Taking stock of value: perspectives from across the investment spectrum

April 2021

1. Executive summary

- The continued relevance of value investing, a cornerstone of investment management for almost a century, has been increasingly questioned in light of several years of underperformance.
- Much of the debate has centred on the imprecision of price-to-book multiples in an era of fast-changing business models, growth-fuelled tech dominance and the ongoing rise of "intangibles".
- We aim to look beyond this narrow framing of the issue by offering perspectives on value from across the investment spectrum – encompassing active, passive, strategic and tactical approaches.
- In doing so, we attempt to demonstrate the many facets of value – a concept that can be defined, perceived and accessed in numerous ways and which remains a key element of investment thinking.
- We accept there is scope for innovation and adaptation in this space, as has always been the case, but suggest the way forward lies in further evolution rather than unnecessary revolution.
- Amid ongoing doubts over a meaningful and lasting renaissance, investors should recognise what value has done well in the past and, crucially, what it could do better now and in the future.

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2. Introduction

Is value investing finished? The practice of identifying stocks the broader market appears to underappreciate has been an acknowledged cornerstone of investment management for nearly a century, yet in recent years its appeal and relevance have increasingly been questioned. Value is said to have "lost its edge"[1] and has been derided as "ill-suited to today's economy"[2]. Even amid signs of a long-awaited comeback, the wisdom of such an approach has seldom – if ever – been in so much doubt.

The cause of widespread misgivings is straightforward enough: value has underperformed. In the words of Ted Aronson, who last year closed his value-oriented hedge fund after almost four decades of finding appealingly cheap or unloved stocks, there has been a "drought in value – the longest on record"[3]. According to one analysis, the COVID-19 pandemic and the market dominance of technology companies – Big Tech in particular – helped condemn value to its most dismal run since at least 1826[4].

Investors could therefore perhaps be forgiven for thinking value is at worst a redundant relic from another age and at best an outmoded idea in urgent need of a reboot. Those who lean towards the former view see no way back, despite recent evidence of a revival. Those who favour the latter interpretation suggest the answer might lie in "intangibles" or other novel framings.

In this paper we attempt to offer a broader analysis – one that draws on a range of perspectives to explain why value investing continues to be relevant and still has an important role to play in investment thinking. We reflect on why value has suffered of late and the conditions necessary for a renaissance. We examine the arguments for and against a radical reconsideration of this space. Crucially, looking at the issue from standpoints across the investment spectrum, we explore the many different ways of defining, perceiving and accessing value.

This collection of insights is in large part a response to concerns expressed by clients. It is clear that investors' faith in value has in many cases been shaken, and it is also apparent that much of the noise around this topic has failed to deliver either reassurance or clarity. Here, by presenting the honest and expert opinions of people who "live and breathe" value, we aim to provide useful answers and practical guidance.

We hope what follows will enable you to take stock of value. We hope it will equip you with a deeper understanding of why this form of investing has endured for so long and why it should continue to do so. Maybe above all, we hope you will recognize – as we, as asset managers, also must – what value has done well in the past and what it might do better in the face of current and future challenges.

The underpinning logic Graham and Dodd advocated nine decades ago still applies today.

Henning Stein

Head of Global Thought Leadership

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3. A brief history of value investing

3.1. The birth and the basics

Although widely known, the story of value investing is worth quickly reviewing here for two reasons. The first is that it is interesting to consider which aspects of this long-established philosophy have come to dominate the mainstream narrative and which have come to be overlooked, forgotten or even deliberately ignored. The second is that value's fluctuating fortunes provide essential context for the arguments we advance in this paper.

Benjamin Graham and David Dodd, two professors at Columbia Business School, began to develop the idea of value investing during the 1920s. They formalised their work in a 1934 text, Security Analysis, before Graham later popularised it in 1949's The Intelligent Investor – thereby earning himself lasting renown as "the father of value investing".

The pair regarded their new method as a kind of science – one rooted in healthy scepticism, critical scrutiny and academic rigour. This view was justified. Not least in an age when insider dealing frequently represented the cutting edge, the notion of discerning intrinsic value and a "margin of safety" was revolutionary.

The underpinning logic Graham and Dodd advocated nine decades ago still applies today. It requires investors to identify stocks underpriced by the market, purchase them cheaply, wait for everyone else to recognise their true worth and then reap the resultant rewards. Such an ethos relies on buying when others are selling and on refuting and reforming the consensus.

This makes value investing the flipside of a growth-focused strategy – which has clearly held sway in recent years, as most obviously evidenced by the near-relentless rise of technology stocks. Value investors expect to benefit from being ahead of the curve in understanding the true value of a company: they believe others have overreacted, usually by extrapolating near-term weakness into long-term disadvantage, and that their own assessment will eventually prove correct if they bide their time. Today, again per its original conception, such an approach remains inherently contrarian.

Yet not everything has stayed the same since Graham and Dodd first unveiled their innovative thinking at the height of the Great Depression. The world has changed substantially during the past 90 or so years, and value investing has sometimes necessarily changed in tandem – although, as we will see next, its detractors now claim it has not changed enough.

3.2. Ups and downs

Value investing's "founding era" might be seen as the period between 1934, the year of Security Analysis's publication, and 1973, the year of Graham's death. The latter coincided with a major crash, a bear market and one of the worst downturns since the Great Depression, all of which encouraged the emergence of some of the most successful value investors in history.

Yet the 1970s, like the 1960s before them, also saw the entrenchment of major economic theories that appeared to invite a reinterpretation of value. These theories held that markets are efficient, that capital structure matters little – if at all – and that investments should invariably be guided by the precepts of Modern Portfolio Theory[5].

Seth Klarman's Margin of Safety, first published in 1991, represented one of the most influential efforts to cast value in a fresh light. It portrayed value investing as an art as well as a science and stressed its role in achieving every investor's primary goal of avoiding losses. Meanwhile, Graham's most celebrated protégé, Warren Buffett, was among those showcasing the continued applicability of his mentor's wisdom.

Academia was also taking an interest, with University of Chicago finance professors Eugene Fama and Kenneth French incorporating value in their seminal three-factor model[6]. Fama and French famously demonstrated value's outperformance relative to growth over time; they also rendered value investing synonymous with buying stocks with high multiples of book-to-market value (the functional inverse of low price-to-book value) per share and avoiding or shorting those with low book-to-market multiples. In addition, reinforcing's one of value investing's key precepts, groundbreaking research into investor psychology by Kahneman and Tversky provided a behavioral foundation for value investing by indicating that participants' irrationality can cause price-influencing psychological biases, panic-selling or exuberance[7] – all potential sources of opportunity for value investors.

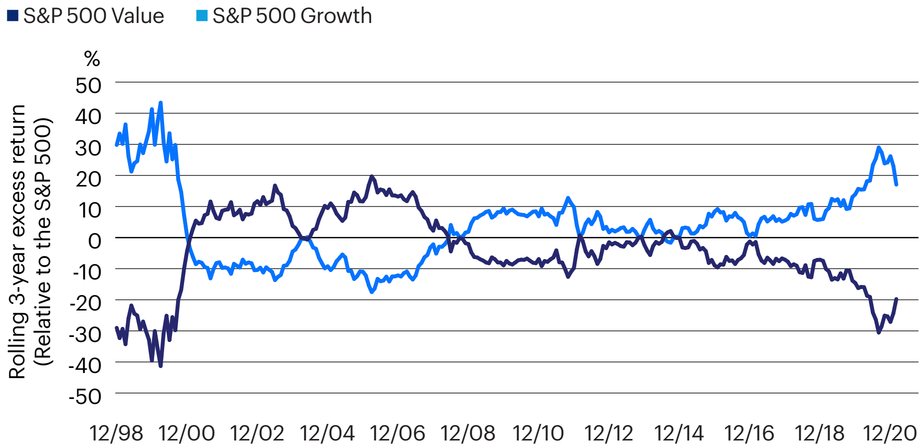
Value investing's most striking vindication in recent years arguably came with the bursting of the dotcom bubble in 2000. The potential parallels with today's investment landscape have been much discussed; yet so have fears that Graham and Dodd's once-innovative modus operandi has become ever more outdated during the past two decades – during which time, as figure 1 shows, value has increasingly trailed growth.

Perhaps the most notable of the current criticisms of value investing is that the methods traceable to Graham and Dodd's era are no longer capable of capturing the intrinsic worth of many modern businesses. If this is so then value investing fails to realize its basic objective of ascertaining the gap between expectations and fundamentals, which in turn means the all-important margin of safety cannot be determined. This brings us to the present day and to an issue that provides further vital context for our perspectives: intangibles.

Groundbreaking research into investor behavior revealed that irrationality can lead to psychological biases, panic-selling or exuberance – all potential sources of opportunity for value investors.

Figure 1: value versus growth, 1995-2020

Focusing on the S&P 500 Growth and Value indices, the chart below shows value has underperformed relative to both the core S&P 500 index and growth since the global financial crisis and how the gap between returns from value investing and returns from growth investing have been widening for some time now. Aside from the global financial crisis and the COVID-19 pandemic, the main trigger for a fall in the performance of growth stocks was the bursting of the dotcom bubble in 2000. Tech stocks have again fuelled growth's recent ascendancy, while value has struggled.



Source: S&P, Bloomberg, Invesco. **Past performance is not a guide to future returns.** An investment cannot be made directly into an index.

We now live in a world where business is much more the stuff of ideas, intellectual property and brands – and these, it is suggested, are beyond value investing's conventional scope of analysis.

4. The intangibles question

4.1. Keeping pace

We have seen that Graham and Dodd regarded value investing as a science and that their view was in many ways warranted; and we have seen that value investing was later also portrayed as an art and that this framing, too, was eminently valid. The problem today, say critics, is that science has moved on and art alone is insufficient.

Where traditional valuation methods most clearly come up short, it is claimed, is in capturing intangible capital. There was a time, not least during value investing's founding era, when a company's worth almost inevitably resided in offices, factories, machinery and other physical assets. We now live in a world where business is much more the stuff of ideas, intellectual property and brands – and these, it is suggested, are beyond value investing's conventional scope of analysis.

According to this school of thought, even the most diligent and patient value investor is doomed to struggle. Irrespective of whether the focus is on revenue, earnings or cashflow, the bigger picture will prove elusive. Software, patents, copyrights, distribution channels, supply chains, data, research, relationships, skills, corporate culture – the value of anything that cannot be written down or logged in a spreadsheet is likely to be missed.

The situation is not helped by how most companies treat intangibles in their accounts. The boundaries are blurred. Many intangibles are ultimately classed as expenses or running costs; others might even defy categorization. The situation can become particularly messy in the wake of mergers.

In a 2019 paper, Explaining the Recent Failure of Value Investing, accounting professors Baruch Lev and Anup Srivastava painted value – a "longstanding and highly popular strategy" – as a victim of "a far-reaching transformation of corporate business models". This transformation began, they said, as far back as the mid-1980s. "Currently in the US," Lev and Srivastava observed, "the intangible investment rate of the corporate sector is roughly twice that of the tangible investment rate... and the gap keeps growing."[8]

The standout successes of recent years seem to underscore the case for intangibles. This again leads us the tech sector. One reason why the likes of the FAANG stocks – Facebook, Amazon, Apple, Netflix and Google[9] – have prospered so spectacularly is that intangibles can be used again and again and by many people simultaneously, which means they can deliver enormous network effects and enable tremendous scalability. Value investors may worry that an age of intangibles-fuelled exponential growth endlessly perpetuates the dominance of a few market leaders and condemns the many laggards never to catch up.

Intangibles represent just one piece of the puzzle, and the piece might not even be as big as some investors have been led to believe.

4.2. The emperor's new clothes?

The intangibles question cannot be dismissed out of hand. It is impossible to deny that corporate business models, as Lev and Srivastava remarked, have been transformed. As we said in section 3.1, the world has changed substantially during the past 90 or so years. Just as Graham and Dodd acknowledged the need for novel approaches in their own era, we have to accept that not everything applicable nearly a century ago – or even a few decades ago – is still applicable now.

Even so, as we will explore in more detail in subsequent chapters, we do not see the recognition of intangibles as the be-all and end-all – less still as a miracle cure-all. Intangibles represent just one piece of the puzzle, and the piece might not even be as big as some investors have been led to believe.

By way of a simple illustration, let us briefly examine the possible implications of intangibles in relation to book-value-based strategies. Here we first collect data for the thousand largest US stocks at year's end 2020, as well as the corresponding price-to-book, price-to-tangible-book, price and return data; we then select only those stocks with data across the full sample from year's end 1999, which gives us a total of 398.

Using price-to-book and price-to-tangible-book valuation metrics, we construct portfolios to understand differences in performance that might result from not considering intangibles. Price-to-book considers both tangibles and intangibles, while price-to-tangible-book considers only tangibles. We rank book values on a quarterly basis and produce quintile portfolios, with each containing 1/5th of the stocks in our sample.

As shown in figures 2a and 2b, we find little disparity in performance between value portfolios that consider intangibles and those that do not. Individual constituents of price-to-book value and price-to-tangible-book value might be different, but the returns offered by using either as a measure of value are very similar.

This is a fairly rudimentary analysis, of course, yet it indicates that failure to account for intangibles might not hold water as the definitive reason for value's persistent underperformance. We suspect there is no single explanation, just as there is no single golden bullet that will bring about a stunning resurgence. It is imperative to bear in mind this idea, as well as the story of value investing as a whole, as we now turn to our perspectives on value from across the investment spectrum.

Figure 2: a simple analysis of intangibles

Much of the ongoing debate surrounding value investing identifies intangibles as the key to recent underperformance and, by extension, a potential renaissance. As explained in the preceding text, this interpretation could be unduly one-dimensional. According to our own simple analysis, intangibles should not be viewed as the be-all and end-all of value's travails. Here we present equal-weighted quintile portfolios where Quintile 1 includes the lowest price-to-book (inexpensive) securities and Quintile 5 includes the highest price-to-book (expensive) securities. Portfolios are ranked and reformed quarterly. Transaction costs are not considered.

Figure 2a: price-to-book quintile portfolios: cumulative returns

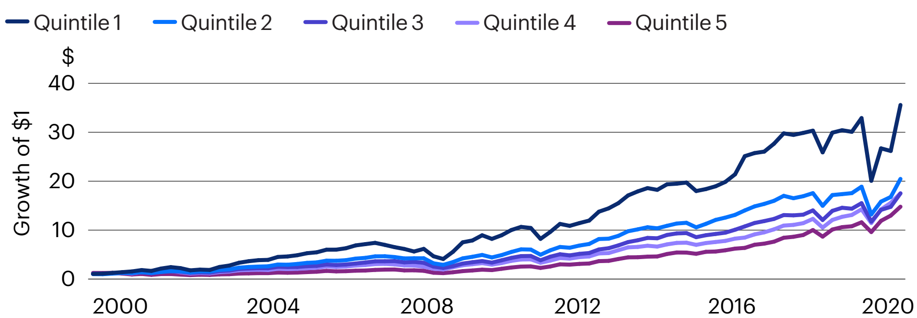
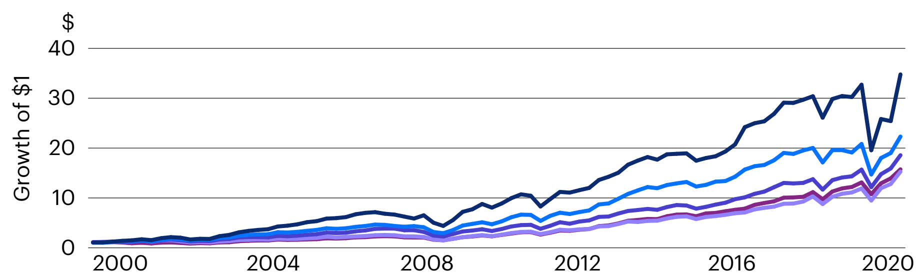


Figure 2b: price-to-tangible-book quintile portfolios: cumulative returns



Source: Bloomberg, Invesco. Results shown are from December 31, 1999 through December 31, 2020.
Past performance is not a guide to future returns.

Many dynamics very likely require investors of all kinds – active, fundamentals-led value investors among them – to refine their philosophies and adjust their sights.

Kevin Holt

CIO, US Value Equities
Investments - Equity Teams

5. Expert perspectives from across the investment spectrum

5.1. Active/fundamental value investing

5.1.1. New normals, new thinking

Graham believed in-depth research to be the best platform for attractive returns. He suggested only those willing to devote significant energy to fundamental analysis could qualify as what he called "enterprising investors".

He distinguished these from "defensive investors" – those lacking the time and resources to make the necessary commitment to an exhaustive, hands-on approach. For defensive investors, he said, the answer lay in owning the market and settling for reduced performance. The likes of Buffett and Klarman have since reiterated their guru's basic message: at least in the original sense of the concept, value investing demands painstaking scrutiny and informed selectivity rather than an elevated view and what Graham described as "excessive diversification".

All this might imply that active, fundamentals-led investing remains the truest encapsulation of Graham's ideal. Yet even here it may not be possible – or advisable – to stay faithful to every aspect of value investing's formative tenets, even if the underlying principles are still much the same.

For example, it was once comparatively easy for enterprising investors – to use Graham's term – to profit from areas of the market not heavily scrutinised. This was particularly the case during value investing's founding era, when many stocks were underfollowed or misunderstood. Today, amid a superabundance of information and the march of hyperconnectivity, there are far fewer such areas. The prospect of spotting a value opportunity in a big-name company, as Buffett famously did with Coca-Cola in the late 1980s[10], might seem especially unlikely now.

Moreover, structural change has reshaped every corner of the investment landscape. Unprecedented levels of fiscal and monetary stimulus, next-to-zero interest rates in much of the developed world, high asset prices, low discount rates, digitization and many other dynamics very likely require investors of all kinds – active, fundamentals-led value investors among them – to refine their philosophies and adjust their sights.

While this might not mean a radical reassessment[11], it does invite novel thinking. As we said in introducing this paper, it is vital both to recognize what value has done well in the past and to make sense of what it might do better in the face of current and future challenges. From an active/fundamental perspective, as explained in the following Q&A, this entails understanding the relationship between disruption, new normals and the lessons of history.

5.1.2. Q&A: responding to change

Kevin Holt is Invesco's CIO for US Value Equities and a Senior Portfolio Manager for the company's large-cap "deep value" strategy. He has more than 30 years' industry experience in financial analysis and portfolio management.

In this Q&A Kevin discusses why cashflow is king, why value has been caught in a perfect storm and why 2021 may herald a turnaround. Acknowledging the extent of structural change, he also reflects on why the search for value opportunities should be extended to sectors that have traditionally been overlooked.

How would you define value?

It can be defined in a lot of ways, and we all have our different lanes. Mine is deep value, which attracts plenty of definitions of its own. At Invesco we define a deep value strategy as one that looks for companies with stock prices significantly below the intrinsic value of underlying assets.

So we're basically talking about a contrarian approach that seeks out businesses others are ignoring. That means there are times when we might feel miserable, because our stocks aren't working and everyone hates them, but there should also be times when we're rewarded for our diligence and patience – and then some.

How do you determine whether a company is significantly undervalued?

In sectors where earnings don't really change much – say, consumer staples or utilities – we might use price-to-earnings. In cyclical sectors, where price-to-earnings doesn't always tell you a lot, we might use price-to-book or price-to-sales.

Ultimately, though, pretty much everything we do comes back to cashflow. We look at historical valuations over 20 or 30 years and see what cashflow multiples a business normally sells at mid-cycle. What matters to us is where a business sells at relative to historical multiples and to multiples we think are reasonable. Price-to-book is becoming less relevant as the economy becomes more service-oriented and more reliant on tech, but cashflow is always relevant. Cashflow is king for us.

Why has value struggled recently?

Interest rates, trade wars, the pandemic – it's been like a perfect storm for value. Everything has been stacked against us. But if you look at rolling returns going back a hundred years – or even more recently – you'll see we've had cycles like this pretty consistently, and I think we can find historical parallels for what has been happening.

Basically, what we're going through is a seminal period of change – like the coming of the railroads in the late 1800s or post-war reconstruction after World War II. And one of the challenges for value investors during periods like this is to wait and see what normalisation looks like.

Right now change is being driven by tech. It's transforming how we live, how business is done and everything else – just like the railroads did back in the day. And I feel like we're now getting to the normalisation stage. Things are beginning to settle, and we can understand what the world is going to look like.

One reason why this matters for us, as value investors, is that value is generally premised on reversion to the mean. That means a business needs to have some history. It's difficult for value investors if there's no history there, but we can start making sense of a company's history and putting it into context once things normalise.

So now, for instance, we can really see how the landscape has shifted, in as much as there's a contingent of the tech sector that consists of what are really consumer staples firms. Businesses like Amazon and Google – these are sustainable companies. Unless something really dramatic happens, they're not going anywhere. And that means we can come to the table, because these businesses generate cashflow. We need to think about owning some of these stocks if and when they get hit a little bit.

So should the search for value now encompass sectors ignored in the past?

In prior cycles we've tended to find value in sectors like manufacturing or banking. But today we need to look at other segments of the market and think about their cashflow-generating capabilities, because the world isn't the same anymore.

Tech is the most obvious illustration of that. It touches almost every aspect of our lives now. That doesn't mean every tech company offers value, but it does mean we have to be more flexible and open-minded. Traditionally, value investors haven't really paid attention to tech – but if these businesses fit our criteria then we should be ready to invest in them.

What advice would you offer about the future of value investing?

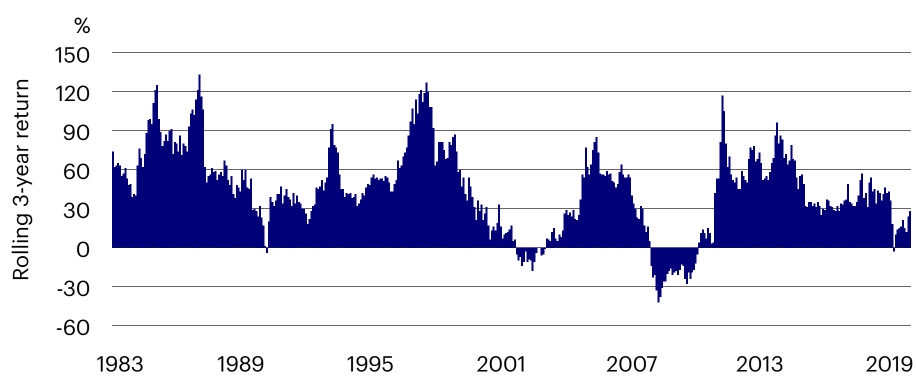
First, I think 2021 will be a good year for value. We should get a cyclical upturn because of all the fiscal spending in place, and the cyclical areas of the economy that have been hit – energy, travel, banks and so on – should all come back.

Looking further down the road, I would stress that you have to be contrarian. You have to be willing to take risks. And having an extended time horizon is key as well, no matter what. Value investing is always likely to be interesting, because contrarianism is about going against other people, but the aim should be to get more bang for your buck over the longer term – whether that's 20 years or more.

Finally, I would emphasise how important it is to stay disciplined. For us that means sticking to normalized cashflows. You should be fine if you do that, because you'll end up owning the right stocks in the long run.

Figure 3: has value really reached a new low?

The chart below shows the rolling three-year returns for the Russell 1000 Value Factor index. As well as demonstrating how value has invariably bounced back from periods of underperformance, the data indicates recent returns have not been unusually low.



Source: FTSE Russell, Invesco. Returns shown are from June 30, 1980 through Dec. 31, 2020.
Past performance is not a guide to future returns.

The reality is that there are many measures of – or ‘signals’ for – value. Investors have to use these to best effect as the market continues to develop.

Tarun Gupta

Managing Director of Research
Global Head of Investment Technology

Sergey Protchenko

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5.2. Factor/systematic value investing

5.2.1. Evolution, not revolution

Amid the general questioning of value investing’s underperformance and enduring relevance, the value factor has perhaps attracted most attention. Even its original proponents have had precious little to celebrate. At the start of June 2020, according to French’s own website, the Fama/French HML global value factor portfolio was down nearly 40% from its previous high, recorded at the close of July 2007[12].

Unveiled in 1993, Fama and French’s three-factor model added value risk and size risk to market risk – the single factor originally featured in the Capital Asset Pricing Model[13]. Of the many factors putatively identified since, momentum, quality and low volatility have also gained widespread acceptance. The three years from the end of 2017 to the end of 2020 were markedly unkind to value in comparison with other commonly recognized factors: as well as generating the lowest returns, value delivered some of the highest volatility[14].

As noted in section 3, it was Fama and French’s trailblazing research that popularized the definition of value stocks as those with high book-to-market multiples – the functional inverse of low price-to-book multiples. A recent Invesco study shed light on why this measure of value might have proven especially unrewarding of late, positing that the “value effect” exists when the market underestimates the mean reversion rate for value relative to “glamour” stocks – those with high price-to-book multiples – and that there has been a slowdown in the rate for value versus glamour[15].

This may be a crucial component of how value is currently perceived. Over time, as we also observed in section 3, some aspects of value investing have become more entrenched than others. The Fama-French-driven phenomenon of high book-to-market/low price-to-book multiples is a major element of the dominant narrative, and other means of determining the value factor often seem forgotten or disregarded. As our colleagues stressed in the aforementioned paper, there is more than one way of providing “a reasonable valuation anchor”[16]. In fact, value factor strategies are often implemented by using some combination of a variety of different definitions of value.

The reason for a more diversified approach to value investing can be found in a 2020 paper, Value by Design?, which considered “a total of 3,168 distinct value strategies” that used a variety of value metrics as well as a number of different implementation choices. It concluded: “Our analysis provides ample evidence that equity value strategies provide positive and attractive risk-adjusted returns as a group. However, not all designs are equal... The choice of valuation metric used to construct portfolios is most influential and leads to a large dispersion in risk-adjusted returns.”[17] Interestingly, cashflow-related and earnings-related metrics were cited in delivering the strongest risk-adjusted returns.

The reality is that there are many measures of – or “signals” for – value. Investors have to use these to best effect as the market continues to develop. Again, this does not imply a complete rethink: it instead accentuates a need to be open-minded. The sphere of factor/systematic investing is renowned for innovation, and the quest for value should offer no exception – even if, as explained in the following Q&A, we believe this is a case of evolution rather than revolution.

5.2.2. Q&A: an investment process for today and beyond

Tarun Gupta is Managing Director of Research and Global Head of Investment Technology at Invesco Quantitative Strategies (IQS). He began his investment career in 2009 and has also taught a course on quantitative investment strategy at Cornell University.

Sergey Protchenko is a Senior Quantitative Equity Research Analyst at IQS. He is responsible for the statistical testing, factor analysis, coefficient derivation and performance attribution used in various quantitative models. He was previously a system and network analyst.

Scott Hixon is Head of Research for Invesco’s Global Asset Allocation team, which invests in stock, bond and commodity markets worldwide. He is also a Portfolio Manager. He has been involved in the investment industry since 1992.

Andrew Waisburd is Head of Invesco Indexing, which develops and manages custom indexes for internal and external clients. He was an Assistant Professor of Finance at Texas Christian University before entering the investment industry.

Eric Cheng is Director of Index Research at Invesco Indexing. He joined the company in 2011 after spending three years as an analyst responsible for conducting fundamental and quantitative analysis on US equities.

In this Q&A Tarun, Sergey, Scott, Andrew and Eric discuss the evolution of a multi-metric, multi-signal approach to systematic value investing and the benefits of using value in combination with other factors over the short term. They also consider some of the reasons why value has underperformed – and why they believe it should find favour again.

Andrew Waisburd

Head of Invesco Indexing

Eric Cheng

Director of Research
Invesco Indexing

How would you define value?

TG: First, it's important to understand that, while there might be only one value factor, there are numerous value signals. From an equities perspective, traditionally, price-to-book has been the norm, but there's also cashflow, yield, earnings and many other definitions we can use.

So the starting point, as ever, is that value seeks to differentiate between cheap and expensive assets. But there are various ways of doing this when it comes to systematic investing, and we try to find the best combination – which might depend on models, regions and other considerations.

SP: Another important aspect is that we look at stocks relative to each other - so a stock can be a value stock relative to industry/market etc. Additionally we don't invest into value in isolation but try to capture value premia in combination with other factor premia such as quality and momentum.

Ultimately, we could decide a stock really is a value stock. Alternatively, we could decide value is just one factor in the analysis of a stock. A lot of investors combine value with quality or momentum, and we like to take a balanced view of all these perspectives – each of which should be rewarded over the long term. It's not necessary to be dogmatic in believing only in value or only in another factor. Real systematic investors seek to combine several perspectives.

How have the signals or metrics you use changed over time?

TG: Years ago it was basically price-to-book. Then came cashflow and earnings. We've seen over time that there are different ways of capturing the same premium for equities and that some work better than others in certain instances. The literature has continued to evolve, as has practice – and that's still very much the case today.

SH: And that's also how it is for other asset classes. It's still a question of determining a metric for cheap versus expensive, and it's just a matter of which metric you use. In the context of commodities, for example, there are no cashflows to think about, but in the end it's still a case of whether we can determine if an asset is cheaper or more expensive than we think it should be.

It's also a case of understanding that a process based solely on value means a multi-year horizon. Value normally takes some time to pay off, and that's why it's usually wise to combine it with other factors – ones that can help navigate shorter-term cycles – because the worst thing you can do is buy something you think is cheap and then watch it get cheaper.

Does this kind of approach also help address the issue of intangibles?

TG: We've reviewed the literature on this question and looked at it internally as well, and for us it again boils down to definitions. Perhaps intangibles have some degree of impact if you're using only a traditional price-to-book method, but there's unlikely to be any kind of significant difference if you're using a diversified combination of signals and metrics.

SH: I also think human nature has played a big part here. We've gone through a period in which typical definitions of value haven't produced attractive returns, and it might be only natural to say: "Well, this hasn't worked. Let's go sharpen our pencils and find something else." The risk is that we suddenly disregard a hundred years' worth of evidence that shows these things do work over time.

AW: You need to be aware of what's going on and keep evolving, and we've always tried to do that. That's why we measure value through multiple dimensions. But the underpinning concept of value investing is the same as ever – identifying opportunities that are trading at a discount to intrinsic value – and there's no reason to change that approach. We believe in the methodology, and we believe in the diversified model.

If intangibles are only a small part of the problem, what else explains value's recent underperformance?

SH: I think one major issue is that there has been a structural break in how macroeconomic and fiscal policy has evolved. Because of what central banks have done and how interest rates have gone, particularly since the global financial crisis, you could argue that governments have engineered an environment for investors to take risks they wouldn't otherwise take.

An obvious illustration is that there's been a lot of manipulation in bond markets. This filters back through equity markets and potentially commodity markets. There has been a lot of access to capital out there, which in a way makes it an easier environment for distressed companies to operate in. It all adds up to a very difficult exogenous impact to fit into a valuation framework – certainly a traditional one. But at some point that manipulation is going to end.

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The underpinning concept of value investing is the same as ever, and there's no reason to change that approach. We believe in the methodology, and we believe in the diversified model.

What advice would you offer about the future of value investing?

SP: We need to put what has been happening into perspective. Value has one of the most robust, long-term records of all factors. The empirical evidence goes back a century, if not more. So it's important to place this recent underperformance in historical context. Yes, what has happened is painful, but the reality is that one must expect these things to occur.

This has been a rough time, but we don't think value is broken. There's nothing in all the evidence and hypotheses we've evaluated to suggest it's dead. It has always come back before, and we believe it will come back again – and we'll continue to enhance how we think about it in the meantime.

EC: I think the indexing side of our business generally subscribes to the school of thought that says value is mainly a behavioural phenomenon. It's about investors overreacting. That means there should be a catalyst for a rebound at some point.

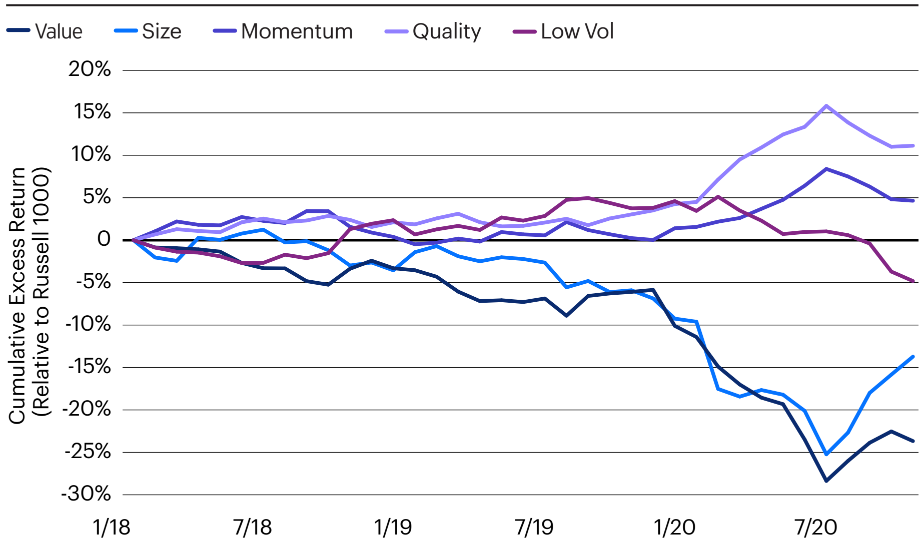
We can also look at this purely from a risk perspective. We've been in an environment where the expectation of being compensated for taking risk hasn't been so high and investors maybe haven't been hunting for value opportunities like they have in the past.

So we can find behavioural reasons and risk reasons for what has happened to value, but none of this means value isn't here to stay. We don't see a world in which a smart value investor isn't going to be able to identify opportunities in companies trading below their intrinsic value.

AW: And that's really part of what factor investing is all about: staying true to your systematic strategy. Sure, value investing is going to evolve, but the bottom line is that it's still going to have a place in portfolios in the future. Now isn't the time to abandon it.

Figure 4: combining value with other factors

Since value investing usually involves a long-term horizon, combining value with other factors can be essential to navigating shorter-term cycles. This is illustrated by the chart below, which shows the dispersion of returns for five FTSE Russell factor indices – value, size, momentum, quality and low volatility – relative to the Russell 1000 Index between the start of 2018 and the end of 2020.



Source: FTSE Russell, Invesco. **Past performance is not a guide to future returns.**

Increased cyclicality strengthens the case for rotating into or out of specific factors as they move from outperformance to underperformance – or vice versa.

Alessio de Longis

Senior Portfolio Manager
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Vincent de Martel

Head of NA Client Solutions
Invesco Investment Solutions

5.3. Asset allocation/tactical

5.3.1. The dynamics of value

So far we have considered views from what might be thought of as opposing ends of the investment spectrum – active/fundamental value investing representing one pole, factor/systematic value investing representing the other. These have provided a range of insights with regard to how to define, perceive and access value.

Tellingly, they have also delivered consensus on a number of key issues. The most significant of these is the need to remain faithful to value while at the same time reacting to all-pervading structural change and substantive shifts in corporate models.

We now turn to the view from mid-spectrum, addressing value's role in portfolio construction. This builds on the discussion to date, taking us further into the realms of multi-factor strategic asset allocation. Having seen how value can be used in combination with other factors, we focus here on a dynamic approach that is quite distinct from the idea of relative value.

Figure 4, as featured at the close of the previous section, serves as an instructive starting point. We used it to illustrate the widening dispersion of returns from value, size, momentum, quality and low volatility. One interpretation of this data is that it highlights increased factor cyclicality.

This raises the question of a dynamic approach to factor allocation. As explained in detail in a paper co-authored by Invesco, Time-Series Variation in Factor Premia: The Influence of the Business Cycle[18], we believe increased cyclicality strengthens the case for rotating into or out of specific factors as they move from outperformance to underperformance – or vice versa – as dictated by changing market environments.

So where does this leave value? We first need to understand the nuances of the particular market environment responsible for its fallow period. As discussed in the Q&A that follows, we find the circumstances of value investing's struggles both explicable and unsustainable – which is to say value will once again find favour in due course, including as part of a dynamic strategy that aims to take advantage of multiple factors and multiple assets alike.

5.3.2. Q&A: from nice-to-have to must-have

Alessio de Longis is Invesco's Head of Global Tactical Asset Allocation, Invesco Investment Solutions, in which role he leads the company's multi-asset factor-rotation efforts. He is also a Senior Portfolio Manager and a published author in the field of macro-based systematic factor investing.

Vincent de Martel is Invesco's Head of North America Client Solutions. His team provides investors with advanced analytics and custom investment solutions in the fields of factor investing, alternative assets and traditional asset classes.

In this Q&A Alessio and Vincent explain why value has not been alone in underperforming and why the notion of rotating into and out of factors might now be seen as imperative rather than optional. They also shed light on the role of interest rates in determining not just value's recent woes but its long-awaited revival.

From a portfolio perspective, could investors be forgiven for wanting to get away from value?

AdL: It's the elephant in the room. Based on what they may have read lately, a lot of investors might think value has worked well just once – after the dotcom bubble burst in 2000 – and that it has no other claims to fame. But let's look at some relevant facts and try to broaden the horizon.

First, the old paradigm basically relied on the idea of value versus growth or small versus large. It gave us a two-dimensional narrative. Now it's more like a spider-web diagram with five elements – value, size, momentum, quality and low volatility – with momentum, quality and low volatility providing more clarity and decomposition around what was previously thought of simply as growth.

Second, it's important to recognise it isn't just value that has failed to deliver. Many multi-factor strategies have underperformed the market for a long time, and that isn't the fault of value alone. A big part of the problem is that the degree of underperformance from value hasn't been offset by the required degree of outperformance from other factors.

So the premise from the standpoint of portfolio construction is that when you're diversified across the five main factors and one or two perform poorly, on average, the others will save you. This really hasn't happened for some years now. Meanwhile, the dispersion of returns from individual factors has widened – and average factor performance has decreased. So this isn't just about value.

Diversification is always key, and value is still a major part of that. But we think a more tactical, active approach is now warranted.

What can we infer from these trends?

AdL: We're seeing greater factor cyclicality. If there's a larger dispersion of the best-performing factors and the worst-performing factors, which is what we've increasingly witnessed during the past few years, then cyclicality is becoming more pronounced. So we need to ask what has caused this, and one issue we believe is central is a dramatic decrease in discount yields.

The moment interest rates go to zero, as they have in many instances recently, there's a key change in bond dynamics in the yield curve. Traditionally, the typical behaviour of the curve was to flatten in a bear market and steepen in a bull market. Now, because the short end is anchored, the curve steepens in a bear market and flattens in a bull market.

Now let's think about factors as duration assets. A bear steepening environment augments cyclicality and exposure to interest rates, and value suffers when interest rates fall.

If interest rates fall in a bull steepening environment, like we used to have, the long end of the curve – which has much more impact on discounted cashflows – doesn't go down so much. But the long end of the curve goes down more dramatically when interest rates fall in a bull flattening environment.

This means the impact of fluctuations in interest rates and the way the yield curve behaves has a much more pronounced effect on the dispersion of returns from factors – say, value compared to quality.

VdM: To further make the case for the impact of low interest rates on value and growth assets, consider how it impacts a discounted cash flow methodology. In a period of ultra-low interest rates, cash-flows projected in the future will still have a high present value. This will have a tendency to favor growth companies with ambitious revenue growth targets. At a higher level of interest rates, the present value of future cash flows can fall considerably.

All else being equal, higher interest rates will mechanically reduce the present value of growth companies.

How can investors address this challenge?

VdM: The idea of rotating factors has generally been thought of as a nice-to-have for a long time. The view has been that there's really no big need for it and that a diversified approach should be good enough. In today's environment, because we have this greater cyclicality, we would say rotating factors is much more of a must-have.

Diversification is always key, of course, and value is still a major part of that as well. But we think a more tactical, active approach is now warranted.

What if value starts performing well as a standalone factor again?

VdM: We make the case for factor rotation regardless. Our view is that the argument for it will still be solid if and when things revert. Nonetheless, it's vital to consider the potential attractions of value going forward, so let's begin by imagining interest rates rise.

Investors would have two choices if they don't want to be overly exposed to the risk this would entail. They could reduce the income in their portfolios by selling bonds, which can be a challenge, or they could partially rotate their equity exposure away from growth, momentum and quality companies.

We think a rise in interest rates would be one of the principal conditions for value to perform well again. The other would be earnings growth. Nobody can guarantee these things will happen, of course, but it's good to have a framework that appreciates they could – whether on a cyclical or even an enduring basis – because investors should be ready for such eventualities.

Given all these considerations, what advice would you offer about the future of value investing?

VdM: There has been a large allocation to value over time, and it's still one of the top factors. Our Invesco Global Factor Investing Study series has always shown this is a strategy investors believe in very deeply[19]. There's certainly a deep-rooted belief in it among our client base.

That's not something that's going to change overnight, even though it's no surprise that some investors have had their faith shaken. The appeal of finding stocks that are unduly cheap will always be there. The prospect of less glamorous stocks being undervalued will always be there. It hasn't worked out as expected recently, but I believe there will be a turnaround.

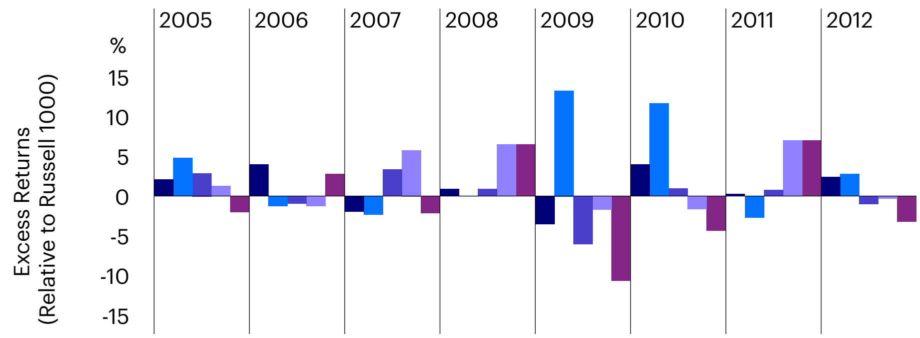
AdL: Value is still at the forefront of many investors' minds when they think about a reversion, and nothing has replaced it as a diversifying strategy. It's still a great diversifier from the perspective of portfolio construction.

There are numerous ways in which value can be defined, perceived and accessed – which means there are also numerous ways in which investors might use it to best effect.

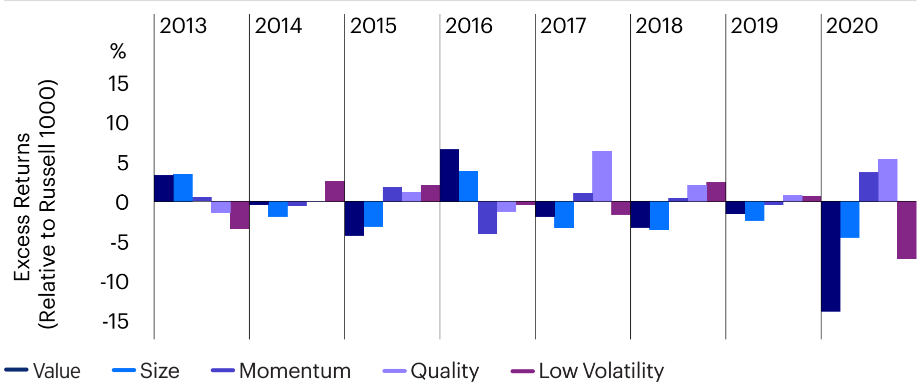
Figure 5: mixed fortunes for all factors

The focus on value's underperformance in recent years has tended to obscure the fact that other major factors have rarely made up the shortfall. Relatedly, as shown below, the annual returns of five FTSE Russell factor indices provides some insight into the dispersion of the poorest and best performing factors over time – adding weight to the case for factor rotation.

Total Return	2005	2006	2007	2008	2009	2010	2011	2012
Value	8.4%	19.4%	3.9%	-36.7%	24.9%	20.1%	1.8%	18.8%
Size	11.1%	14.3%	3.5%	-37.6%	41.7%	27.8%	-1.2%	19.2%
Momentum	9.2%	14.6%	9.1%	-36.7%	22.4%	17.1%	2.3%	15.4%
Quality	7.5%	14.3%	11.6%	-31.1%	26.7%	14.5%	8.5%	16.1%
Low Volatility	4.2%	18.3%	3.7%	-31.1%	17.8%	11.8%	8.5%	13.3%
Russell 1000	6.3%	15.5%	5.8%	-37.6%	28.4%	16.1%	1.5%	16.4%



Relative	2013	2014	2015	2016	2017	2018	2019	2020
Value	36.4%	12.9%	-3.3%	18.7%	19.7%	-8.1%	29.8%	7.1%
Size	36.6%	11.3%	-2.3%	16.0%	18.3%	-8.3%	29.0%	16.4%
Momentum	33.6%	12.7%	2.7%	7.9%	22.8%	-4.4%	30.9%	24.6%
Quality	31.7%	13.3%	2.1%	10.7%	28.1%	-2.7%	32.2%	26.3%
Low Volatility	29.6%	15.9%	3.1%	11.6%	20.0%	-2.4%	32.2%	13.7%
Russell 1000	33.1%	13.2%	0.9%	12.1%	21.7%	-4.8%	31.4%	21.0%



Source: FTSE Russell, Invesco. **Past performance is not a guide to future returns.**

6. Conclusion

We introduced this paper by asking if value investing is finished. Our response from across the investment spectrum is that it is not. Despite its travails and the weight of accusations that it has lost its edge, we believe it remains profoundly important – whether in the active/fundamental space, the world of factor-driven/systematic investing or the sphere of asset allocation and strategic/tactical portfolio construction.

However, a more pertinent question might be as follows: is value investing as we know it finished? The answer is still that it is not, but in this instance there may be caveats. A theme that emerges from all our perspectives is that the underpinning notion of value still applies, just as it did in the age of Graham and Dodd, but significant change – both structurally and at a corporate level – has to be reflected in present-day and future approaches.

This is hardly unprecedented. We have seen how aspects of value investing have changed over time, even if only incrementally. Very little endures in its original form in perpetuity, and how value might usefully be viewed today is by no means identical to how it was viewed 20 or even 10 years ago. Similarly, how value was viewed in light of Fama and French's research was to some degree different to how it was viewed when Buffett was snapping up Coca-Cola stocks; how Klarman came to view it was perhaps not quite the same as how Graham and Dodd first viewed it; and so on.

A crucial point, as we observed earlier, is that the way ahead likely lies in further evolution rather than full-blown revolution. It really does not make sense to cast aside nigh on a hundred years of evidence and simply step away. There is no need to throw the baby out with the bathwater. We stress again that this is ultimately a matter of recognising what value investing has done well in the past and what it could do better in the face of the challenges of today and those yet to come.

Relatedly, it is essential to understand that value already has many facets. As we have shown, there are numerous ways in which it can be defined, perceived and accessed – which means there are also numerous ways in which investors might use it to best effect. This is another reason why, although it has undoubtedly suffered a slump, it need not stay stuck in a rut- as signs of a recent renaissance have shown.

We said at the outset that our intention was to present the honest and expert opinions of people who "live and breathe" value. Those opinions, based on many decades of combined experience and expertise, have proven diverse in their standpoints but united in their endorsement of value's continued and considerable relevance. There is scope today for innovation and adaptation, as there always has been; but in the final reckoning, as ever, it is diligence and patience that should eventually reap rewards.

Perspectives on value – in summary

The active/fundamental perspective

This is where the "art" of value investing still exists. The key differences here are the requirement to learn and understand the dynamics of the individual businesses in which you invest and the comparison of a stock's current valuation with its past valuation – although this is not to say market valuations, or the valuations of similar stocks in a sector or industry are not considered.

This approach requires much more knowledge about companies, their industries, day-to-day operations, management, and their histories. It should appeal to investors truly looking to benefit from attractive valuations as well as from understanding the idiosyncratic aspects of individual businesses.

The factor/systematic perspective

This is most representative of the "science" element of value investing. It boils down to automating the identification of "cheap" stocks across the market. Stocks are ranked based on one or more valuation metrics, and this information is used to select securities; the ranking is relative to all other stocks and generally does not consider the historical valuation of each.

While this approach might seem more complex, it is in many ways simpler than the active/fundamental approach. It uses a finite set of metrics to make investment decisions. While it doesn't explicitly take into account competitors, managements, etc, it accounts for those aspects of the selection process, at least partially, through the metrics used to evaluate securities. It represents a systematic and inexpensive means of accessing value characteristics across the market.

The asset allocation/tactical perspective

Here we took a step back and provided further context from the midpoint of the investment spectrum. Our key point: value should still have a place in portfolios – especially now – particularly for diversification purposes.

There are two ways of accessing value from an asset allocation/tactical perspective: static and dynamic. The first is clearly rooted in the quest for diversification. The second takes account of increased cyclicality and the potential benefits of rotating into and out of different factors as the market environment changes. Each approach has its merits.

7. References and suggested further reading

Economist: "Value investing is struggling to remain relevant", 14 November 2020

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Financial Times: "Covid condemns value investing to worst run in two centuries", Oct. 26, 2020

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Sharpe, W: *Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk,* 1964

Shea, Y, and Radatz, E: *Searching for Inner Peace with Value Factors,* 2020

1 See, for example, Lev, B, and Srivastava, A: Explaining the Recent Failure of Value Investing, 2019.

2 See, for example, Economist: “Value investing is struggling to remain relevant”, 14 November 2020.

3 In October 2020, announcing the closure of AJO Partners, Aronson told investors: “The drought in value – the longest on record – is at the heart of our challenge. We still believe there is a future for value investing; sadly, the future is unlikely to arrive fast enough – for us.” See, for example, Financial Times: “Value fund manager AJO to shut down after losses”, 14 October 2020.

4 See, for example, Financial Times: “Covid condemns value investing to worst run in two centuries”, 26 October 2020. Significantly, the authors of the research argued that value is nonetheless likely to bounce back – as it has on previous occasions.

5 See, for example, Markowitz, H: Portfolio Selection, 1952, and Portfolio Selection: Efficient Diversification of Investments, 1959.

6 See, for example, Fama, E, and French, K: Common Risk Factors in the Returns on Stocks and Bonds, 1993, and Size, Value and Momentum in International Stock Returns, 2012.

7 Maybe the most influential and frequently cited work in redefining thinking around investor psychology was carried out by Nobel laureate Daniel Kahneman and Amos Tversky. See, for example, Kahneman, D, and Tversky, A: Prospect Theory: An Analysis of Decision Under Risk, 1979.

8 It is worth noting that Lev and Srivastava also highlighted the role of “fundamental economic developments” in value investing’s recent underperformance. We return to this theme on a number of occasions in outlining our own perspectives.

9 Google is now listed as its parent company, Alphabet, but the appeal of a catchy acronym is tough to shake off.

10 Buffett began buying Coca-Cola shares in 1988, a year after the Black Monday crash. The company’s market value increased by around 1,750% over the course of the following three decades, during which time he did not sell a single share. There are few purer illustrations of the diligence and patience necessary for successful value investing over the long term – or of the risk appetite sometimes required. “We expect to hold these securities for a long time,” Buffett wrote in his 1988 letter to Berkshire Hathaway shareholders. “In fact, when we own portions of outstanding businesses with outstanding managements, our favourite holding period is forever.” See, for example, Motley Fool: “Here’s how much profit Warren Buffett has made on Coca-Cola”, 19 November 2019.

11 We agree with the sentiment expressed in a recent paper: “Both from a theoretical and an empirical perspective, expectations of fundamental information have been and continue to be an important driver of security returns… Fundamental information related to firms’ business models should be at the heart of every investor’s toolkit.” See Israel, R, Laursen, K, and Richardson, S: Is (Systematic) Value Investing Dead?, 2020.

12 An HML (high-minus-low) portfolio draws on price-to-book ratios to go long on the cheapest stocks and short on the most expensive.

13 See, for example, Sharpe, W: Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk, 1964.

14 Three-year annualised returns for the value factor during the period from 31 December 2017 to 31 December 2020 were 8.5%, with volatility at 21.6%. This compared to 11.2% (23.9% volatility) for size, 16% (19.3%) for momentum, 17.6% (18.9%) for quality and 13.6% (17.2%) for low volatility. The Russell 1000 Index delivered returns of 14.8% during the same period, with volatility at 19.4%.

15 See Shea, Y, and Radatz, E: Searching for Inner Peace with Value Factors, 2020 (as featured in the Q4 2020 edition of Invesco’s Risk & Reward).

16 Ibid. The authors noted: “Stocks with high multi-factor scores are those inexpensive relative to their quality and growth potential, mimicking an intrinsic value approach.”

17 See Kessler, S, Scherer, B, and Harries, JP: Value by Design?, 2020.

18 See Polk, C, Haghbin, M, and de Longis, A: Time-Series Variation in Factor Premia: The Influence of the Business Cycle, 2020. The authors concluded: “Portfolios based on quantitative characteristics such as value, momentum and quality have historically generated relatively high average returns and represent a new dimension of systematic risk. We argue that understanding the economic drivers of these new systematic risks brings novel insights as to how to time these factor bets.”

19 The Invesco Global Factor Investing Study 2019 surveyed institutional and wholesale investors on their belief in the rationales for various factors. Value topped both polls, as well as leading the way in terms of portfolio allocations in 2017, 2018 and 2019.

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