, financial products and the practitioner.

Many practitioners intuitively understand the concepts which underpin Finology. The aim of this Backgrounder is to build on that innate understanding, by providing a more formal framework and introducing the science behind the core concepts of Finology.

This Backgrounder therefore seeks to introduce the key research in personality, attitudes to money, and in behavioural finance and its derivatives, such as Behavioural Life Cycle Theory. In addition, this Backgrounder outlines ways in which these ideas may be applied to portfolio construction.

Nonetheless, there remains substantial scope for further research in this area.

APPENDIX 1 - THE BIG FIVE PERSONALITY TRAITS[76] [77] [78]

Some studies propose that each personality trait consists of two aspects.

1. **Extraversion**

- Enthusiasm – excitability, sociability, enthusiasm, talkativeness, energy, emotional expressiveness; and,
- Assertiveness – leadership, dominance.

2. **Agreeableness**

- Compassion – empathy; and,
- Politeness – compliance, morality, selflessness.

3. **Conscientiousness**

- Industriousness – self-discipline, competence, impulse control, work ethic; and,
- Orderliness – neatness, perfectionism, organisation, thoroughness.

4. **Neuroticism/Emotional stability**

- Volatility – irritability, anger, moodiness, tension; and,
- Withdrawal – anxiety, depression.

5. **Openness to experience/Intellect**

- Openness – artistry, reflection, seeking education; and,
- Intellect – intelligence, ingenuity.

Research suggests that extraversion and openness (the Plasticity factor) may be linked, and that emotional stability, agreeableness and conscientiousness (the Stability factor) may be connected.

APPENDIX 2: BIASES WHICH AFFECT FINANCIAL PLANNING AND WEALTH MANAGEMENT[79]

- People procrastinate or have a preference for the current state of affairs (inertia).
- People overestimate how frequently they will experience favourable outcomes, and underestimate how frequently they will experience unfavourable outcomes.
- People make mistakes more frequently than they believe and view themselves as better than average.
- People attach too much importance to information that supports their views.
- People overestimate the extent to which they can control outcomes.
- After learning an outcome, people give a much higher estimate for the predictability of that outcome, relative to people who predicted the outcome without advance knowledge.
- People become attached to past analyses, practices, beliefs and commitments, even when they prove erroneous, counter-productive, or unsustainable. People use momentum.[80]

APPENDIX 3: MAXIMISING HAPPINESS

Research shows that the following actions may help maximise happiness.[81]

- Buying experiences instead of material goods – taking a holiday may be a better use of resources than buying a new fridge. The anticipation of the trip is valuable, and the experience may help a person socialise with others. In this way, an individual may repeatedly re-live the enjoyment. However, not everyone achieves such benefits. About one-third of people achieve the same level of enjoyment from material goods as from experiences. Such individuals may acquire status symbols in order to achieve external validation.[82]
- Spending money on other people.[83] "Prosocial" spending reinforces relationships and is associated with greater happiness in all cultures (or at least 136 countries).[84]
- Buying many small pleasures rather than fewer, more expensive luxuries. Happiness is more closely linked to the frequency – rather than size – of happy experiences.
- Buying less insurance. We adapt better to adversity than we think.
- Paying now and consuming later. Immediate consumption eliminates the anticipation of buying a good or experience. Deferring consumption also allows consumers to contemplate what they really want.
- Thinking about what you are not thinking about. When an individual visualises owning a beach holiday home, the weather is always sunny (but not too hot), there are no mosquitoes or bluebottles, and the children are happy to be there. Picturing the scenario in a less favourable light may offer greater clarity on the happiness such a purchase may bring.
- Avoiding comparison shopping. Individuals should focus on the attributes which will make them happy, rather than price.
- Following the herd instead of your head. People often enjoy the things others think they will like.

ENDNOTES

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27. Refer to Wikipedia for a list.

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