

Behavioural finance: Putting the most interesting field in modern investment theory into practice



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*"If the theory of finance is to grow in its usefulness, all economists eventually will have to grapple with the messier aspects of market reality."*¹

KEY POINTS:

- Behavioural biases can and do create inefficiencies in asset pricing.
- Identifying and actively taking advantage of these can be part of a robust investment process.
- Certain behavioural biases can be quantified but in aggregate it remains a qualitative subject.
- Behavioural finance theories are not entirely irreconcilable with traditional financial thinking.
- Behavioural finance is becoming more widely recognised, but in a practical setting it remains on the periphery.

The dominance of traditional financial theory

The recent volatility seen across a variety of financial assets has brought traditional financial theory into question and left the Efficient Market Hypothesis (EMH) – which has formed the backbone of finance theory for decades – open to even greater debate. Indeed, the EMH has become so dominant that most significant financial developments used in the investment world today, such as Modern Portfolio Theory (MPT), rely, to some degree, on its underlying principles.

EMH is, however, at odds with what active fund managers do on a daily basis. Assuming that a sizeable proportion of individuals in the asset management industry believe in what they are doing, there must be a large number of people who inherently believe the EMH to be incorrect. This article does not try to prove or disprove the mathematics behind the theory. Instead, it seeks to widen the debate and discuss a more practical approach that addresses areas of the debate where EMH falls short.

The basis of one of the most widely discussed challenges to traditional financial theory is the impact of psychological influences. According to this argument, a completely rational marketplace is not applicable, in practice, due to the impact of cognitive biases that systematically enter the investment decision-making process. The nuances of this way of thinking commonly come under the term behavioural finance. While, in its simplest form, this way of thinking appears logical – as psychological biases can be found in all walks of life, why not the financial world – the fact that it is a largely qualitative phenomenon poses

significant obstacles for practitioners and academics alike².

Applying behavioural finance within an investment philosophy

While behavioural finance is one of the most frequently discussed areas of contemporary thinking on investment, its insights have yet to make the jump from academic circles to those of stock market practitioners.

Unlike the EMH – with its three forms of price efficiency – behavioural finance isn't underpinned by a set of unifying principles that tie together its observations of human behaviour. For this reason, behavioural finance cannot be articulated as a clearly and narrowly-defined hypothesis or conceptual framework. Therefore, there is no right answer as to how one attempts to practically integrate the theories of behavioural finance into an investment process. Different conclusions and thought processes will lead to different approaches revolving around a wider, common belief. However, if psychological influences are indeed a cause of market inefficiency, it would seem logical that investors place more effort on trying to find a way of taking advantage of this.

There are numerous reasons why this is easier to discuss in theory than it is to implement in practice. One significant reason is that it is difficult for human beings to differ so noticeably from the widely-accepted norm, and the finance industry – with its ever shortening time horizons and desire for immediate results – accentuates this. John Maynard Keynes aptly captured this predicament: "Worldly wisdom teaches that it is better for reputation to fail conventionally than to succeed unconventionally"³.

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TABLE 1: SOME OF THE BETTER-KNOWN BEHAVIOURAL FINANCE BIASES

Gambler's fallacy	Falsely linking past events to the probability of unrelated future events and confusing small samples of data with large samples of the same population
Anchoring	Placing too much emphasis on irrelevant facts and figures e.g. a previous stock price
Confirmation bias	Being more open to information which reaffirms a pre-existing chain of thought
Representativeness	Subconsciously creating and extrapolating patterns and correlations that do not exist
Hindsight bias	Perception, in hindsight, of specific events having been more predictable than they really were
Self-attribution	Viewing success as a result of ability, but failure as a result of bad luck
Endowment effect	Placing a higher value on an asset you own than if you didn't own it
Ambiguity aversion	A preference for known, rather than unknown, risks which impacts how these risks are priced
Prospect theory/loss aversion	Individuals value gains and losses differently, sell their winning stocks too soon and hold their losing stocks too long
Overconfidence	Overestimation of one's own knowledge and ability

As a result, it may be that the investor who embraces behavioural finance not only needs an appreciation of the theory but must also possess a number of character traits in order to make it practicable. Perhaps the most important of these is feeling comfortable with consistently doing the opposite of what they are being told by the majority. This specifically goes beyond the ability to 'think independently', which almost all financial market practitioners claim to be able to do.

It may also be that behavioural finance can be put to best use when combined with certain aspects of traditional financial theory. It is both practical and theoretically possible to have an investment approach that focuses on identifying situations where psychological influences have impacted asset prices. For example, one may identify a situation where a particular asset has been influenced by 'herding'⁴, and it is then necessary to make an assessment of the extent to which this has caused a separation from the long-term, underlying value of the asset. This second step is likely to require, at the very least, an appreciation of traditional financial theory such as the use of beta in assessing a company's cost of capital.

Putting theory into practice

It is possible to identify situations where behavioural biases – such as those in Table 1 – are prominent. However, it is also possible, and may be more practical, to initially attempt to assess assets on a less-detailed basis. A wider appreciation of investor psychology allows individuals to assess if any of the emotions demonstrated in Exhibit 1 on page 3 are relevant to a specific asset at any one point in time. From this point, more detailed analysis may be conducted on the underlying causes and whether it has resulted in a deviation from the asset's fundamental value. It may, however, be possible to use this as a starting point for identifying potential investments which may benefit from further investigation.

Exhibit 2 on page 3 is a light-hearted example of the type of thinking that may cause the aforementioned detachments from fundamental value. How many of these can you recall thinking at some point in time?

Sceptics would argue that the Investor Psychology Cycle highlighted in Exhibit 1 does not exist in practice or that occurrences are only identifiable with hindsight.

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Exhibit 1: The Investor Psychology Cycle

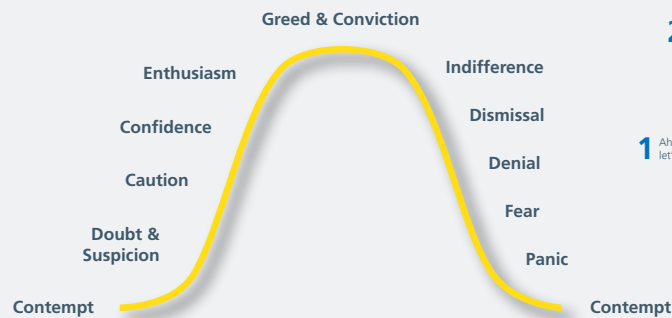


Exhibit 2: The Investor Psychology Rollercoaster



Source: Exhibit 1 – The Investor Psychology Cycle, www.minyanville.com/businessmarkets, Prier du Plessis, August 2008. Exhibit 2 – Investor Psychology: Where We Are on the Rollercoaster? www.seekingalpha.com, April 2009.

The first of these arguments should be quite easy to resolve. Asset bubbles and crashes are relatively frequent and observed across a considerable number of asset classes. Some of the most widely recognised of these include: oil (2008), developed market TMT equities (2000), Japanese property (1991), and tulips (1637). It does not take a great deal of investigation to realise that similar cycles are experienced by individual securities. While in hindsight they appear obvious – a tulip bulb costing more than ten times the annual income of a skilled craftsman seems hard to justify over 350 years later⁵, this may not have been true at the time. There are several arguments for believing that bubbles are not purely identifiable in hindsight. Reflecting on all of the four examples given above, a significant minority have identified their formation at the time. In addition, the vast majority of market practitioners will have heard fellow investment professionals proclaim something along the lines of: 'I know it's expensive, but it's going to keep going up' to justify stratospheric price levels on the basis of having supposedly entered a new and more prosperous economic era.

Although significant bodies of work exist which quantify the impact of specific biases, in its entirety, behavioural finance is largely

a qualitative subject. Despite this, it may be possible to attempt to quantify certain aspects into a practical, as opposed to purely theoretical, framework similar to more traditional quantitative screening. Created in order to highlight assets that exhibit certain characteristics, quantitative screening is widely used in financial markets and numerous funds rely solely on such models. Screening for assets which have been subject to behavioural influence is unlikely to ever be a 'one-stop shop' as each situation requires a more subjective assessment of behavioural influences. It may, however, be possible to use this as a starting point for identifying potential investments which may benefit from further investigations.

Despite the mutual exclusivity of these theories, in practice there is no reason why behavioural finance and traditional finance theory, such as EMH, cannot live alongside each other if one believes that market inefficiencies are temporary in nature. This point is highlighted in a paper by Hubert Fromlet, which suggests that 'the contribution of behavioural finance is not to diminish the fundamental work that has been done...in MPT. Rather, it is to examine the importance of relaxing unrealistic behavioural assumptions embedded in

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TABLE 2: EXAMPLES OF POTENTIAL QUANTITATIVE INDICATORS OF THE IMPACT OF BEHAVIOURAL BIASES ON EQUITIES

18 month relative performance	Evidence shows that price momentum in individual stocks persists on average for approximately 18 months. The rationale being the behavioural patterns exhibited by market participants. A theme is recognised, then realised and finally valuation and/or new themes cause this momentum to come to a halt.
Free Cash Flow Yield/Price Earnings	Short term focus on depressed earnings without consideration of the cash a business can continue to generate on a longer term basis is a common occurrence, particularly at times of operational underperformance.
Average Broker Recommendation	This can be used as a preliminary proxy for market sentiment towards a stock. Beyond this it is necessary to investigate further whether this is actually the case and if so, why.

the homo economicus [the underlying assumption of human rationality which is the bedrock for EMH] tradition and thus extend MPT and make it more realistic⁶.

It is imperative that the investor who is trying to identify instances where behavioural biases have influenced asset prices is also aware that they themselves are likely to be subject to bias. While it is unlikely that this will prevent any bias whatsoever, it will allow the investor to reduce their impact on the investment process and therefore, potentially make for more rational decision making.

The approach highlighted above is by no means the only way of integrating behavioural finance theories with a rigorous investment philosophy. Following on from more specific areas of research, some investors try to estimate not the attractiveness of a potential investment but what the rest of the investment community will think that it is⁷. Other investors will have an appreciation of behavioural finance without explicitly trying to take advantage of its findings. For example, one of Warren Buffet's most infamous quotes is: 'Be fearful when others are greedy and greedy when others are fearful'. This is a perfect example of appreciating the impact of psychological influences in its purest form.

While numerous models and approaches are used in the course of investing, the

vast majority focus on two factors: an assessment of the fundamental details of an asset and a calculation of its intrinsic value. If behavioural finance is to be put into practice, a more appropriate starting point for investment analysis may be to identify areas where emotion is likely to have caused a detachment from intrinsic value.

What does the future hold?

"A theory should be as simple as possible and no simpler."

Albert Einstein

So why does behavioural finance continue to struggle to gain traction in the financial world? The reasons may be several and varied. However, it seems clear that if one was able to quantify the subject in its entirety, greater efforts would be made to try to prove or disprove its conclusions. The fact that the subject is not, and may never be, fully quantifiable can be used by proponents of traditional finance theory as an excuse to hide behind. In one of the few published papers that attempts to mathematically compare the two, Eugene Fama – one of the forefathers of traditional financial theory and EMH – states that 'market efficiency... is a faulty description of price information. But... market efficiency can only be replaced by a better specific model of price formation, itself potentially rejectable by empirical tests'⁸. Surely this is less than ideal when the vast majority of traditional financial theory

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is based on market efficiency. Perhaps a greater appreciation of the irreconcilability between theory and practice in this field would lead to a wider appreciation of the non-quantifiable aspects of psychological biases.

Conclusion

Regardless of the course that academia takes, if the history of its development is any guide to the future, behavioural finance will gradually continue to influence the way people perceive financial markets. The irony is that the subject tends to become more popular (or at least its popularity spikes for a short period of time) as a result of market

movements that are hard to reconcile with traditional financial theory. In essence, its fortunes appear to be more closely linked to the failures of traditional financial theory than any underlying desire of market practitioners to embrace it in its own right.

As a firm believer in the influence of psychological biases in financial markets, it is no bad thing that others appear less convinced. If everyone had a greater appreciation of these influences they would in all likelihood become less pronounced and, therefore, reduce the frequency and extent of opportunities which arise as a result.

1. Shiller, R.J. (2005) *Irrational Exuberance* (2nd Ed.). Princeton University Press.
2. While behavioural finance hasn't yet lent itself to mathematical modelling, this inability to translate all understanding derived from behavioural finance into a series of equations does not detract from the valuable insights it provides. Indeed, the economist John Maynard Keynes rejected any sort of mathematical description of human behaviour.
3. J.M.Keynes, *The General Theory of Employment, Interest and Money*. (1936) Chapter 12, Part V.
4. The reasons attributed to herding are many and varied but herding typically results from a, so-called, diversity breakdown. That is when the widely-diverse and independent views of market participants are lost to a, so-called, information cascade. Rather than base their decisions on their own information and opinions, market participants start relying on the information of others and begin imitating their actions, resulting in uninformed decisions being made. At this point the destructive characteristics of groupthink take over, and the market stops being collectively smart. Herding can also be as a consequence of market participants operating within a transparent and closely compared peer group seeking to reduce reputational risk by pursuing similar strategies on the premise that no one ever got fired for buying IBM.
5. Peter Garber, an American Economist, questions whether "tulipmania" ever existed. In a bold attempt at historical revisionism and to lend support to the EMH, he argues that the tulip speculation was rational. See: Peter Garber, "Tulipmania" *Journal for Political Economy*, 97, No 3 (June 1989).
6. Hubert Fromlet, *Behavioural Finance-Theory and Practical Application – Statistical Data Included*, Business Economics, July 2001.
7. John Maynard Keynes famously likened these, so-called, co-ordination problems to a beauty contest: "...each competitor has to pick not those faces which he himself finds prettiest, but those which he thinks likeliest to catch the fancy of other competitors, all of whom are looking at the problem from the same point of view...[they] devote [their] intelligence to anticipating what average opinion expects average opinion to be." J.M.Keynes op cit. p156.
8. Eugene Fama, *Market efficiency, long-term returns, and behavioural finance*. *Journal of Financial Economics*, September 1998.



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