

88

888

A

Addressing built-in biases in real estate investment

 \bigcirc

11 0

000

71

>>

The value in taking a behavioural lens to commercial real estate investing

Executive Summary

By Neil Cable, Head of European Real Estate Investments

A study of behavioural finance and its application to real estate challenges the past 30 years of established investment practice. The introduction of IPD (now MSCI) indices at the end of the 1980s heralded a massive growth in transparency, analysis and forecasting, and a mushrooming of sophisticated asset allocation models. With the next wave of internationalisation of property investment underway, now is a good time to ask the question - are these approaches fit for purpose? The answer appears to be a resounding 'no'. The good news is that we can do something about it. Thanks to the growth of property indices, better quality research, improved market information and sophisticated use of technology, we now have decades of high quality data - but we should be slicing and dicing that data in a very different way in the future and, most importantly, looking less to traditional asset allocation models to decide where to invest. Key findings from examining 5 key behavioural biases in real estate investing:-



The 'framing bias' - "the average market return is impossible to access - it is more a statistical quirk than an achievable investment target". This makes traditional asset allocation models all but redundant.



The 'anchoring bias' - "the most harmful kind of anchoring within real estate occurs when investors fixate on capital gains, yet this is still how most investors tend to decide where to invest".



'Loss aversion' - "Anecdotal evidence suggests that investors use a rule of three to deal with losses in real estate markets....The irony is that markets often correct in three downward waves...meaning that investors tend to sell at the very bottom of the market"



The 'home bias' - "Home bias is most prevalent in real estate [compared to equity and bond markets]....The main problem is that overinvesting in domestic assets exposes portfolios to concentration risk"



The 'herding bias' - "In equities, momentum is a well-recognised factor....but entirely passive, rules-based investing is less effective in real estate.....Momentum is a dangerous game to play in real estate".

Each chapter suggests 'workarounds' to help counter the harmful effects of these biases. The risk for the real estate industry if we fail to address these historic biases, will be one of increasing irrelevance, misunderstood risk, misalignment of outcomes versus expectations and lower allocations to the asset class. The prize if we adapt is the opposite - exciting growth, increased choice for investors, larger allocations and real estate becoming a mainstream bedrock of most global multi asset portfolios. We conclude our analysis by observing that while behavioural biases make real estate investing especially vulnerable due to the nature of the asset class, by being conscious of such biases investors can adapt investment processes and create 'workarounds' to stack the deck in their favour.

Contents

Introduction



Introduction

Of all the ways of defining man, the worst is the one which makes him out to be a rational animal

- Anatole France

The investor's chief problem and even his worst enemy—is likely to be himself.

- Benjamin Graham

Commercial real estate markets provide fertile ground for behavioural biases to shape the decision-making and actions of participants. As a result, there is value to be gained by moving away from incomplete yet widely used frames of reference in favour of a behavioural approach to investing in the asset class. A behaviourally-aware framework recognises that the views and (occasionally irrational) actions of market participants can have a significant bearing on market direction and fundamentals.

We find that cognitive errors have a particularly pernicious effect on real estate markets due to: a higher level of market inefficiency and intermediation; lower levels of information transparency; and higher levels of emotional attachment due to the inherently tangible nature of the asset class. While much of the behavioural finance discourse has focused on mainstream investors in equity markets, we find that professional investors in commercial real estate markets are not immune from investing mistakes rooted in cognitive biases. In this paper, we explore five of the most entrenched biases in the institutional real estate market, outline their consequences, and propose practical workarounds to minimise their effect.

Herd behaviour is a source of mispricing and speculative bubbles.

- Robert Shiller

Economists think about what people ought to do, psychologists watch what they actually do.

- Daniel Kahneman

Authors:

Matthew Richardson Director of Research, Real Estate matthew.richardson@fil.com

Nick Armet Director, Editorial nick.armet@fil.com Chris Arnold Head of Quantitative Analysis, Real Estate christopher.grnold@fil.com Cameron Ho Associate, Editorial cameron.ho@fil.com

Why is behavioural finance an important investment tool?

Investors are not the rational robots depicted in traditional economics textbooks. Neither are financial markets the faultless machines assumed under the Efficient Markets Hypothesis (EMH). For all that has been written on how markets and investors are supposed to work 'in theory', behavioural finance, the study of what investors actually do - how they behave and how they make decisions under uncertainty – has helped to validate what many investors intuitively know to be true:

- investors are not always rational
- emotions can influence our decision making particularly under conditions of uncertainty
- social amplification of biases and the influence of positive feedback loops means markets can move away from equilibria
- there is value to be gained from applying a behavioural perspective to investing that goes beyond simple contrarianism

Markets are not machines nor closed systems, rather they are manned by humans. It follows then that the way in which markets work can only be fully explained by a model that encompasses human nature itself

This behavioural finance adjunct to the classical model (efficient markets; rational investors) provides a more flexible framework that can explain the historic booms and busts in financial markets. Behavioural finance offers reasons for why market pricing swings away from intrinsic value based on sustained moves in investor sentiment (positive feedback loops fuelled by the herding and groupthink biases). Such booms and busts remain as strong a feature of investing today as they ever have done. From Tulipmania (1630s), to the South Sea bubble (1720s), to the Railway mania (1840s), to the dot.com bubble (1999-2000) and, most recently, the global financial credit bubble (2003-07) and subsequent crisis, one factor remains an ever-present: irrational investors making the same human errors time and again.

Markets are not machines nor closed systems, rather they are manned by humans. This makes them complex and adaptive systems, features that many investors fail to take proper account of in their investment approaches. Irrespective of any progress made in the running of markets or the availability of market information, one constant remains: the fallible, reflexive nature of human involvement in complex systems like financial markets. It follows then that the way in which markets work (and occasionally fail to work) can only be fully explained by a model that encompasses human nature itself.

We can use an understanding of behavioural biases to build a better more flexible, framework for thinking about investing in real estate markets.

Why is real estate such a ripe area for behavioural biases?

While much of the cut and thrust of behavioural finance has centred on stock market investing, real estate is in fact a very fertile area for examination through a behavioural lens:

- Market efficiency: First, commercial real estate markets display higher levels of market inefficiency than equity markets, with greater levels of information inconsistency between market participants and greater dependency on market intermediaries.
- Inability to take a short position. The inability to short means markets can be more prone to sustained moves away from fair value. In a more efficient market, excessive optimism would be moderated by other investors taking a short position.¹
- Price discovery: Price discovery is not transparent, with deals typically struck via individual negotiations between buyers and sellers. Since there is no central exchange, sellers typically know more about assets than buyers.
- Illiquidity: Properties are traded infrequently relative to other asset classes. The inherent nature and heterogeneity of the asset class (the fact that each property is unique) contributes to this.
- High transaction costs: The lack of a central exchange, search costs, information asymmetry, and brokerage fees lead to higher transaction costs in the real estate market. Such costs cause 'nonlinear effects on pricing' in that during periods of euphoria, investors are more willing to accept transaction costs in order to participate in the market rally.²
- Investor perception: Real estate remains a misunderstood investment invariably bought for capital growth despite the fact that income drives the majority of returns. Indeed, in western developed markets, income typically drives between 65% and 80% of 20-year total returns.³
- Emotional pull: More figuratively but no less importantly real estate is a physical real asset and valuable physical assets can inspire irrational emotions. The endowment effect is one example - this is where owners subjectively set a greater value than the intrinsic or market value to an asset that they own *because* they own it.

Real estate has had its own share of bubbles and busts as investors have regularly piled into the asset – often at the top of the cycle - looking for quick capital growth, only to get their fingers burned when capital values have subsequently corrected and liquidity has dried up. In 1920s America, there was the Florida Real Estate Bubble; in the UK, the secondary banking crisis in 1974; then in the late 1980s, we saw pronounced real estate bubbles in Japan as well as in the UK and the US. In 1997, real estate in Asia was hit by the Asian financial crisis and then in 2007, real estate markets worldwide were hit by the sub-prime credit crunch, with the US, UK, Spain and Ireland being notable casualties.

Real estate markets are heavily dependent on underlying cycles of accelerating and decelerating economic activity in economies. The direction of these cycles is typically mirrored in investment cycles of greater amplitude. Within these cycles, investor psychology can become subject to a range of emotions (ultimately flipping between the base emotions of greed and fear; see diagram 2).

These emotions influence our decision-making more than we know, often on a sub-conscious level, resulting in poor outcomes like investing near

¹Hong and Stein, "Differences of Opinion, Short-Sales Constraints, and Market Crashes." ²Farlow, "UK House Prices: Bubbles and Buyers," 15. ³Source: MSCI IPD UK All Property Annual Index 1981 to 2016.

Ø

Figure 1: How emotions can lead you astray



the top and selling near the bottom of the market cycle. This is perhaps an investing cliché, yet it's one that regularly plays out in real estate markets and one of the reasons that a behavioural perspective is so valuable for investors looking to find an edge.

Why are investors not rational?

- Unconscious biases affect decision-making
- Evaluation of market complexity (with incomplete information) uses flawed logic and 'short-cuts'
- Instincts and emotions can override logic during a crisis

System 1 vs System 2: fight or flight responses are much less useful in investing

Behavioural finance experiments have demonstrated time and again that investors are far from rational in practice. When confronted by complexity and uncertainty, tests consistently show that investors revert to using rules of thumb or decision-making shortcuts. Research from the field of behavioural psychology suggests our brains have two cognitive decision-making systems, fast-thinking System 1 and slow-thinking System 2.⁴

System 1 is automatic and often -works on a sub-conscious level - it is the evolutionary older part of our brain that controls the *fight or flight* response and reacts to the environment as quickly as possible, especially in times of danger. System 2 is the more recent part of our brain (in evolutionary terms) that is engaged for abstract challenges where calculation and deliberation is required. Behavioural experiments show that investors tend to revert to the automatic, emotionally-influenced System 1 during times of stress and uncertainty, rather than have to deal with the larger cognitive processing load involved in our deliberative and rational System 2.



Figure 2: Two systems for decision-making

(*iĝ*

Property is prone to feedback loops which cause bubbles and busts

In efficient markets, equilibrium theory (a central construct in the efficient markets hypothesis and CAPM) suggests that an increase in the demand for real estate would lead to higher prices which should a) decrease demand and/or b) increase supply. This kind of thinking has, in turn, prompted model-based, top-down investment approaches and a focus on historic data. However, if markets are not efficient and all information is not immediately reflected in the price, then markets essentially have no equilibrium and will always have a tendency to be biased in one direction or another (in either bull mode, bear mode or recovery mode).

Bullish sentiment, combined with an increased weight of money entering real estate markets, can create positive feedback loops that push up capital values, beyond what might be perceived as fair value. Positive feedback reinforces this initial change in the same direction as the presence of attractive returns encourages new investors to move into the asset class. By virtue of investing more capital into finite property markets, this weight of money coming into the market helps to support higher valuations, which in turn attract more investors - causing a classic 'snowball' effect.

Positive feedback loops can sustain bubbles in property values over multi-year timeframes. There can be a lack of counter-balancing forces (supply can remain relatively tight, financial conditions can remain easy), at least until such time as natural limits are reached (buyers become unwilling to pay at higher valuations) or the outlook for economic and business conditions deteriorates, ushering in a new corrective phase of the business and property cycle. At these turning points, real estate bubbles can deflate quickly, with sharp reversals in values, volumes, and liquidity (as fear becomes the dominant force on investors' emotions).

⁴Kahneman, Thinking, Fast and Slow. The human brain is one of the most complex things we have ever found in the universe. It weighs around 3 pounds; it has about 100 billion neurons. Each one of these neurons is highly complex and carries a map to our entire genome and is responsible for trafficking millions of proteins. In fact, every single neuron is as complicated as a city. These neurons are connected with such density that there are 1000 trillion connections in the brain known as neural networks.



As a general rule, financial markets are considered to be negative feedback systems, where there is felt to be some 'fair value' equilibrium with mean reversion around it – i.e. prices correct when they get too high as buyers are unwilling to pay over the odds. Whether property markets have any kind of stability around this fair value equilibrium is a point of debate as they are often observed to be in either an explicit bull or bear phase - and if there is any equilibrium it is an inherently unstable one. Swings in investor sentiment tend to over-react in both directions meaning asset prices can become regularly detached from intrinsic, 'fair' values (see chart below).

Whether property markets have any kind of stability around this fair value equilibrium is a point of debate as they are often observed to be in either an explicit bull or bear phase

How to invest in an inefficient market with irrational investors?

A behavioural approach accepts market disequilibrium, informational inefficiencies and irrational investors are an integral part of market behaviour, and attempts to move beyond models to anticipate the future behaviour of market participants. This is important for the approach real estate investors take: risk management should be centred on an understanding of participant behaviour – for example, using analysis of *tenants* to model risk to rental income streams, or analysis of lease structures and refurbishment potential to understand *property manager opportunities* or an understanding of global demand flows from international investors to understand weight of money considerations and yield compression potential.

In reality, the evidence shows that directional conditions (of high investor demand/tendency for higher real estate prices) can be sustained for some time, while the counter-vailing supply-side response can be lacking for all sorts of reasons. Indeed, both these factors have been at play in the most recent real estate cycle. First, the global search for yield has prompted sustained demand for commercial real estate from international investors (who are generally agnostic to local bond yield levels and spreads), And second, there has been a very limited development cycle due to relatively fragile economic growth and relatively high levels of economic and corporate sector uncertainty).

Figure 4: How swings in investor psychology move markets away from fair values





The framing bias

Conventional market labels obscure key differences between individual assets



What is framing?

Framing describes how the way in which choices are structured can influence our thought processes, and ultimately, our decisions.⁵ One of the most striking examples of the framing effect is the extent to which attitudes towards organ donation are influenced by how the question is posed.⁶

Framing is also driven by the substitution effect.⁷ When faced with a complex question or decision, people prefer to answer a different, simpler question of their own making. The reason for this is people are 'cognitively lazy'; they would rather use quick System 1 short-cuts to answer an easy question rather than deal with mental load that a more thoughtful response using System 2 thinking would require.⁸

Daniel Kahneman refers to the original, difficult question as the "Target question", and the simpler substitute as the "Heuristic question". An example in real estate would be:

| Target question | Heuristic question |
|--|--|
| What is the true nature of this real estate investment? | Which familiar asset class does this investment resemble, and what are the characteristics of that asset class? |
| What is driving the performance of this property fund and do I want to be exposed to those drivers? | How has this property fund performed against its peers? |

⁵The classic experiment on framing is from Tversky and Kahneman, "The Framing of Decisions and the Psychology of Choice." Students were presented with a disaster scenario and asked to choose between two possible solutions. Both had the same expected outcome - a certain number of lives saved, and a certain number of deaths. Theoretically, the respondents should have given equal preference to each scenario. In reality, respondents favoured the options which were framed around the certainty of saving lives, irrespective of their number. For instance, students preferred an option guaranteeing the certain salvation of 200 people from an epidemic expected to kill 600 (p = 1 * 200 = 200), as opposed to the 1/3 chance of saving 600 people (p = 0.33 * 600 = 200). "When people are asked to opt-in to donating their organs upon death, uptake is generally low - there is an emotional burden to the choice. But when the choice is reframed as an opt-out, the emotional burden is removed and reversed - most people are content to remain on the donor list.

⁷Kahneman, Daniel and Frederick, Shane, "Representativeness Revisited: Attribute Substitution in Intuitive Judgement."

*Shah and Oppenheimer, "Heuristics Made Easy."

How does framing affect real estate investing?

We argue there has been a long-standing pattern in which many investors have tended to focus on the wrong frames when considering an investment in real estate. It's not entirely the fault of investors, however, as the industry itself has been complicit in encouraging unhelpful frames. For some time, the property profession has divided the asset class along sector, style, and geographic lines. In turn, these industry labels have shaped investor thinking and expectations.

Currently, real estate assets are largely categorised according to familiar yet subjective style labels (such as 'core', 'core +' and 'opportunistic') and according to industry sector or geographic descriptions (such as 'German retail', 'London office' or 'French industrial').

The use of these labels perpetuates the idea that geographical market and industry-use real estate returns are something that can be accessed in the same way as equity market indices (where the same stocks can be widely held across large groups of investors). The implication is that all the properties in a certain category are relatively homogenous and have similar risk-return characteristics. On that basis, it should be possible to access the average return for 'Stockholm offices' or 'Shanghai industrials', just as equity investors target broad exposure to a sector via a basket of similar securities, an index fund or a 'smart beta' product.

A further assumption is that "prime" properties are inherently and always less volatile than their non-prime peers.

But these widespread rule-of-thumb assumptions are not borne out by reality. First, the long-term performance of 'prime' property is often more volatile than the national average.⁹ Unlike in other asset classes where quality segments can be identified empirically based on risk/return metrics, the decision to label properties as 'Core' or 'Core +' is largely a subjective exercise based on the location and age of the building. This means that we risk grouping assets together in a manner that implies a greater level of homogeneity than is actually the case. While they have some informational value, these labels typically do not take account of other influential drivers of real estate risk/ return such as lease structure and tenant strength.

Figure 5: Long term performance of 'prime' property (dark blue) is often more volatile than the national average (orange)



Second, the average market return is impossible to access - it is more a statistical guirk than an achievable investment target.

In 2011, the average return on the Frankfurt office market was 2.4%. Yet the difference between the best and worst-performing properties was a staggering 33 percentage points (Figure 16). Buying an office in Frankfurt, or indeed a random sample of Frankfurt offices, does not provide the 'Frankfurt office market return' - it provides exposure only to a specific asset or a group of heterogeneous assets. To receive the average market return, one would need to own a fraction of every constituent (i.e. every one of 104 buildings). This is, of course, impossible in real estate, where active management is essential - but investors should be aware from the outset that investments may produce very different returns depending on the strategies undertaken (and the properties acquired) by the property investment manager. The use of industry labels works against this aim.

Figure 6: 'Average market return' can be a meaningless term



Property-specific factors often wield far greater influence on real estate than regional or sector trends. An individual asset's risk-return characteristics also change over time. A building will age, and as technology advances, its suitability for prospective tenants will evolve. One of the reasons behind the migration of many investment banks from the City of London to Docklands during the 1990s was that it was hard to install the cabling and technology associated with larger electronic dealing rooms in their existing offices. Conventional industry labels do not account for these evolutions, which can have a significant impact on valuations and rents.

A building will age, and as technology advances, its suitability for prospective tenants will evolve.

⁹In our note, "All that glitters is not gold" (June 2017), we argued that French life insurance schemes are the driving force behind low yields in Paris, and that current valuations are unsustainable. We suggested that investors ensure that they are not over-exposed to eurozone prime property and that they seek better yields in secondary assets.

Because conventional labels mask key differences between individual properties, investors who try to make top-down sector "calls" in real estate are likely to be disappointed. Equally, given the wide distribution of returns within each category, the volatility of the total market is not an accurate representation of an individual portfolio's risk.

Lastly, framing effects within real estate can also limit intellectual independence. We would argue that some real estate managers factor career risk into their decision-making. As such, they focus on avoiding relative underperformance, even if this means sacrificing the opportunity to outperform (albeit, whether a manager outperforms or underperforms in real estate is in itself something of a flawed concept because as we have already noted the 'average return' is a statistical quirk that is not accessible like an equity benchmark return).

Nonetheless, career-risk-averse managers may seek the consensual safety of their peers' investment decisions, rather than take a contrarian view.

The consequences of conforming to the consensus can be particularly dire in real estate at market turning points, as we explain in more detail in the section on herding and groupthink.

Workarounds:

The sector, style, and geographic labels that are ubiquitous in real estate investing are crude measures for assessing the underlying risk, return, and diversifying qualities of heterogeneous commercial property investments. We would argue that geography matters only to the extent that it has the possibility to alter income cash flows via taxation, lease structure and business practices. Beyond that, the performance and volatility of real estate is primarily a function of the individual assets within a portfolio, and property-specific research is therefore essential.

Two key areas that are overlooked due to framing bias are tenant risk and lease risk.

- Tenant risks The ability of the tenant to pay the rent can obviously impact future cash flows. A way to assess this risk is to use publicly available information such as credit history.
- Lease risks the other widely overlooked determinant of property performance is the lease structure. The lease is effectively the legal agreement which shapes how cash is released over the life of the investment.

For example, the stability of cash flows can be significantly affected by the landlord's ability to review rents at appropriate times, their ability to switch tenants and whether leases contain provisions for upward-only or index-linked rent reviews. There is considerable variation in the rules and market practices relating to leases. For example, UK leases generally have 5-yearly reviews to market rents, while French leases are typically 9 years (with 3 and 6 year breaks) and indexed to inflation.

Investors should:

- 1. Place particular emphasis on the level and sustainability of an asset's rental income, which is the dominant and least volatile source of real estate returns (see Section 2: Anchoring). Sector and geography only matter insofar as they influence the key determinants of cash flows: lease structures, tax laws, and local business practices.
- 2. Diversify a portfolio primarily on the basis of tenant risk and lease structure (staggering leases, for example - see Appendix 1), rather than by sector or geography. Geographic diversification is an important way of reducing risk (see Section 4: Home Bias), but investors should not try to make broad, top-down geographic allocations in an attempt to access an 'average market return'. Every property is unique, so asset-specific analysis is crucial.
- 3. Give greater consideration to the underlying drivers of real estate performance. Conventional industry labels such as 'Core' and 'Core +' are subjectively affixed to properties based primarily on the location and age of the building. Performance information produced within the real estate industry is typically filtered on this basis. Yet, there are other factors which explain the return of real estate assets and investors should analyse returns via a range of other filters that go beyond the standard industry labels. Was it geography, sector, lease length, tenant risk, refurbishment potential or the age of the building which predicted outperformance? Many stock-specific factors are involved in producing returns, yet this information is seldom reflected in the industry's longstanding practice of framing assets solely by sector, geography, or style.



What is anchoring?

The anchoring effect refers to our tendency to evaluate one metric with reference to another, even though the comparison may be flawed. Under conditions of uncertainty, behavioural experiments show that people will often anchor to random, irrelevant numbers to make statistical predictions.¹⁰

We always overestimate the change that will occur in the next two years and underestimate the change

that will occur in the next ten

- Bill Gates

¹⁰Russo and Schoemaker, Decision Traps; Tversky and Kahneman, "Judgment under Uncertainty," 1128. In Tversky and Kahneman's classic experiment, they asked participants to spin a wheel of fortune. Afterwards, participants were asked to guess the number of member states in the United Nations. The guesses confirmed the anchoring effect: the highest estimates came from those who had spun the highest numbers on the wheel. Similarly, Russo and Shoemaker asked students for the last few digits of their phone numbers then asked them to guess the year in which Attila the Hun suffered his crushing defeat in Europe. In this instance, participants were anchored to their phone numbers. Those who had the highest ending digits chose the later years, and vice-versa. In case you were wondering, Attila met his demise in 453.

66

How does anchoring apply to real estate?

Real estate participants anchor to a range of measures with low predictive value, including economic growth rates, weightings, market turnover, and - of course - prices.

If a critical mass of investors misperceives the market by fixating on the wrong numbers, their collective behaviour can drive prices far from what is warranted by the fundamentals.

Indeed, all of the key parties to a real estate transaction - the broker, the appraiser, the buyer, and the seller - have been shown to arrive at skewed valuations because of anchoring:

- Professional appraisers, who should have the most comprehensive valuation tools at their disposal, tend to anchor their valuations to past price information on similar properties.¹¹ Indeed official market practice often forces them to do so (e.g. RICS 'Red Book' valuation methodology.
- Brokers also show a tendency to anchor their valuations to asking prices. Northcraft and Neale ran an experiment in which real estate agents were given identical information about a property save for its listing price.¹² The agents who received the higher listing price ascribed a substantially higher value to the property than the agents who received a lower listing price. Such knowledge advantages sellers because it proves that making 'highball' offers has a meaningful effect on others' perception of value. Notably, Northcraft and Neale found that brokers were anchoring subconsciously - fewer than 20% reported using the listing price in their property appraisal.¹³
- Prospective real estate buyers are also known to link their current valuations to past transactions. This helps to create a positive feedback loop which can put sustained upward pressure on asset prices.
- It is perhaps the *property owners (and prospective sellers)* who are the most prone to anchoring. The anchor in this case is they price they paid, or interestingly any valuation that was above the price but not realised. Their behaviour when the value of their investment falls below the purchase price (or the attractive valuation price) can have a damaging effect on market efficiency. Since humans feel the pain of a loss (real or unrealised) more than the euphoria of a gain, they are often very reluctant to crystallise a fall in value (Section 3: Loss aversion).

So what should investors in real estate anchor on? If they are to anchor at all, they should look at yield because it gives a reasonably good indication of relative value. Since yield relates a property's income generation to its price, it is a standardised metric which can be used - with caution - to compare assets to each other.

The recent surge in demand for European prime real estate illustrates how investors anchor to different valuation metrics, and what looks expensive to one party may look reasonably valued to another. Prime European properties are trading at valuations which we believe are unsustainable over the long-term. Yields have compressed dramatically and are now lower than at any point since 1990. For a traditional real estate buyer, we would argue that these valuations are typically too close to the prevailing cost of capital to be attractive (with reference to domestic bond yields).

However, French life assurance companies have been one of the driving forces behind the recent surge in European prime properties, and these firms anchor to a lower cost of capital. International investors - especially those from the Asia Pacific region - are also behind the strong interest in western

"Aspects of Information Processing in Valuation Judgement and Choice "

European real estate. To an Asian investor, valuations in prime Europe are reasonable on a relative basis; prime office yield spreads over equivalent 10 year government bonds are far higher in Brussels, Dublin, and Amsterdam than they are in Singapore or Shanghai.

Figure 7: European real estate pricing: Not one size fits all!



The most harmful kind of anchoring within real estate occurs when investors fixate on capital gains rather than income returns. In doing so, they ignore the importance of income in providing consistent returns across the cycle and expose themselves to additional risk if the market corrects. Capital gains are highly volatile, while income returns are relatively consistent. And across much of the developed world, income forms the bulk of property's total return.

This is particularly true of Western Europe and Anglo-Saxon markets like New Zealand, the United States, and the United Kingdom. Investors in these markets can generally expect to receive bond-like investment returns (Figure 8). On the other hand, capital gains do typically account for a larger proportion of returns across many countries in the Asia Pacific region and emerging markets.

Figure 8: Income drives total return in key Western European and Anglo-Saxon markets



Source: Fidelity International, MSCI/IPD Multinational Digest, 2017 *Uses longest available time series, which may differ by market.

¹¹Gallimore, "Aspects of Information Processing in Valuation Judgement and Choice." ¹²Northcraft and Neale, "Experts, Amateurs, and Real Estate." ¹³Ibid. The long-term returns of the US property market clearly show the importance of income over capital growth.

Figure 9: Income contributes the bulk of total returns

NCREIF US All Property investment returns (1930-2009), annual % 16%



Brandes Institute, Mercer, August 2018.

Capital gains are much more volatile than income. Analysis of the MSCI IPD indices for the UK between 1986 and 2016 shows that income returns are relatively predictable, whereas capital gains are highly volatile and cannot be relied upon with any certainty (Figure 10).

Income provided two-thirds of the total return but just one-tenth of the total volatility. Capital growth, on the other hand, contributed just one-third of the total return, but a massive nine-tenths of the volatility. These long-term numbers are a compelling reason why investors should focus on income rather than capital.

Figure 10: Income forms the bulk of total returns and is also less volatile



Source: MSCI IPD, April 2018.

The chart below illustrates the same point. In the UK, the market has exhibited significant price volatility since 1981. The market overheated in the late 1980s, and again between 2003 and 2007. Both periods of outstanding capital gains were followed by significant drawdowns. In contrast, the income component of total returns has been consistently positive since 1981.

What is responsible for the volatility of capital values? Beyond the property cycle's impact on fundamentals, the highly emotive nature of real estate means that movements in capital returns are predominantly explained by



Figure 11: Income is less volatile than capital



Source: MSCI IPD, April 2018.

momentum and investor sentiment. Indeed, one academic analysis of the MSCI IPD All Property Annual Index finds that over eight tenths of current returns can be explained by previous years' performance.¹⁴ For more information on momentum effects, see Section 5: Herding.

Workgrounds:

- 1. Focus on the factors that drive income returns over capital returns - in practice this could mean identifying those property managers and strategies that are geared to a long term income generation approach rather than a short-term, higher-risk capital appreciation approach. Real estate investment is inherently 'active' - one cannot pursue a passive investment strategy. Portfolio managers focus on income rather than capital return because they have the ability to influence it by assessing tenant credit risk and shaping lease structures. Investors should follow suit by championing those real estate strategies that are centred around the analysis and maximisation of income return.
- 2. For investors concerned about capital preservation, it could also argue for a geographical approach that places more emphasis on income-driven real estate markets like those in Western Europe, where absolute and risk-adjusted returns benefit from a proportionately greater income contribution.
- 3. In terms of asset valuation, place more emphasis on a property's yield than its absolute price. Yield gives a better indication of relative value. Investors who buy prime property at low starting yields will realise few defensive benefits, because the majority of their total return will have to come from more volatile capital movements rather than from income. Buying an asset at a low yield - even if it is a prime asset - means accepting an elevated amount of risk, because the heavy exposure to capital movements increases the property's volatility and its susceptibility to a drawdown.
- 4. Do not hold onto assets solely out of reluctance to crystallise a capital loss (see Section 3: Loss aversion).
- 5. Do not anchor to past economic growth rates or performance, as there is no guarantee that such performance will continue in the future. Instead, focus on property-specific factors that influence the income return, such as tenant credit risk and lease structure. These measures and income returns generally can be assessed with greater accuracy than capital returns.

¹⁴Brown and Matysiak, Real Estate Investment, 436



What is loss aversion?

Experiments show that people care more about losing a dollar than gaining a dollar. When faced with the prospect of a loss, people latch onto the prospect of avoiding it (showing a greater willingness to gamble to avoid a loss than to secure again). The reason for this irrational behaviour is that we feel the sting of a loss about twice as powerfully as the pleasure from a gain of the same amount.¹⁵ Animals, too, exhibit loss aversion, which suggests that the phenomenon is an innate System 1 reaction designed to ensure our survival.¹⁶

The concept of loss aversion is certainly the most significant contribution of psychology to behavioural economics

- Daniel Kahneman

¹⁵Kahneman and Tversky, "Prospect Theory." In this classic experiment, students and university faculty were asked to choose between A: 50% chance to win 1,000 and 50% chance of winning nothing, and B: a sure gain of 450. Most people chose B - the sure gain - even though the expected outcome of B (1 * 450 = 450) is less than that of A (0.5 * 1000 = 500). However, the students showed the exact opposite preferences when confronted with two scenarios involving losses. In this instance, the respondents abandoned their preference for certainty. Faced with the prospect of a loss, they latched onto the possibility of avoiding it, and were willing to risk what would be a bigger loss just for the chance to avoid taking a loss at all.

¹⁶Chen, Lakshminarayanan, and Santos, "How Basic Are Behavioral Biases?" The authors conducted an experiment in which capuchin monkeys could trade tokens for fruit with two researchers. First, they showed that the monkeys reacted rationally to price rises by favouring apple slices, for example, when the price of grapes doubled. More telling, however, was their irrational reaction when uncertainty was introduced. The monkeys were faced with a situation in which 'Seller A' would show them one apple slice, but add an extra "bonus" slice half of the time. 'Seller B' would show them 2 apple slices, but only hand one slice over in half of the cases. The monkeys showed a strong preference for trading with Seller A (71% of the time), despite the 50/50 odds of ending up with two apple pieces from either seller. It was the fear of loss that dictated their thinking.



Figure 12: People care more about losing a

When we experience a loss, we become more willing to accept risk to dig ourselves out of the hole. If someone makes a £100 bet at a casino and loses, he will be more willing to bet a second time. In the first instance, the gambler bets in the hopes of winning. In the second, he is more concerned about recovering his initial bet.

How does loss aversion apply to real estate?

Real estate investors are reluctant to crystallise a capital loss. Genesove and Mayer confirm that Tversky and Kahneman's prospect theory applies to real estate using evidence from the Boston housing market in the late 1990s.¹⁷ Their study suggests that investors set higher asking prices than the expected selling price of their properties - that is, they mark up their properties beyond what they expect to actually sell them for in attempt to minimise their capital loss.

Reluctance - or outright refusal - to sell a property to crystallise a capital loss can mean that properties are held irrationally. Olympus' reluctance to recognise investment losses dating back to the 1980s precipitated an extraordinary accounting scandal which led to widespread executive resignations, mass layoffs, and a sharp decline in the firm's share price. Bill and Hillary Clinton's infamous investment in Whitewater Development Corporation also warns of the dangers of loss aversion.¹⁸

If an asset's fundamentals are no longer attractive, then the asset should be sold irrespective of whether it involves crystallising a loss. Evidence from equity and futures markets suggests that running losers is a poor strategy.¹⁹

At market turning points, loss aversion can combine with other biases to exacerbate the pain of market distress. Anecdotal evidence suggests that investors use a rule of three to deal with losses in real estate markets. The chart below shows the decline in capital values in the UK property bear market of the late 80s.



Figure 13: Markets correct in three waves

Source: MSCI IPD, April 2017. Long term average return and volatility, 1981-2016 inclusive

Putting the chart into a behavioural finance context, we can say that when the initial fall in property prices occurred (strike one), many real estate investors would have been prepared to ride this out. When the second wave of the correction hit (strike two), some investors would certainly have been pained by the additional slide but would have continued to hold on. Finally, we see a third wave of selling pressure that turns into complete investor capitulation and a steep decline in capital values (strike three). This is the classic point when property investors all clamour for the exits at the same time. Due to the complexities of selling commercial properties, many funds will put limits on redemptions or occasionally close down completely.

The irony is that markets often correct in three downward waves (with two intervening consolidation waves giving rise to a five-phase Elliot wave pattern), meaning that investors tend to sell at the very bottom of the market. Of course once that capitulation phase has occurred and income yields have moved out, this is the best point at which to enter the market and commit money to the asset class - it is the cheapest point to buy income return. Over the long term, it is income return - not capital growth - that is the key determinant of total returns in commercial property.

Workarounds:

- 1. Apply a consistent investment process with a disciplined buy and sell strategy, or identify a real estate manager who invests in this manner.
- 2. Run the winners, not the losers. Don't hold on to poor investments just to avoid crystallising a capital loss. If the investment thesis has changed and the fundamentals of the asset are no longer attractive, then sell.
- 3. Regularly review investments from first principles, as if you didn't own them. Would you buy them now? If not, are there other investments that are more attractive?

¹⁷Genesove and Mayer, "Loss Aversion and Seller Behavior."

¹⁸Shefrin, Beyond Greed and Fear. Shefrin notes that after the investment had soured, the Clintons declined to cut their losses, even though their associate Jim McDougal made repeated offers to take over their interest. When presented with a proposed transfer of ownership, Hillary Clinton refused to sign it, saying: Jim told me that this was going to pay for college for Chelsea. I still expect it to do that'. Chelsea Clinton was ultimately able to attend college, but the investment never recovered. Shefrin, "Beyond Greed and Fear" ¹⁹Odean, "Are Investors Reluctant to Realize Their Losses?"; Heisler, "Loss Aversion in a Futures Market: An Empirical Test."



Home bias

Investing too much in one familiar region carries concentration risk



What is home bias?

We generally prefer the familiar and are wary of what is foreign or new (familiarity bias), and these preferences are established and entrenched through the mere exposure effect (where the repeated exposure to an initially unknown stimulus creates familiarity and trust).²⁰ Indeed, this is the premise of advertising, especially branded jingles, which are designed to affect sub-conscious behaviour at the point of sale.

When we have to make a decision, we tend to choose the option with the most readily available information, even if some of the information isn't necessarily useful (availability bias).²¹

Together, the familiarity and availability bias help to explain why many investors show a preference for investing in domestic assets. They are familiar, and information about them is readily available in the form of research, media coverage, and word-of-mouth advice.

"

Sweden accounts for approximately 1% of the world economy. A rational investor in the US or Japan would invest about 1% of assets in Sweden. Can it make sense for Swedish investors to invest 48 times more?

Richard H. Thaler,
 Cass R. Sunstein

²⁰Zajonc, "Attitudinal Effects of Mere Exposure." The grounding for the mere exposure effect is well established in the world of psychology, thanks to the work of Robert Zajonc. In a famous student newspaper experiment, Zajonc found that the mere repetition of nonsensical words, such as zebulons and worbus, actually made respondents rate them more favourably. According to Zajonc, this positive familiarity effect can happen without conscious decision-making; in other words our "preferences need no inferences". This flies in the face of traditional assumptions that we are rational processors of available information; instead it seems we rely heavily on intuition and familiarity. Zajonc also found that once we have decided we 'like' something on this automatic, emotional level, it becomes difficult to swav that opinion.

²¹Adair, Berry, and McGreal, "Investment Decision Making." Adair et al. describe the availability bias and find that more often than not investors invest in projects where information is readily available. See also Tversky and Kahneman, "Availability"; and Schwarz et al., "Ease of Retrieval as Information."

How does home bias apply to real estate?

The tendency to allocate a significant proportion of portfolios to home country investments is evident across all asset classes, but it is particularly pronounced within real estate. In addition to the familiarity and availability biases that encourage investors to favour their domestic country or local regional markets, some investors are also discouraged from investing in foreign markets due to perceptions of higher illiquidity, higher transaction costs, and greater information asymmetry.

The main problem is that over-investing in domestic assets exposes portfolios to concentration risk.

Figure 14: Home bias is the most prevalent in real estate



Source: Towers Watson, MSCI Asset Owner Survey, November 2014.

As the chart above shows, home bias is evident across assets but is lowest in equities, where the benefits of diversification have been most intuitively persuasive among investors. Home bias in bonds is understandable given the needs of institutional investors to hedge domestic liabilities. However, real estate suffers from surprisingly high home bias despite having more compelling reasons to diversify.

Home bias is, however, becoming less pronounced. As the chart below indicates, the ratio of domestic to overseas investors in investment purchases fell from around 75:25 to around 50:50 in 2015. The correlated behaviour of traditionally held assets in the global financial crisis has encouraged investors to seek more genuine diversification in their portfolios from international commercial real estate - as well as other alternative assets such as infrastructure and loans.

Figure 15: Home bias is decreasing



Figure 16: Geographic diversification can provide better risk-adjusted returns



A common assumption is that properties in developed markets behave in a broadly similar fashion over time, but this is a myth. Despite the fact their income-capital profiles can look optically similar, intra- and throughcycle returns can vary markedly between regions.

Figure 17: Long term risk-return characteristics vary markedly between countries



Source: Fidelity International, MSCI/IPD 2018.

In addition to the benefits of return diversification, there are other risk, legal and ESG factors that are encouraging investors to invest outside of their home markets. Asian investors have shown a preference for Western European assets due to greater levels of transparency and greater respect for legal title, enforceability of contracts and the rule of law.

Figure 18: Investors may find stronger ESG ratings and governance standards abroad



Diversifying by income risk factors

Investing in international real estate can provide return and volatility diversification that can deliver attractive returns per unit of risk. Yet we would argue, as we did in the framing chapter, that geographic labels are not always helpful and it is imperative to look at the underlying real estate exposures across geographies to ensure genuine diversification.

For instance, prime office properties in the major CBDs of London, Frankfurt, Paris, New York, and Tokyo have more in common with each other than other properties in their respective countries. Similarly, property demand in some cities - despite being thousands of miles apart - is sometimes linked to the same economic driver. For example, the price of oil has a significant impact on the performance of office markets in Calgary, Houston, and Aberdeen.

This argues for a more sophisticated way of thinking about real estate diversification. We know that in Western European and Anglo-Saxon markets, the bulk of long-term total returns are derived from income rather than capital gains, and that income is less volatile than capital (see Section 2: The anchoring bias). Given the outsized importance of rents in these markets, investors should pay closer attention to the regional differences in income-specific factors such as lease terms and covenant risk.

One factor which dictates the profitability of a lease agreement is the length of the rent-free period.

Typical lease terms vary between both countries and industry sectors. For example, in the UK, the average rent free period in the retail sector is currently around 4 months, while in the office sector it is around 7.4 months.²² All things being equal, real estate investors may be able to enter into more attractive leasing arrangements in markets where the average rent-free period is lower.

The risk that a tenant will vacate a property on the expiration of their lease also varies between regions. For example, tenants in France have historically been more likely to renew their leases than tenants in the UK.

Tenant default risk is an even more important determinant of income returns. As with lease structure, covenant strength (reassurances that a tenant is financially stable and profitable such as credit checks, accounting audits and company searches) varies between countries and industry sectors.

Figure 19: Tenant default risk varies between sectors



Workarounds:

- First, ensure that portfolios are diversified across geographies. Broad geographic diversification can produce better risk-adjusted returns. The long-term return - and the standard deviation of such returns - varies markedly across countries. Exposure to assets in different markets can help smooth volatility and enhance risk-adjusted returns.
- 2. Diversify income streams, the attractiveness of which also depends on geography. Given that income forms the bulk of total returns and is less volatile than capital, investors must ensure the sustainability of their properties' cash flows. Rent-free periods, covenant strength, lease renewal rates, business practices, and tax laws vary by country. Asset-specific analysis is essential. For example, investors should diversify income streams by staggering leases (to minimise the risk that multiple tenants will exercise break clauses at the same time). This practice actively smooths out potential disruptions to the portfolio's cash flow.
- 3. Look abroad for more attractive valuations. Bubbles can form in any market as a result of behavioural biases. Investors who have the flexibility to look abroad can access the most attractive opportunities. This is particularly important when valuations at home become stretched, or when the domestic market becomes less desirable because of weak demand or deteriorating covenant strength.

²²Source: IPD IRIS, MSCI, as at June 2017.



What is herding?

Large populations can show remarkable collective wisdom. If you ask a large enough population to guess the number of jellybeans in a jar, the average guess will be very close to the actual quantity. The wisdom of crowds is what makes security prices, in general and over the longer term, reflect the intrinsic values of their underlying assets.

However, crowds can occasionally be misled. This happens when individuals stop thinking independently and start to blindly follow the consensus instead. This can happen for a number of reasons. Under conditions of uncertainty, complexity and incomplete information, some investors will believe there is value in following the decision-making of other market participants (first movers, experts or insiders who are perceived to have more information). This is known as an informational cascade.²³

The social proof effect is to blame. Social proof is where people follow the actions of others in an attempt to reflect the 'correct' behaviour for a given situation. This powerful urge to conform to established patterns or follow the lead of perceived authority figures, trend-setters or simply people 'in

the know' is the social glue that binds herds together. Social proof is the underlying psychological bias that results in what we recognise as herding and groupthink behaviour.²⁴



Men, it has been well said, think in herds; it will be seen that they go mad in herds, while they only recover their senses slowly, and one by one

- Charles Mackay

²³Bikhchandani, Hirshleifer, and Welch, "A Theory of Fads, Fashion, Custom, and Cultural Change as Informational Cascades."

²⁴Muzafer Sherif, The Psychology of Social Norms. The best-known experiment that demonstrated the concept of social proof was carried out in 1935 by Muzafer Sherif. He put some people into a darkroom and showed them a dot of light several feet away. In reality, the dot was not moving but due to the autokinetic effect, it appeared to move to individuals by different degrees. When asked individually and then in groups how much it moved, individuals deferred to the group estimate even when it was out of line with their initial personal views. Given the movement of the light was ambiguous, Sherif demonstrated that the participants were effectively relying on each other to define a group-informed 'reality'.

Of course, social proof is something that product marketers are familiar with and it has become particularly pronounced in the online world, where the concept of 'likes' and 'followers' feed off the trait. When it comes to novel products, the statistics suggest only around 5% of the population are genuine leaders and the other 95% are followers. Referral and viral marketing campaigns are invariably built around this trendsetter-follower effect and it is one of the reasons that testimonials are so powerful and prolific.

The evidence suggests that the social proof bias is amplified significantly in complex situations where the 'right way' to act is ambiguous yet the importance of being accurate is critical. In the midst of this complexity, the assumption made is that certain people may possess more knowledge about the situation.²⁵ Investing, then, offers absolutely perfect conditions for social proof to operate in a highly exaggerated way, giving rise to the herd behaviour that can drive bubbles and bursts. Greed, confidence and complacency are the emotions which underpin sustained positive feedback loops (discussed on page 5). In these instances, most investors would prefer to jump onto the bandwagon than risk the regret of missing out on a rising market.²⁶

When financial markets are falling, there is a strong pull on our emotions with social proof (and loss aversion) encouraging an urge to sell if we see others doing so. Why are these other investors selling? Do they know something we don't? The evidence from behavioural finance suggests the answers to these questions could be surprisingly irrational - that people sell simply because others are selling and they do not need a rational reason with which to act. Robert Shiller's analysis of the 1987 stock market crash showed that many investors when asked why they were selling said 'because everyone else was selling'.²⁷ In financial markets, it is clear that herd reactions don't need rational thought for fuel.

For institutional investors, career risk can be a key influence on herd behaviour. Evidence from Portuguese equity markets suggests that institutional investors herd, and that such herding appears to be deliberate.²⁸

How does herding apply to real estate?

The strong urge to follow the crowd (and FOMO) lures many real estate investors into chasing the market, buying high and selling low. When real estate bubbles really take hold, even nonsensical practices can seem logical. Investor enthusiasm during the 1920s Florida land boom was such that speculators would order building supplies far in excess of actual requirements and ship them to the state with no definitive destination.²⁹ More recently, the market's (and Alan Greenspan's) unwavering belief that prices would rise in perpetuity contributed to the spectacular collapse of the American housing market in 2008.

When bubbles inevitably burst, sentiment tends to sour quickly. The market becomes excessively pessimistic, and many investors with fundamentally sound long-term assets will blindly rush for the exits simply because others are doing so. On paper, some investors have no good reason to sell, yet they dispose of assets because others are doing so and they fear a short-term liquidity crisis.

Sometimes, forced selling by certain institutional investors can spur others to sell as well, even if the latter trend-following group does not need to do so. For example, collective investment schemes may be forced to sell to meet client redemptions. Opportunistic investors can be contrarian in these situations by taking advantage of others' forced sales to buy assets at attractive valuations.

In equities, momentum is a well-recognised factor which many believe can be captured systematically through smart beta approaches. But entirely

passive, rules-based investing is less effective in real estate markets due to the heterogeneity, illiquidity, and high transaction costs. Momentum is a dangerous game to play in real estate.

Herding is a particularly dangerous bias because it magnifies the effect of individual cognitive errors.³⁰ In combination, the market's behavioural biases can occasionally exert greater influence on real estate prices than the fundamentals.

Workarounds:

- 1. Resist the urge to act impulsively in a downturn. Just as Ulysses asked to be tied to the mast lest he give in to the Sirens' song, investors should acknowledge that they will be vulnerable to their emotions during a downturn. In the same Shiller study mentioned above, over one in five individual investors and over two in five institutional investors reported difficulty concentrating, sweaty palms, tightness in chest, irritability, or a rapid pulse on Black Monday.³¹ While institutional investors are more sophisticated than their individual counterparts, Shiller's data suggests their cognitive and emotional biases could actually make them more susceptible to market movements.
- 2. Fortunately, there are natural limits to directional herd behaviour as trends fizzle out and sellers become exhausted. At some point, when the gloom is felt to be overdone, a new trendsetter often emerges the valuedriven investor - who will ultimately kick off a new herd behaviour that acts in the opposite direction to encourage a recovery rally in the most beatendown assets.
- **3.** Take a long term view. With real estate a fertile area for sentiment driven trends and trend-reversals, the job of following them all is nigh-on impossible the trading costs would also be onerous. It is little wonder then that successful investors all agree on one thing the benefit of taking a longer-term view. Interestingly, highly geared investors that have borrowed to invest have much less flexibility to take a long term view and often become forced sellers during a downturn. This can create pockets of significant long-term value which other genuinely patient investors can take advantage of.
- Be opportunistic. Investors who have dry powder during a downturn can take advantage of others' forced selling to buy quality assets at attractive valuations.
- 5. When in doubt, default to being a contrarian. Recognise that markets tend to over- and under-react, so be greedy when others are fearful, and fearful when others are greedy (see Introduction: Property is prone to feedback loops which cause bubbles and busts).

²⁵When we conform to a pattern of behaviour because we think the group knows more than us, it is known as informational social influence. This contrasts with normative social influence where we conform merely to be liked or accepted by others.

²⁴Farlow, "UK House Prices: Bubbles and Buyers"; Loomes and Sugden, "Regret Theory."
²⁷Shiller, "Investor Behaviour in the October 1987 Stock Market Crash: Survey Evidence."

²⁸Holmes, Kallinterakis, and Ferreira, "Herding in a Concentrated Market," 518.

²⁹Turner, Florida Railroads in the 1920s, 8.

³⁰Lux, "Herd Behaviour, Bubbles and Crashes."

³¹Shiller, "Investor Behaviour in the October 1987 Stock Market Crash: Survey Evidence."

Conclusion



Winning by not losing

One of the most frequently cited statistics in tennis is the number of unforced errors a player makes - that is, the points that are lost to selfimposed silly mistakes such as hitting the ball into the net. In contrast, a forced error is one which can be attributed to the opponent's good play, a pinpoint serve which hits the line before the player can react.

Minimising unforced errors can be more important than hitting winners. In the 2008 Wimbledon final, Rafael Nadal bested Roger Federer in what was widely hailed as the greatest tennis match of all time. On most accounts Federer, the defending champion, played the better match: he served more aces, his serve was faster, he played at the net more often (an aggressive tactic), and he hit almost 50% more "winners". So how did Nadal win the match? 'Winning by not losing' is just as important in the world of investment. Globalisation, regulation, and technology are making it increasingly hard to gain a winning edge, informational or otherwise. Yet there remain myriad ways of losing and many are influenced by entrenched cognitive biases

We have demonstrated that behavioural biases are built into many aspects of investing in real estate and a persistent threat to investors. Real estate markets are particularly vulnerable because of the market's heterogeneity, relative illiquidity, lack of transparency and a central exchange, and high trading costs, which exacerbate the effect which biases can have on market movements.

If investors minimise their mistakes in real estate investing by being more aware of the most prominent behavioural biases and their workarounds, then they can begin to stack the deck in their own favour.

| Roger Federer | Metric | Rafael Nadal |
|---------------|-------------------------------------|--------------|
| 25 | Aces | 6 |
| 89 | Winners | 60 |
| 117 mph | Average 1 st serve speed | 112 mph |
| 100 mph | Average 2 nd serve speed | 93 mph |
| 75 | Net approaches | 31 |
| 52 | Unforced errors | 27 |

Analysts attribute his victory to making fewer unforced errors.

Source: Wimbledon Information System/IBM + the NYT.

Appendix 1: The Fidelity solution

Fidelity's approach to real estate investing

- We combine a stock-picking approach with rigorous analysis of tenant income and market research.
- This approach is founded on the fact that no two assets are the same, and more than two thirds of total return from real estate is typically derived from income.
- We actively pursue opportunities to enhance the value of assets for our clients in the belief that all assets need to be managed and buildings maintained to protect their value.
- We use proprietary risk models we attempt to identify strong investment-grade tenants.
- We analyse factors such as leasing risk, tenant default and market potential both at the asset and portfolio level.
- This analysis allows us to minimise the impact of problematic sectors and tenants during bear phases of the property cycle.

A bottom-up income approach to real estate investment

An approach that recognises and workarounds real estate behavioural biases

Investors in real estate have historically been guilty of trying to maximise capital returns, all too often via an opportunistic top-down approach that treats real estate as a homogenous asset class. As we have seen, this is an approach that is rooted in behavioural biases and emotional decision-making. The outcome is invariably disappointment at market turning points.

We would argue that there is a better approach, which takes account of behavioural biases and their implications. A long-term, through-the-cycle approach to investing in real estate, which targets a SMARTer objective of maximising risk-adjusted income and total returns by minimising capital volatility. This can be achieved by refocusing the investment process around fundamental property research and income risk analysis. By putting the emphasis on cash flows, we can reduce volatility and invest with greater levels of certainty, because income is the dominant and more predictable driver of total real estate returns.

How does it work in practice?

We know that income returns matter more than capital returns, but critically they are also vastly more reliable (and predictable). For any given level of expected return, an asset that relies more on capital growth to deliver its target return is likely to be a riskier bet in a real estate context. Another way of saying this is that the cash flows arising from future capital gains are less certain than income, so investors are likely to get better risk-adjusted returns whenever there is a greater reliance on income as opposed to capital growth.

When comparing alternative assets, the primary focus should be on expected cash flows and the risks associated with these cash flows rather than on total expected returns. We would call such an approach a 'structured income approach' to decision-making.

In an ideal world, the best structured income approach would be a stochastic cash-flow approach where all expected cash flows are assigned probabilities based on a range of different possible scenarios that we can model. To determine the probabilities which should be attached to future cash flows, we need to understand all the risks that are associated with those cash flows.

While much of the industry's focus is often on inherently difficult-to-know areas such as expected capital growth levels, other areas, where valuable hard data are often available, can be neglected. For example, income volatility can be minimised at both the property-specific and portfolio level

by examining two key factors which affect cash flows: tenant risk and lease structures.

Tenant risk: refers to lessees' ability to pay the rent. For commercial real estate, investors can assess such risk by considering the tenant's publicly available credit information via annual reports, bond issues and company searches. Our collaboration with Fidelity's equity and credit research analysts is a particularly valuable in this respect.

Lease risk: cash flows are also affected by a property's lease structure - another underappreciated driver of real estate performance. The lease agreement determines how cash is paid over the life of a tenancy. The document governs the landlord's ability to review rents, the extent to which he can raise rents (upward-only or index-linked rent reviews), and his ability to switch tenants. Leasing conventions vary markedly between both countries and industry sectors. For example, UK leases generally have 5-yearly reviews to market rents, while French leases are typically 9 years (with 3 and 6 year breaks) and indexed to inflation.

Figure 20: Diversify by combining different lease structures



Source: Fidelity International, Investors who diversify through geography alone risk buying two assets in different geographies which are virtually identical from an income and lease perspective.

To diversify a portfolio, investors can select properties with varying lease lengths, and whose key lease events are staggered. Staggering minimises the risk of multiple cash flow disruptions occurring at the same time, thereby ensuring a greater consistency of returns over time. To select individual properties, investors should compare each asset's risk-return characteristics. The traditional, simplistic approach to evaluating a property divides its expected return into a handful of discrete scenarios: a base case, a high-performing 'bull' case, and a pessimistic 'bear case'. Masking the full range of outcomes makes it easy for investors to be possessed by the illusion of control.

The risk analysis associated with the traditional approach is built on the historic volatility of the total market, which is both backward-looking and far too broad given the wide distribution of returns. It is a mistake to rely on data from the recent past to predict the future as this leads to false confidence that current trends will prevail.

A more reliable approach is to account for the multitude of potential outcomes by using a Monte Carlo simulation model. This technique approximates the probability of certain outcomes via hundreds of thousands of trials using a wide number of variables including valuation, tenant default risk, and lease structure. Once probabilities for specific cash flow risks are assigned - the risk of, for example, Johann's Sporting Goods exercising its break option on 8 January 2022 - the simulation will consider every combination of outcomes and produce a distribution of expected returns.

Figure 21: Expected returns are not normally distributed



The approach is founded upon cash flow-specific variables, which can be forecasted more accurately than volatile, momentum-driven capital values. And by producing a probability distribution - rather than an average expected return, or a handful of base/bull/bear cases - it provides a far clearer picture of a property's risk-return profile.

After running Monte Carlo simulations for multiple properties, the results can be compared on a scatter plot to aid the portfolio construction process. Notably, the most attractive assets (Figure 20, top left quadrant) hail from a variety of sectors. This is contrary to the implicit industry/ investor assumption that the properties of a particular sector, style, and geography share the same risk-return characteristics.





Evidence suggests that income accounts for the bulk of long term total returns across markets, and it is also less volatile. Thus, investors who identify properties which offer attractive income streams can generate superior risk-adjusted returns.

Given that property performance varies markedly both between and within markets, stock-specific research is essential. When scrutinising properties, investors will inevitably be vulnerable to the five biases outlined in these report. However, a systematic approach which focuses on the quality and sustainability of cash flows can help to minimise the risk of making cognitive errors. The factors we recommend analysing - tenant risk and lease structure - can be forecasted with far more accuracy than traditional industry measures, such as the return of a broad market index or an economic growth rate. Further, use of Monte Carlo analysis rather than traditional base/bull/bear scenarios can help investors to identify asymmetric opportunities whereby the risk-reward trade-off is skewed in their favour.

We will never be able to fully overcome our behavioural biases, but with the right tools, we can make ourselves less susceptible to them. In an increasingly competitive investment environment, having a small behavioural edge can make a big difference.

References

Adair, A.S., J.N. Berry, and W.S. McGreal. "Investment Decision Making: A Behavioural Perspective." Journal of Property Finance 5, no. 4 (December 1994): 32–32. doi:10.1108/09588689410080275.

Bikhchandani, Sushil, David Hirshleifer, and Ivo Welch. "A Theory of Fads, Fashion, Custom, and Cultural Change as Informational Cascades." The Journal of Political Economy 100, no. 5 (October 1992).

Brown, Gerald R., and George A. Matysiak. Real Estate Investment: A Capital Market Approach. Harlow: Financial Times Prentice Hall, 2000.

Chen, M. Keith, Venkat Lakshminarayanan, and Laurie R. Santos. "How Basic Are Behavioral Biases? Evidence from Capuchin Monkey Trading Behavior." Journal of Political Economy 114, no. 3 (June 2006): 517–37. doi:10.1086/503550.

Farlow, Andrew. "UK House Prices: Bubbles and Buyers," 2004.

Gallimore, Paul. "Aspects of Information Processing in Valuation Judgement and Choice." Journal of Property Research 11, no. 2 (June 1994): 97–110. doi:10.1080/09599919408724108.

Genesove, D., and C. Mayer. "Loss Aversion and Seller Behavior: Evidence from the Housing Market." The Quarterly Journal of Economics 116, no. 4 (November 1, 2001): 1233–60. doi:10.1162/003355301753265561.

Heisler, Jeffrey. "Loss Aversion in a Futures Market: An Empirical Test." Review of Futures Markets 13, no. 3 (n.d.): 793–826.

Holmes, Phil, Vasileios Kallinterakis, and M P Leite Ferreira. "Herding in a Concentrated Market: A Question of Intent: Herding in a Concentrated Market." European Financial Management 19, no. 3 (June 2013): 497–520. doi:10.1111/j.1468-036X.2010.00592.x.

Hong, Harrison, and Jeremy C. Stein. "Differences of Opinion, Short-Sales Constraints, and Market Crashes." Review of Financial Studies 16, no. 2 (April 2003): 487–525. doi:10.1093/rfs/hhg006.

Kahneman, Daniel. Thinking, Fast and Slow. 1st ed. New York: Farrar, Straus and Giroux, 2011.

Kahneman, Daniel, and Frederick, Shane. "Representativeness Revisited: Attribute Substitution in Intuitive Judgement." In Heuristics and Biases: The Psychology of Intuitive Judgment, edited by Thomas Gilovich, Dale W. Griffin, and Daniel Kahneman. Cambridge, U.K. ; New York: Cambridge University Press, 2002.

Kahneman, Daniel, and Amos Tversky. "Prospect Theory: An Analysis of Decision under Risk." Econometrica 47, no. 2 (March 1979): 263. doi:10.2307/1914185.

Loomes, Graham, and Robert Sugden. "Regret Theory: An Alternative Theory of Rational Choice Under Uncertainty." The Economic Journal 92, no. 368 (December 1982): 805. doi:10.2307/2232669.

Lux, Thomas. "Herd Behaviour, Bubbles and Crashes." The Economic Journal 105, no. 431 (July 1995): 881. doi:10.2307/2235156.

Muzafer Sherif. The Psychology of Social Norms. New York: Harper & Bros, 1936.

Northcraft, Gregory B, and Margaret A Neale. "Experts, Amateurs, and Real Estate: An Anchoring-and-Adjustment Perspective on Property Pricing Decisions." Organizational Behavior and Human Decision Processes 39, no. 1 (February 1987): 84–97. doi:10.1016/0749-5978(87)90046-X.

Odean, Terrance. "Are Investors Reluctant to Realize Their Losses?" The Journal of Finance 53, no. 5 (October 1998): 1775–98. doi:10.1111/0022-1082.00072.

Russo, J. Edward, and Paul J. H. Schoemaker. Decision Traps: Ten Barriers to Brilliant Decision-Making and How to Overcome Them. 1st Fireside ed. New York: Simon & Schuster, 1990.

Schwarz, Norbert, Herbert Bless, Fritz Strack, Gisela Klumpp, and et al. "Ease of Retrieval as Information: Another Look at the Availability Heuristic." Journal of Personality and Social Psychology 61, no. 2 (1991): 195–202. doi:10.1037//0022-3514.61.2.195.

Shah, Anuj K., and Daniel M. Oppenheimer. "Heuristics Made Easy: An Effort-Reduction Framework." Psychological Bulletin 134, no. 2 (2008): 207–22. doi:10.1037/0033-2909.134.2.207.

Shefrin, Hersh. Beyond Greed and Fear: Understanding Behavioral Finance and the Psychology of Investing. Financial Management Association Survey and Synthesis Series. Oxford: Oxford Univ. Press, 2007.

Shiller, Robert J. "Investor Behaviour in the October 1987 Stock Market Crash: Survey Evidence." National Bureau of Economic Research, NBER Working Paper Series, no. Working Paper No. 2446 (November 1987).

Turner, Gregg M. Florida Railroads in the 1920s. Images of Rail. Charleston, SC: Arcadia, 2005.

Tversky, A., and D. Kahneman. "Judgment under Uncertainty: Heuristics and Biases." Science 185, no. 4157 (September 27, 1974): 1124–31. doi:10.1126/science.185.4157.1124.

Tversky, Amos, and Daniel Kahneman. "Availability: A Heuristic for Judging Frequency and Probability." Cognitive Psychology 5, no. 2 (September 1973): 207–32. doi:10.1016/0010-0285(73)90033-9.

Zajonc, Robert B. "Attitudinal Effects of Mere Exposure." Journal of Personality and Social Psychology 9, no. 2, Pt.2 (1968): 1–27. doi:10.1037/ h0025848.



Important Information

This material was created by Fidelity International. It must not be reproduced or circulated to any other party without prior permission of Fidelity.

This communication is not directed at, and must not be acted on by persons inside the United States and is otherwise only directed at persons residing in jurisdictions where the relevant funds are authorised for distribution or where no such authorisation is required. Fidelity is not authorised to manage or distribute investment funds or products in, or to provide investment management or advisory services to persons resident in, mainland China. All persons and entities accessing the information do so on their own initiative and are responsible for compliance with applicable local laws and regulations and should consult their professional advisers.

This content may contain materials from third-parties which are supplied by companies that are not affiliated with any Fidelity entity (Third-Party Content). Fidelity has not been involved in the preparation, adoption or editing of such third-party materials and does not explicitly or implicitly endorse or approve such content.

Fidelity International refers to the group of companies which form the global investment management organisation that provides products and services in designated jurisdictions outside of North America Fidelity, Fidelity International, the Fidelity International logo and F symbol are trademarks of FIL Limited. Fidelity only offers information on products and services and does not provide investment advice personal recommendations based on individual circumstances.

Issued in Europe: Issued by FIL Investments International (FCA registered number 122170) a firm authorised and regulated by the Financial Conduct Authority, FIL (Luxembourg) S.A., authorised and supervised by the CSSF (Commission de Surveillance du Secteur Financier) and FIL Investment Switzerland AG, authorised and supervised by the Swiss Financial Market Supervisory Authority FINMA. For German wholesale clients issued by FIL Investment Services GmbH, Kastanienhöhe 1, 61476 Kronberg im Taunus. For German institutional clients issued by FIL Investment Services GmbH, Kastanienhöhe 1, 61476 Kronberg im Taunus. For German institutional clients issued by FIL Investment Services GmbH, Kastanienhöhe 1, 61476 Kronberg im Taunus. For German institutional clients issued by FIL Investment Services GmbH, Kastanienhöhe 1, 61476 Kronberg im Taunus. For German institutional clients issued by FIL Investments International – Niederlassung Frankfurt.

In Hong Kong, this content is issued by FIL Investment Management (Hong Kong) Limited and it has not been reviewed by the Securities and Future Commission. FIL Investment Management (Singapore) Limited (Co. Reg. No: 199006300E) is the legal representative of Fidelity International in Singapore. FIL Asset Management (Korea) Limited is the legal representative of Fidelity International in Korea. In Taiwan, independently operated by FIL Securities (Taiwan) Limited, 11F, 68 Zhongxiao East Road, Section 5, Xinyi Dist., Taipei City, Taiwan 11065, R.O.C. Customer Service Number: 0800-00-9911#2.

Issued in Australia by Fidelity Responsible Entity (Australia) Limited ABN 33 148 059 009, AFSL No. 409340 ("Fidelity Australia"). This material has not been prepared specifically for Australian investors and may contain information which is not prepared in accordance with Australian law.

IC18-176