WHAT IS
EVIDENCE-BASED INVESTING?

BLACKDOWN
FINANCIAL

Independent Financial Advisers

CONTENTS

STARTING WITH THE EVIDENCE

THE BACKGROUND

The financial services industry is full of people making promises they can't keep — promises about 'beating the market', about picking the best stocks and market timing, and promises about guaranteed returns.

As much as these offers can be tempting for those of us looking to grow our wealth and adequately fund our retirement, they don't really stand up to scrutiny.

IF IT SOUNDS TOO GOOD TO BE TRUE,

THAT'S BECAUSE IT PROBABLY IS!

The truth is markets are hard to beat consistently. Picking stocks on the view that prices are wrong is like betting on the horses. It can go either way. Not even the professionals are much good at market timing. And as for guarantees, think about this: If there were no risk in investing, why would there be a return?

The Evidence-Based Investor (TEBI) looks at an investment approach based on evidence, one that is grounded in empirical research and the long-term observation of markets and how they work. This is not an approach based on guesswork, gut feeling or hunches, or the idea that any single person has some magic formula for seeing into the future. It is an approach based on verifiable facts and observation.

In a world of slick marketing, spin and hype, the idea of respecting evidence is frequently undervalued. As the great Scottish philosopher David Hume once said, a wise man proportions his belief to the evidence. The danger of doing otherwise was highlighted by the fictional detective Sherlock Holmes, who said if you theorise before you have the data, you begin to twist facts to suit your theories.

The truth, supported by overwhelming evidence, is that consistently beating the market over the long term is extremely hard. Winning fund managers don't tend to repeat their feats year-on-year, and even the very few that do tend to capture any additional returns for themselves by charging high fees for their superior skills.

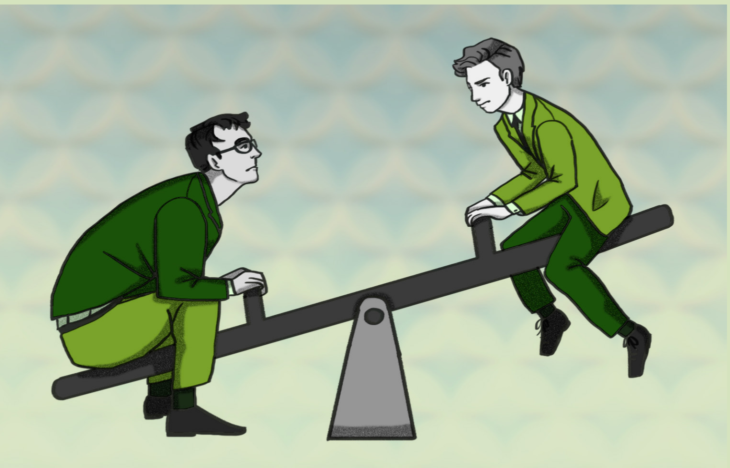
THE DETAIL

So why are markets so hard to beat consistently?

COMPETITION

Security prices in global markets represent the aggregated wisdom of millions of buyers and sellers, each with their own views of the right price for each stock. New information, like earnings reports

or economic data, are baked into prices instantaneously. The ever-increasing speed of information flows and sophistication of trading systems mean getting an edge is tough. And doing this consistently, day after day, is nigh on impossible. Of course, there may be mistakes in prices. But can you pick them, not just today, but every time? Doubtful.



ARITHMETIC

If one investor has a strong feeling about an individual stock being mispriced and profits from buying it, there must be a loser on the other side of the trade. One conventional investor can only win at the expense of another. So investing this way, by trying to outguess the market, becomes a zero-sum game.

COST

Making big bets against the market doesn't come cheaply. There's the cost of all that research on individual stocks, the cost of trading, and the cost of falling in love with individual stocks or sectors and paying too much for them. Most of all there's the cost of paying the big salaries and bonuses that the managers demand. So just beating the market isn't enough. You must beat it by a big enough margin to cover your costs. And you must do it over and over. This means for the end investor, using these traditional funds ends up being even less than a zero-sum game.

NEWS

Even if your view on a stock's inherent price is rock solid based on today's information, what if the news changes tomorrow? A company's advantage might be undone by new technology (think Kodak) or a disaster (think BP) or a governance crisis (think VW). Predicting prices correctly implies you can predict tomorrow's news headlines.

Do you know anyone who can do that?

THE EVIDENCE

There are dozens of studies illustrating the difficulty money managers have in outperforming the market consistently:

- Professor David Blake at Cass Business School in London has led an **ongoing study** into the performance of equity funds in Britain and the US. It found that very few funds beat the market over the long term on a risk- and cost-adjusted basis, and that even those funds effectively claw back from investors any additional returns they generate by charging higher fees.

- Professor Eugene Fama (a 2013 Nobel laureate) and his research partner Kenneth French **studied** the performance of more than three thousand US mutual funds over 22 years. They found that on average the funds lagged the market by about the same amount as the fees they charged. While some individual managers undoubtedly did outperform, it was almost impossible to discern whether this was due to skill or luck.

- S&P Dow Jones Indices regularly publishes **a report** (Standard & Poor's Index Versus Active or 'SPIVA') which compares the returns of traditional managers against indexes across different time periods and asset classes in various markets around the world. The overwhelming pattern is that actively managed funds tend to underperform their benchmarks over short and long periods, and funds that do outperform over some periods do not do so consistently.

GROWING YOUR WEALTH

WHERE RETURNS COME FROM

THE BACKGROUND

People invest for two main reasons — to grow their wealth, or to protect their existing wealth. We typically seek to grow our wealth to reach financial goals, such as buying a home, starting a business, paying for children's education, or funding our retirement.

Wealth is generated over the long term by investing in a diversified portfolio of assets, including shares, bonds, property and cash. All investing involves a degree of risk, and there is no asset that is entirely risk-free. But, generally speaking, the more risk you are prepared to live with, the higher the returns you can expect to receive over the long term.

Of course, not everyone needs to invest. If you feel you already have enough to meet your goals, you may decide to simply put your money in the bank. But few of us are in that position, which means that to generate a sufficient retirement pot we need to take on some risk. You should also keep in mind that not taking on risk can be a risk in itself, as you could end up falling short of what you need, and find yourself having to work longer, spend less in retirement, or take more risk to catch up.

As an investor, there are essentially two things you can do with your money to make it grow. You can either lend it to someone, or become a part owner of a company.

BONDS	SHARES
LENDING TO A BUSINESS/GOV	PART OWNERSHIP OF A BUSINESS
SAFER THAN SHARES	MORE RISKY THAN BONDS
LOWER EXPECTED RETURN	HIGHER EXPECTED RETURN

- When you buy a bond, you're lending money, either to a business or government. The returns you receive comprise the interest paid on the loan (the 'coupon') and the expected capital return (the increase in price). As a creditor, you're nearer the front of the queue should the bond issuer default (fail to pay everything they owe). For this reason, bonds are seen as safer than shares, but at the cost of a lower expected return.

- When you buy a share, you're getting part ownership of the business. Your returns in this case come from the share of the profits paid out as dividends and the expected capital return (the increase in the share price). Being a share owner, you rank behind the creditors if the company goes bust, which is why shares are seen as more risky than bonds. For this reason, you can expect a higher return for investing in shares over bonds.

So, different asset classes come with different risks and different rates of return. Generally, cash is seen as the safest, but it also delivers the lowest returns. You could take on slightly more risk and invest in the highest rated government bonds and expect a higher return than just cash. Corporate bonds are another step up from there. And, finally, you can target the highest expected return by investing in equities, or shares. Within shares, there are additional premiums available from small, low relative price and more profitable companies.

The flipside of the higher returns is greater volatility from year to year. In short, shares offer a bumpier ride. But the longer your investment horizon, the less these ups and downs matter. And you can moderate the bumps and increase the reliability by diversifying, as we will see later.

What is the right portfolio for you? It depends on a range of factors, including your individual circumstances, risk appetite and time horizon. Ultimately, the best portfolio is the one you are able to stick with, even when markets are at their most turbulent.

What we do know is that markets over time have a history of rewarding investors who exercise patience and discipline, and who can live with the risk in expectation of the return.

THE DETAIL

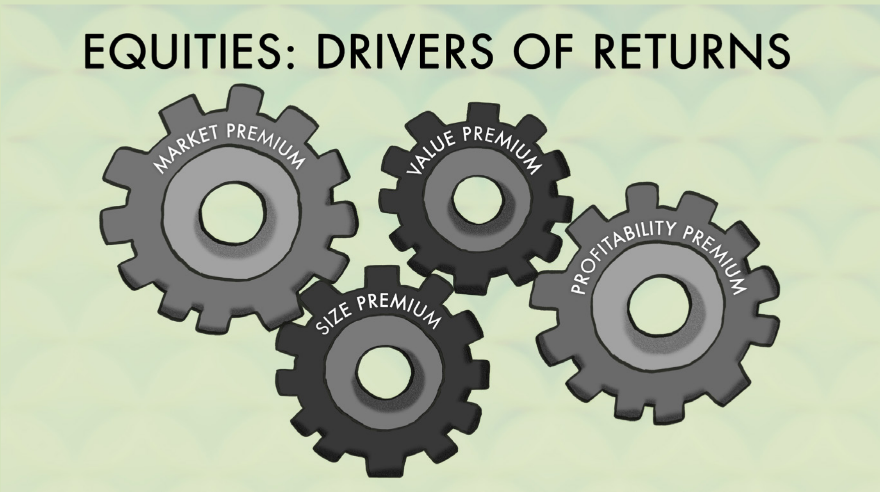
Over several decades, financial academics have discovered a number of factors that drive returns in the long term. These factors are evident in markets around the world, and over long time periods:

THE MARKET

There is a premium available from investing in a broadly diversified portfolio of shares, as opposed to putting all your money in the safest government bonds. This is called the market premium. Shares are more volatile than bonds, but with the offer of a higher expected return.

SIZE, RELATIVE PRICE, PROFITABILITY

Within the equity market itself, there are three other premiums. Small companies have been shown to offer a higher expected return than large companies over time. Likewise, low relative price or 'value' stocks have delivered a long-term premium over high relative price or 'growth' stocks.



Finally, more profitable companies have delivered a long-term premium over less profitable ones. Like the equity premium itself, these size, value and profitability premiums come and go. Then again, if they were there all the time, there would be no premium.

TERM AND CREDIT

Within the bond market, there are two premiums — term and credit. Term refers to how long the bond has till it matures or comes due. This can range from a few months to 30 years or more. Generally, the longer the term, the higher the expected return. The credit factor refers to the likelihood of the bond defaulting. Generally, there is a premium for investing in lower credit. However, these term and credit premiums (as with the equity, size, value and profitability premiums) are not constant over time.

In summary, financial economists have built a strong sense of what drives returns over the long term. Investors can build diverse portfolios around these long-term drivers, trading off risk and return according to their own tolerances, circumstances, goals and time horizons.

THE EVIDENCE

The academic evidence for what drives returns over the long term has been building over 70 years, a process than has accelerated since the 1960s and the development of computers.

The first breakthrough came in the early 1960s with the arrival of the Capital Asset Pricing Model, or CAP-M for short. The CAP-M was developed by, among others, **William Sharpe**, who later won the Nobel Prize in Economic Sciences.

Sharpe put forward the idea that investors are rewarded for 'market risk' — in other words, the risk that remains after all company-specific risk is diversified away. The more market risk you take, Sharpe said, the higher you can expect your investment returns to be.

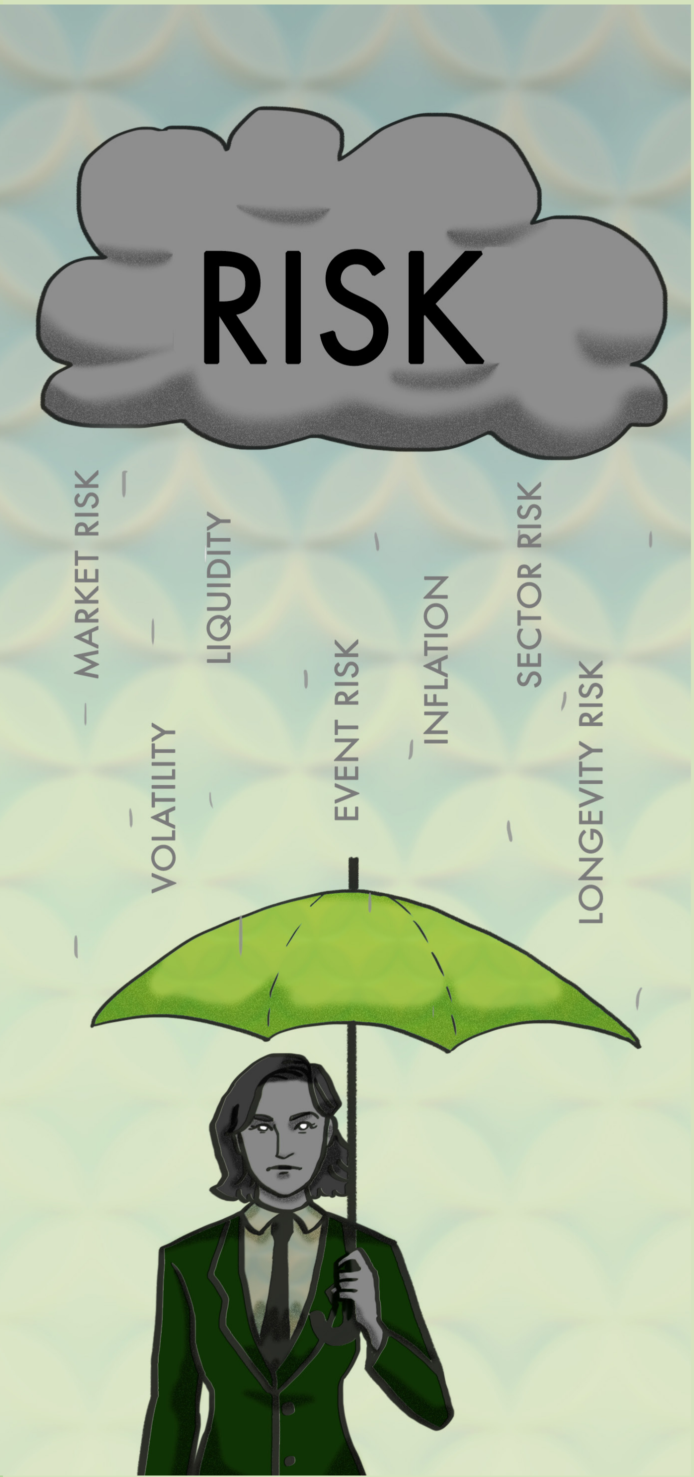
Building on his work, two academics, **Eugene Fama** (another later Nobel laureate) and **Kenneth French**, later built a multi-factor model of stock returns. This was initially posed as a three-factor model (the market itself, size and relative price), but was later extended to a **five-factor model** (also incorporating profitability and investment).

While these factor premiums are evident in markets around the world, they are not there every year and are more volatile than the market as a whole.

More recently, other academics have claimed to discover literally hundreds of other premiums, to the point where this area has become known as a **'factor zoo'**. However, Fama, French and others have cautioned that some of these 'factors' are not sufficiently persistent or pervasive or practical to implement to clear the bar of being reliable long-term drivers of return.

It's an arcane and often impenetrable field for most people. For the average investor, though, it is enough to know that some of the most powerful minds in finance have identified basic building blocks around which you can assemble a diversified portfolio. How much you tilt your portfolio to these factors — the market itself, size, value and profitability in equities and term and credit in bonds — will depend on your own tastes, preferences and circumstances.

THE BACKGROUND



Investing is not just about growing wealth or making your pile bigger; it's also about protecting what you have and moderating the ups and downs. Risk protection is a key part of a smart investment strategy.

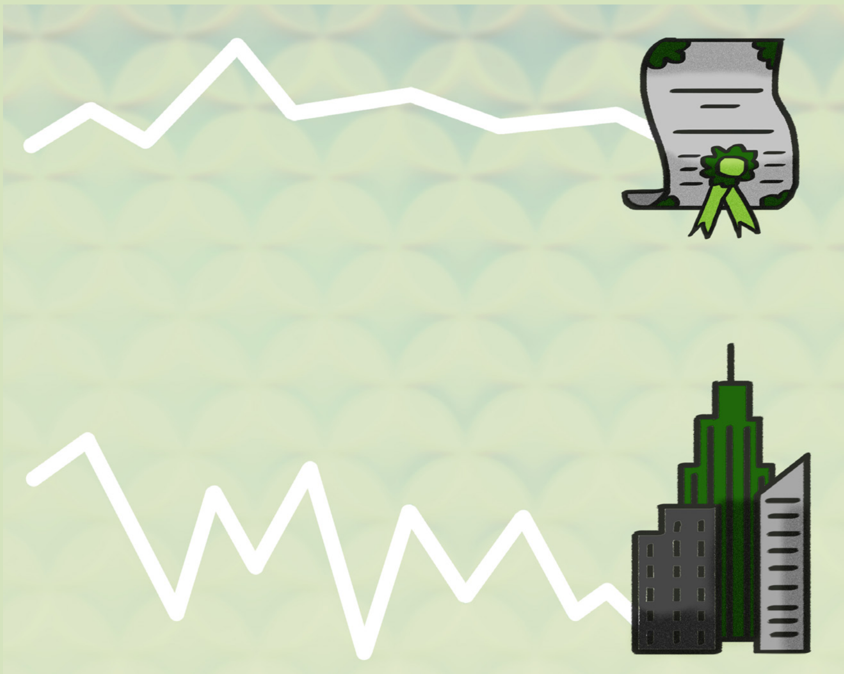
But before you just stick your money under a mattress, it's wise to reflect on the fact that risk can mean different things to different people. That means there are many different strategies to manage these various risks.

For many people, the most commonly perceived risk is market risk. If the share market falls sharply, you lose money, on paper at least. But this only matters if you plan to sell tomorrow. If your horizon is long, these daily ups and downs will matter less.

If you're investing internationally, the ups and downs of currency markets can affect the value of your portfolio in your home country. And if you're invested in bonds, risks are posed by rising inflation, changing interest rates or a bond issuer defaulting on their payments.

Allied to market risk is volatility. The degree your investments rise and fall from year to year can affect your outcomes in a couple of ways. Firstly, there's the stress that volatility can cause. Some people just aren't as well equipped to deal with the ups and downs. Secondly, volatility can also have a real cost on your portfolio, as we shall see.

You can deal with volatility through diversification. That means spreading your investments so you are not overly dependent on individual asset classes, countries, sectors or stocks. So, when one component zigs, another may zag. Think of it like shock absorbers in your car. Without them, you're going to feel every bump in the road. With them, the ride will be much smoother.



THE DETAIL

Diversification is often described as the only "free lunch" in investing.

You can moderate the range of possible outcomes by ensuring you are not over exposed to any one ingredient. Think of it like a buffet full of different dining choices.

Illustrating that concept is the chart on the next page, which shows how different asset classes perform year to year. As you can see, there is no discernible pattern. It's hard to know which will be the best one year to the next.

PERIODIC TABLE OF INVESTMENT RETURNS

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Real Estate 13.84%	U.S. Fixed Income 8.43%	Glbl ex-U.S. Fixed 22.37%	Emerging Market Equity 55.82%	Real Estate 37.96%	Emerging Market Equity 34.00%	Real Estate 42.12%	Emerging Market Equity 39.38%	U.S. Fixed Income 5.24%	Emerging Market Equity 78.51%
U.S. Fixed Income 11.63%	High Yield 5.28%	U.S. Fixed Income 10.26%	Small Cap Equity 47.25%	Emerging Market Equity 25.55%	Real Estate 15.35%	Emerging Market Equity 32.17%	Dev ex-U.S. Equity 12.44%	Glbl ex-U.S. Fixed 4.39%	High Yield 58.21%
Cash Equivalent 6.18%	Cash Equivalent 4.42%	Real Estate 2.82%	Real Estate 40.69%	Dev ex-U.S. Equity 20.38%	Dev ex-U.S. Equity 14.47%	Dev ex-U.S. Equity 25.71%	Glbl ex-U.S. Fixed 11.03%	Cash Equivalent 2.06%	Real Estate 37.13%
Small Cap Equity -3.02%	Small Cap Equity 2.49%	Cash Equivalent 1.78%	Dev ex-U.S. Equity 39.42%	Small Cap Equity 18.33%	Large Cap Equity 4.91%	Small Cap Equity 18.37%	U.S. Fixed Income 6.97%	High Yield -26.16%	Dev ex-U.S. Equity 33.67%
Glbl ex-U.S. Fixed -3.91%	Emerging Market Equity -2.61%	High Yield -1.37%	High Yield 28.97%	Glbl ex-U.S. Fixed 12.54%	Small Cap Equity 4.55%	Large Cap Equity 15.79%	Large Cap Equity 5.49%	Small Cap Equity -33.79%	Small Cap Equity 27.17%
High Yield -5.86%	Glbl ex-U.S. Fixed -3.75%	Emerging Market Equity -6.16%	Large Cap Equity 28.68%	High Yield 11.13%	Cash Equivalent 3.07%	High Yield 11.85%	Cash Equivalent 5.00%	Large Cap Equity -37.00%	Large Cap Equity 26.47%
Large Cap Equity -9.11%	Real Estate -3.81%	Dev ex-U.S. Equity -15.80%	Glbl ex-U.S. Fixed 19.36%	Large Cap Equity 10.88%	High Yield 2.74%	Glbl ex-U.S. Fixed 8.16%	High Yield 1.87%	Dev ex-U.S. Equity -43.56%	Glbl ex-U.S. Fixed 7.53%
Dev ex-U.S. Equity -13.37%	Large Cap Equity -11.89%	Small Cap Equity -20.48%	U.S. Fixed Income 4.10%	U.S. Fixed Income 4.34%	U.S. Fixed Income 2.43%	Cash Equivalent 4.85%	Small Cap Equity -1.57%	Real Estate -48.21%	U.S. Fixed Income 5.93%
	Dev ex-U.S. Equity -21.40%	Large Cap Equity -22.10%	Cash Equivalent 1.15%	Cash Equivalent 1.33%	Glbl ex-U.S. Fixed -8.65%	U.S. Fixed Income 4.33%	Real Estate -7.39%	Emerging Market Equity -53.33%	Cash Equivalent 0.21%

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Small Cap Equity 26.85%	U.S. Fixed Income 7.84%	Real Estate 27.73%	Small Cap Equity 38.82%	Real Estate 15.02%	Large Cap Equity 1.38%	Small Cap Equity 21.31%	Emerging Market Equity 37.28%	Cash Equivalent 1.87%	Large Cap Equity 31.49%
Real Estate 19.63%	High Yield 4.98%	Emerging Market Equity 18.23%	Large Cap Equity 32.39%	Large Cap Equity 13.69%	U.S. Fixed Income 0.55%	High Yield 17.13%	Dev ex-U.S. Equity 24.21%	U.S. Fixed Income 0.01%	Small Cap Equity 25.52%
Emerging Market Equity 18.88%	Glbl ex-U.S. Fixed 4.36%	Dev ex-U.S. Equity 16.41%	Dev ex-U.S. Equity 21.02%	U.S. Fixed Income 5.97%	Cash Equivalent 0.05%	Large Cap Equity 11.96%	Large Cap Equity 21.83%	High Yield -2.08%	Dev ex-U.S. Equity 22.49%
High Yield 15.12%	Large Cap Equity 2.11%	Small Cap Equity 16.35%	High Yield 7.44%	Small Cap Equity 4.89%	Real Estate -0.79%	Emerging Market Equity 11.19%	Small Cap Equity 14.65%	Glbl ex-U.S. Fixed -2.15%	Real Estate 21.91%
Large Cap Equity 15.06%	Cash Equivalent 0.10%	Large Cap Equity 16.00%	Real Estate 3.67%	High Yield 2.45%	Dev ex-U.S. Equity -3.04%	Real Estate 4.06%	Glbl ex-U.S. Fixed 10.51%	Large Cap Equity -4.38%	Emerging Market Equity 18.44%
Dev ex-U.S. Equity 8.95%	Small Cap Equity -4.18%	High Yield 15.81%	Cash Equivalent 0.07%	Cash Equivalent 0.03%	Small Cap Equity -4.41%	Dev ex-U.S. Equity 2.75%	Real Estate 10.36%	Real Estate -5.63%	High Yield 14.32%
U.S. Fixed Income 6.54%	Real Estate -6.46%	U.S. Fixed Income 4.21%	U.S. Fixed Income -2.02%	Emerging Market Equity -2.19%	High Yield -4.47%	U.S. Fixed Income 2.65%	High Yield 7.50%	Small Cap Equity -11.01%	U.S. Fixed Income 8.72%
Glbl ex-U.S. Fixed 4.95%	Dev ex-U.S. Equity -12.21%	Glbl ex-U.S. Fixed 4.09%	Emerging Market Equity -2.60%	Glbl ex-U.S. Fixed -3.09%	Glbl ex-U.S. Fixed -6.02%	Glbl ex-U.S. Fixed 1.49%	U.S. Fixed Income 3.54%	Dev ex-U.S. Equity -14.09%	Glbl ex-U.S. Fixed 5.09%
Cash Equivalent 0.13%	Emerging Market Equity -18.42%	Cash Equivalent 0.11%	Glbl ex-U.S. Fixed -3.08%	Dev ex-U.S. Equity -4.32%	Emerging Market Equity -14.92%	Cash Equivalent 0.33%	Cash Equivalent 0.86%	Emerging Market Equity -14.57%	Cash Equivalent 2.28%

SOURCE: CALLAN ASSOCIATES

Equities have done best over the long term, but there also have been shorter periods where they have lagged bonds. In some years, small company stocks do well; in others the large ones do better. Low relative price stocks sometimes are among the top performers. Other times, they lag. Sometimes, emerging markets do best. Other times, it's developed markets. This lack of a predictable pattern applies to individual countries, too.

Diversification matters because volatility can have an impact on your returns over time.

Let's look at two portfolios, both starting with £100,000. Portfolio 1 takes a concentrated bet on one market, while Portfolio 2 is globally diversified. Both portfolios have the same average return over two years of zero. Yet Portfolio 2 has the far better outcome. Why is that?

	PORTFOLIO 1	PORTFOLIO 2
STARTING VALUE	£100K	£100K
YEAR 1 RETURN	-50%	-10%
YEAR 2 RETURN	+50%	+10%
AVERAGE RETURN	0%	0%
COMPOUND RETURN	-13.4%	-0.5%
ENDING VALUE	£75K	£99K

The reason is that Portfolio 1 is more volatile. Diversified Portfolio 2's lower volatility produces a higher compound return and preserves more of its original value.

The lesson is that if two portfolios have the same average return, the one with the lower volatility will always have a higher end value.

Of course, you could just stick to your home country. It's what you know, after all. But this "home bias" also carries risks as well. Just as the performances of asset classes and individual sectors vary, so can those of countries. Take the example of Japan, whose market appeared unstoppable in the 1980s, but then spent more than two decades in the doldrums.

Occasionally, the media gets excited about individual industries. Think about what happened in the early 2000s when the world was going crazy for technology stocks. It was a great bet while it lasted, but then it all came crashing down. Again, you can deal with this by spreading your allocation across different sectors, by diversifying internationally — and by keeping an exposure to all the drivers of expected return.

Falling in love with individual stocks is another risk you don't need to take. If your gamble pays off, great! But it's speculation. It's not investment. You're taking a bet that those companies will continue to dominate. Back in the 1960s, the media swooned over the 'Nifty Fifty', blue chips that would never let you down — names like Xerox, Eastman Kodak, IBM and Polaroid, all of whom were disrupted over the years. Nothing stays the same. That's why you diversify.

OTHER RISKS

FOREIGN EXCHANGE RISK

You can 'hedge' (a type of insurance) overseas returns to your home currency. But there is no evidence that this makes a difference to long-term returns. If you fully hedge your exposure and your home currency rises, all well and good. But if your home currency falls, you risk missing out on the kicker you get by converting the now more valuable foreign exchange. One answer is to hedge 50% of your overseas exposure and leave the other half unhedged.

RISKS APPLICABLE TO BONDS

While bonds are less volatile than shares, they still have their risks. The three main ones are rising inflation, increasing interest rates and default.

- Inflation reduces the purchasing power of bonds. The income you were counting on suddenly buys less than it once did.
- When a central bank increases interest rates, the prices of existing bonds can drop because their coupon rates look less favourable.
- Default occurs when a bond issuer can't repay what they owe.

Again, you can manage these risks by diversifying across different countries and currencies, and across government and corporate bonds.

LIQUIDITY RISK

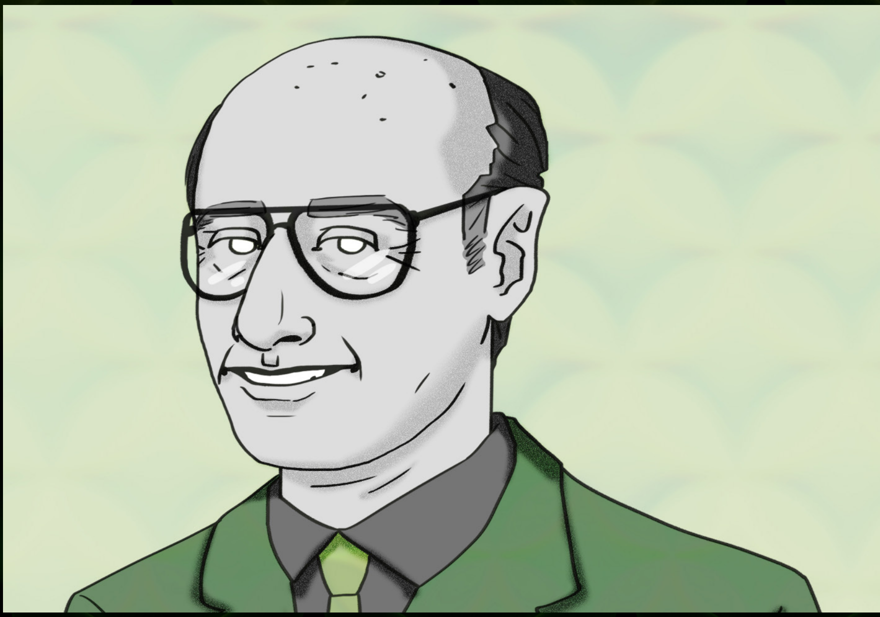
This refers to difficulty in getting access to your money. So-called 'alternative' investments often carry this risk. You can manage liquidity risk by always having sufficient cash on hand to keep you going in an emergency.

LONGEVITY RISK

This means outliving your money. We're all living longer, which isn't necessarily a bad thing. But how do you ensure your savings last you through retirement? There are new, innovative ways of dealing with this risk.

THE EVIDENCE

Much of the work on diversification and risk dates back to the early 1950s and the research of Harry Markowitz, a pioneering American economist who founded what became known as 'modern portfolio theory' with his 1952 paper **Portfolio Selection**, and who was recognised with the Nobel Prize in 1990.



Markowitz described as an "efficient" portfolio one that provides a maximum return for a given level of risk, or put another way, a minimum risk for a given level of return. You can achieve this by combining different securities or assets that behave differently. This way you can increase the chance of a smoother investment journey without giving up on return.

The aim for an investor should be to reduce 'diversifiable' risks or risks they don't need to take to get to their goals. These are risks related to individual companies, sectors, countries or asset classes. This contrasts with systematic or undiversifiable risk, like the risk of the market itself. You deal with the former risk by mixing up different assets.

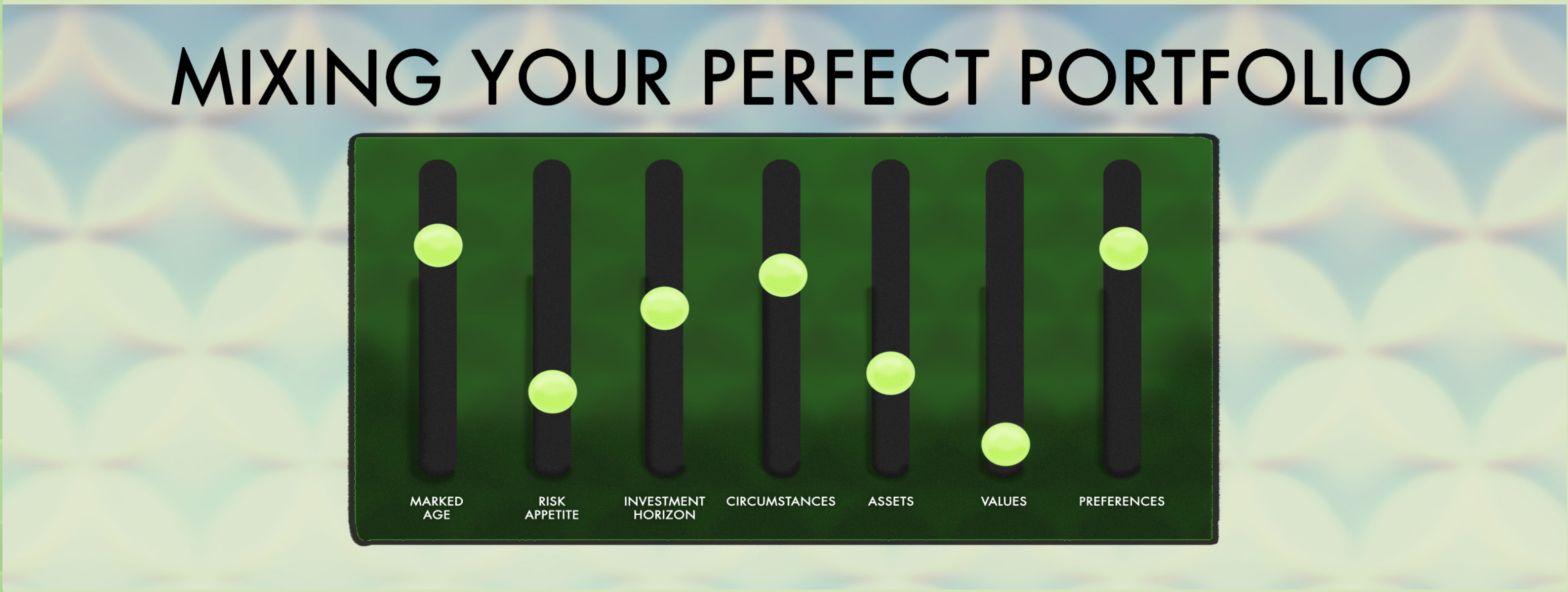
As it can be costly, time-consuming and complicated for an individual to manage all these investments, it makes sense to get that exposure through a professionally managed fund in a pool with many other investors. This is a more convenient and efficient way of investing in securities and assets that might otherwise be difficult to access.

THE BACKGROUND

People new to investing will often ask what the perfect portfolio should be. The simple answer to that question is that there is no single portfolio that is right for everybody. There are almost infinite possibilities.

The reason is that people are different. The shape of your portfolio can depend on a host of factors, including your age, risk appetite, job, investment horizon, family circumstances, health, values and other preferences.

Ultimately, the best portfolio is the one that is most likely to get you to your desired destination and which you can live with along the way. Designing a portfolio that's right for you is best done by a professional who understands you and can help you stay disciplined.



The overwhelming driver of your portfolio's returns is what is known as the **asset allocation**. This means choosing how you divide your portfolio among different asset classes like stocks, bonds, property and cash.

Your asset allocation depends on things like your age, time horizon and risk tolerance. If you're a year away from retirement, for instance, with lots of financial capital but less human capital (earnings from your work) left, you may have far less allocated to shares than to high quality government bonds. Conversely, if you're young and just starting out, you have little financial capital but lots of working and saving years ahead. So, you can afford to take more risk.

But it is never quite as simple as that. There are a series of decisions to be made in deciding on your asset allocation. What's more, it's something you need to review regularly — based on how markets change over time and how your own needs and circumstances evolve.

THE DETAIL

STEP 1

The first decision you need to make in structuring your investment strategy is what is known as the **"growth-defensive"** split.

This refers to how much of your portfolio you allocate to assets like shares and property that are aimed at growing your wealth, and to defensive assets like bonds and cash that are aimed at protecting it.

Typically, a person in their 20s might have 90% or more of their portfolio in growth assets, while someone close to or in retirement might have as little as 10%. Again, though, it depends on many other variables. Someone approaching retirement with an insufficient balance may be happy to take more growth exposure.

STEP 2

Once you've decided on your growth-defensive split, you can decide how you want to allocate broad asset classes in those categories.

On the defensive side, how much do you want to allocate to cash versus fixed interest? On the growth side, how much do you want to allocate to property? And within equities, how much do you want to apportion to domestic shares versus international shares, and within international how much to developed and emerging markets?

By the way, emerging markets — like Russia and China — are a distinct asset class in that they behave differently to share markets in developed economies. They offer higher expected returns, but they are also riskier. They have a place in a diversified portfolio. The extent will depend on each person's risk appetite and goals.

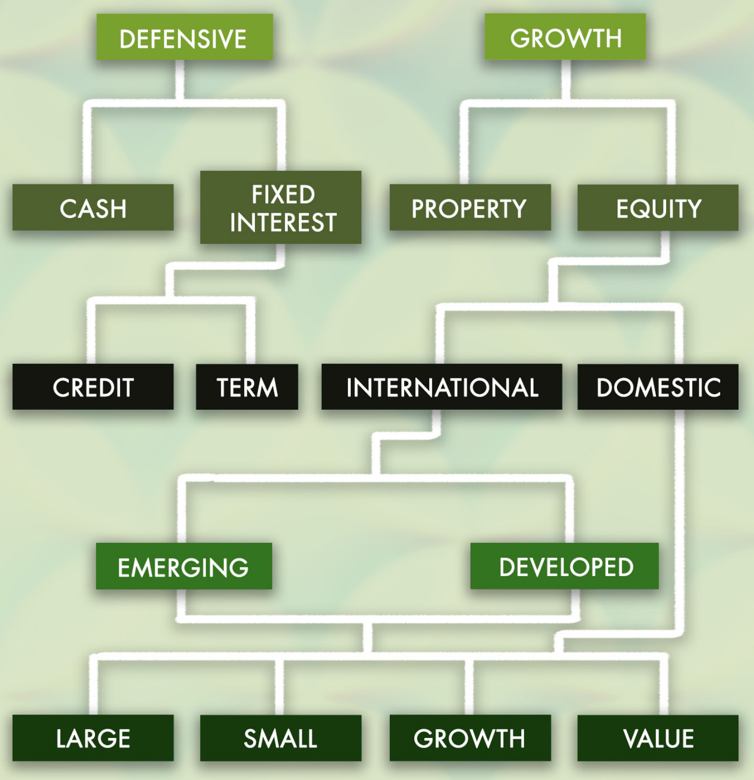
STEP 3

The third step is about how you allocate to the sub-asset classes. So, how much do you want to be exposed to large company versus small company shares, to value shares versus growth shares?

Within fixed interest, how much credit risk are you prepared to take and how much term? In judging these things, it is best to consider the impact on your overall portfolio, not on one particular asset.

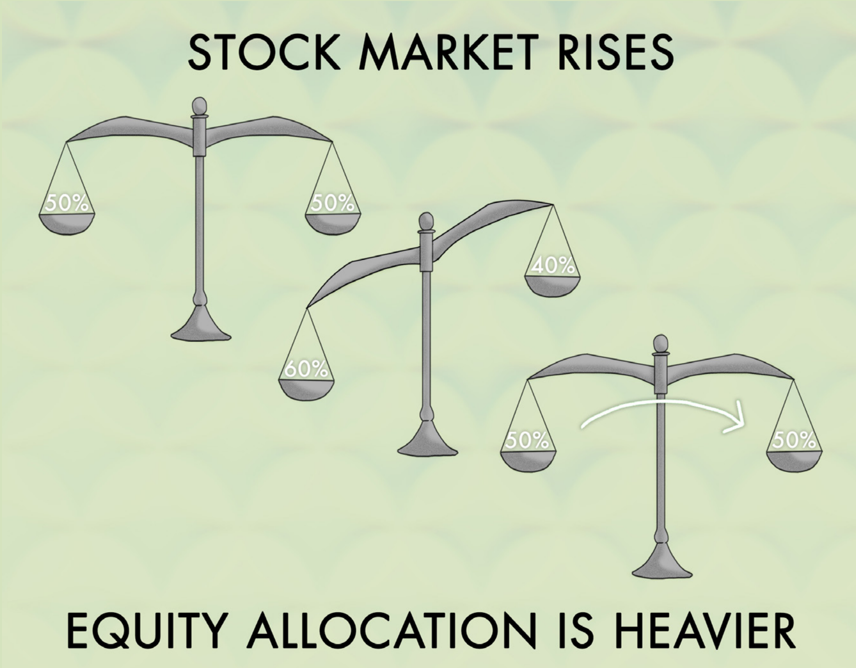
At every step, you need to be mindful of diversification — spreading your risk not only among different asset classes but within asset classes as well.

PORTFOLIO CONSTRUCTION PROCESS



REBALANCING

Once you've decided your asset allocation, you don't just put your portfolio in a drawer and forget about it. That's for two reasons. Firstly, investments change over time. Some grow faster than others. The second reason is that you are changing, getting older and closer (or perhaps further away) from your desired goal.



This is where rebalancing comes in. That means bringing your asset allocation back to your original plan. So, if you opted for a growth/defensive split of 50/50 and shares do well over the next year, your portfolio may now be 60/40. That may be more risk than you are happy to take, so you can take money out of growth and reinvest it in defensive. This process should be disciplined and scheduled, not a knee-jerk response to external events.

THE EVIDENCE

There is broad agreement among academics that asset allocation is the most important decision you will make as an investor. The disagreement is around the exact size of the impact.

The most commonly cited academic paper is one from 1986 by **Gary Brinson, Randolph Hood and Gilbert Beebower** which concluded that asset allocation explained 93.6% of the variation in a portfolio's quarterly returns. This was later revised to 91.7%.

In 1997, a paper by **William Jahnke** questioned the Brinson-Hood-Beebower findings, saying what mattered most to investors was not so much the variation in returns from quarter to quarter but the actual size of them.

A third view, as expressed by **Robert Ibbotson and others** in a paper released in 2000, is that the degree of influence of asset allocation depends on how you ask the question.

For the lay investor, all that matters here is that asset allocation is not only a critical tool but one of the few that is under your control.

MAINTAINING DISCIPLINE

HOW TO KEEP YOUR NERVE

THE BACKGROUND

Once you have built a diversified portfolio based on your goals, risk appetite, and circumstances, the most important contribution you can make beyond regular saving is simply keeping your nerve in the face of volatility.

The fact is that it is in the nature of markets to go up and down. But we know that over time, there is a return on capital. If there weren't, no-one would invest in the first place. So, just sticking with the program can make a big difference to your outcome.

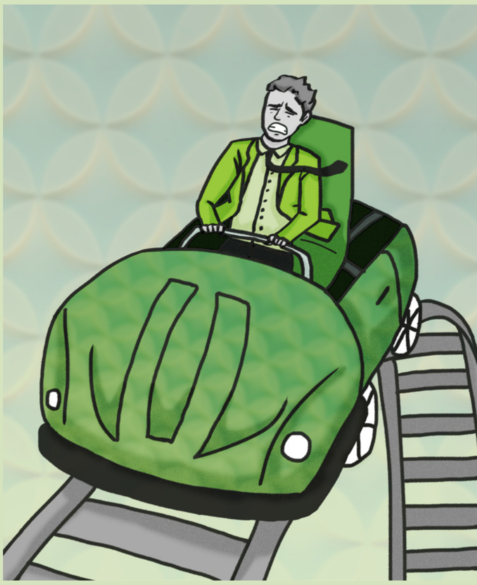
There is significant evidence that people's biggest obstacle to reaching their long—term investment goals is usually not so much the market itself, but their own errant behaviour.

Some of the most common errors include failing to sufficiently diversify (taking bets on individual stocks or sectors), underestimating the effect of costs in trading, trying to time the market and, most of all, acting on daily market headlines.

It's natural for investors to feel anxious when markets are volatile and when the future seems particularly uncertain. We can feel that the safest thing at these times is to get out of the market altogether and wait till the "coast is clear". Alternatively, when markets are going up and up, we may feel the urge to pile in and take even more risk. Either way, this rarely works.

In fact, there is an entire field of study called behavioural finance, which looks at the phenomenon of investor panics and herding. Psychologists have identified a host of inherent mental "biases" in which our rational mental processes are short-circuited.

These biases are instinctive and often primeval automated responses buried deep in our brains. Think of the flight-or-fight response. But what served us well when we were being chased around by sabre-toothed tigers does not work so well with investment.



THE DETAIL

Behavioural finance has been described as the study of the influence of psychology on, firstly, the behaviour of market participants and, secondly, the effect of that on markets themselves.

On the first point, there is much agreement among academics. People are often their own worst enemies and can make decisions with their money that fly in the face of reason.

On the second point — what this means for markets — there is more of a debate. On the one side, there is a school of thought that markets are efficient and that prices incorporate all known information. On the other, is a view that markets can be as irrational as individuals.

Of course, the detail is more nuanced than that. But both sides agree that rational or irrational, markets are still hard to beat. In the words of the great British economist John Maynard Keynes, "markets can stay irrational longer than you can stay solvent".

For everyday investors, however, it doesn't really matter who is right. Markets can only know what is in front of them. When there is a great deal of uncertainty, volatility tends to increase. Is this irrational? Or just a reflection of a wider range of potential outcomes?

In the meantime, you can deal with volatility by examining some of the common biases or shortcuts identified by behavioural finance. These include:

HINDSIGHT BIAS	This is the tendency to be wise after the fact. Think of all the experts who said they foresaw the global financial crisis. If that was the case, ask them whether they were selling their stocks beforehand!
OVERCONFIDENCE	Just as many people think they are better drivers than they are, many investors think they are smarter than average. This is related to self-serving bias, where people tend to attribute their successes to their own skill and their failures to the system.
LOSS AVERSION	This is where we put a greater weight on the possibility of a loss than we do on a gain. An example is someone who worries more about the risk of losing money in the market than of not having enough to retire on.
NARRATIVE FALLACY	Humans like stories. We are tempted to force random events into tidy narratives and mistake correlation for causation. 'The market fell today because...'. Who knows why it fell? It often relates more to prior expectations than any one thing.
RECENCY BIAS	This is where we are overly influenced by recent events and extrapolate them into the future. You see it when investors act on whatever has been dominating the media. By the time they sell, the markets are worrying about something else.

Many of these mistakes stem from a lack of appreciation among investors of how competitive financial markets are and how quickly information is built into prices. This leads to a tendency to try to outguess the market and profit from perceived errors in prices.

Now, of course, markets aren't perfect and not every price is "right". But that doesn't mean you can profit consistently from how they are wrong. Of course, everyone has a right to opinion about what the value for a stock should be, but all those opinions are already reflected in its price. As investors we can either bet against the market or work with it. The former approach can be a costly, hit and miss affair. You'll win some of the time but lose most of the time.

A better approach is to work on the assumption that prices are fair. Not perfect, but fair. Then you can focus on what you can control, which is building a portfolio around risks that are related to a long-term return, diversifying across and within asset classes, watching costs and taxes, and rebalancing as markets change and as your needs evolve. That may not be a particularly exciting approach, but it is the right one for most people.

At this point, Warren Buffett's name usually comes up — the argument being that his record in picking stocks shows that it can be done. But Buffett is a businessman. He buys businesses, transforms them and sells them. In any case, **his advice** is most people are better off in an index fund. In 2017, Buffett collected on a **£1 million bet** he made a decade earlier that an index fund would outperform a collection of hedge funds over 10 years. He gave the winnings to a charity.

So, the rules around investing are counter-intuitive. Whereas in other areas of life, constant activity and hard work are the keys to success, investing is about getting your portfolio right at the beginning, keeping trading (and cost) to a minimum, and exercising discipline.

By the way, this is not a set-and-forget approach. You still review your portfolio regularly; you can still rebalance. But you're doing so deliberately, in the context of your needs and circumstances, not as a knee-jerk response to whatever is happening in the markets.

THE EVIDENCE

The science around behavioural psychology is a rich and fascinating one, extending back to the late 19th century and a study by a French scholar, Gustave Le Bon, called **'The Crowd: A Study of the Popular Mind'**.

But the landmark research and one that formed the basis for behavioural economics, came in the late 1970s from two Israeli psychologists Daniel Kahneman and Amos Tversky.

Their work, which earned Kahneman a Nobel Prize in 2002 (Tversky had died several years before), revolves around a concept they called 'Prospect Theory'. This focused on how we manage risk and uncertainty, showing that people often make decisions based on emotion and routinely misjudge the probability of certain outcomes.

For a layperson's guide to their work, see the celebrated writer Michael Lewis' book **'The Undoing Project: A Friendship that Changed Our Minds'**. Kahneman himself also popularised his life's work in recent years in the best-selling **'Thinking, Fast and Slow'**.

Heavily influenced by Kahneman is Professor Richard Thaler, a professor at the Booth School of Business at the University of Chicago, who wrote a magisterial overview of the many ways we fool ourselves — **'Misbehaving: The Making of Behavioural Economics'**.

Another influential voice in behavioural finance is Professor Robert Shiller of Yale University, who wrote the book **'Irrational Exuberance'** in 2000 (and updated it in 2015 after the crisis).

THE EVIDENCE

Interestingly, Shiller in 2013 shared the Nobel Prize in economics with Professor Eugene Fama, who as the architect of the efficient markets hypothesis, is often characterised as sitting on the complete opposite side of the table to the behaviouralists.

In reality, Fama and Shiller agree on a lot of things, including that there is variation in stock returns and that there is some predictability around that. Where they disagree is whether this variability is rational or irrational.

But whoever is right, that doesn't really change the calculus for most investors. Markets are hard to beat, there are no free lunches beyond diversification, and you are better offer starting with the assumption that prices are fair and staying disciplined.

BLACKDOWN FINANCIAL

Independent Financial Advisers