Invesco

2023

Invesco Global Systematic Investing Study

This document is not intended for members of the public or retail investors.
Full audience information is available inside the front cover.

Executive summary

Welcome to Invesco's Global Systematic Investing Study 2023. This year, we've refreshed the title of the annual factor investing study, to the Global Systematic Investing Study, reflecting the progression of quantitative investing over the past 7 years. Since its inception in 2016, the report has provided insights into factor investing. Going forward, the report takes a broader view encompassing the full, and rapidly advancing, systematic investing space.

New breakthroughs in data science and technology continue to dramatically enhance quantitative techniques. The study chronicles these innovations and how practitioners globally are leveraging them across asset classes. While factor investing remains a key pillar, its role is examined within a maturing universe of systematic strategies.

By focusing on the future landscape, this research offers timely perspectives on how investors are deploying (and looking to deploy) advanced methodologies to construct resilient portfolios and generate alpha. The Study also explores the solutions being applied to navigate market complexity and meet objectives like Environmental, Social & Governance (ESG) integration.

Based on interviews with 130 systematic investors, defined as investors that employ structured, rules-based quantitative models and algorithms to make investment decisions, this research collects the opinions of senior decision makers responsible for managing $22.5 trillion in assets (as of March 31, 2023). We are pleased to share these valuable perspectives and look forward to engaging in further discussions around the future of systematic investing worldwide.

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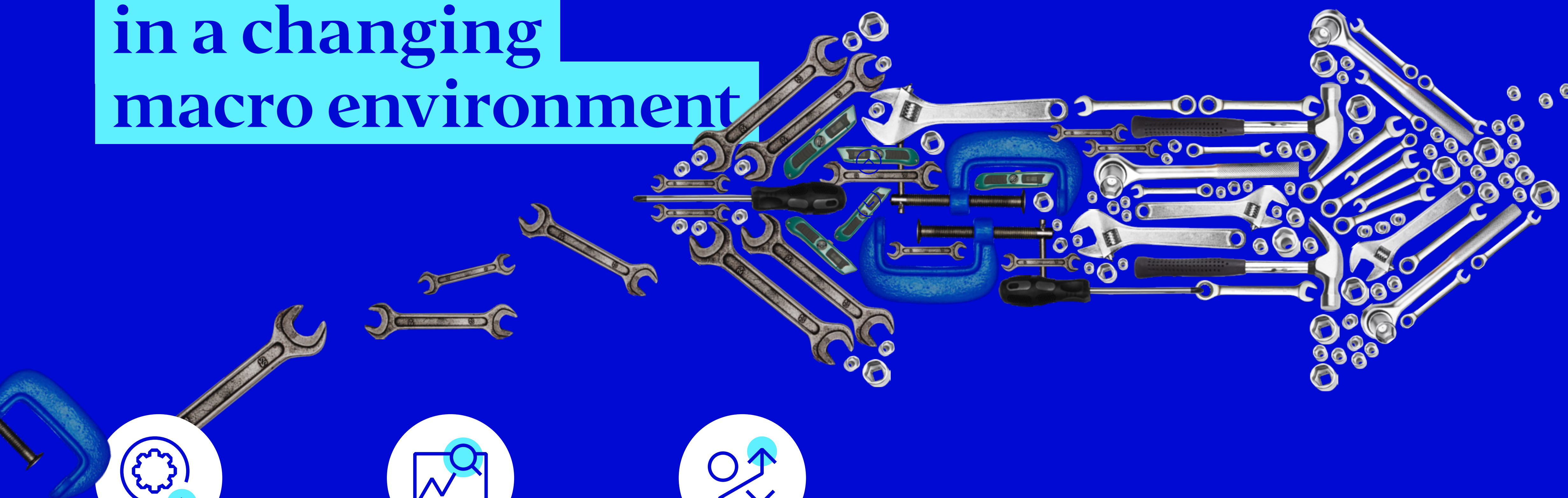
Theme 1

A systematic surge: investors reach for a diverse toolbox in a changing macro environment



Systematic investors increasingly incorporate factor investing alongside other quantitative tools including dynamic asset allocation.

In tumultuous markets, these systematic strategies have helped investors manage volatility, with a focus on the underlying factors that drive true diversification.[1]

The new macro environment is opening new return opportunities for systematic investors, with fixed income and commodities in the spotlight.

[1] Diversification does not guarantee a profit or eliminate the risk of loss.

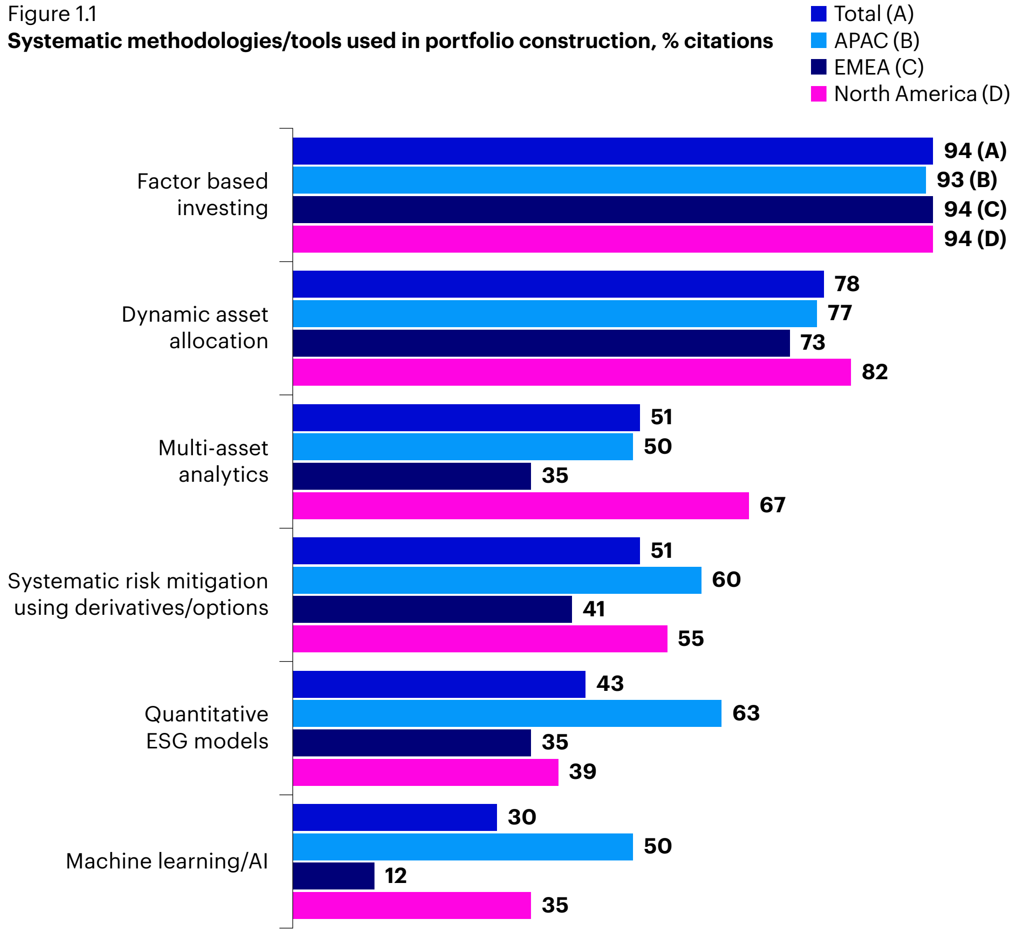
Over the last eight years, the previous iterations of this study have chronicled the move by factor investing from a niche strategy to its current role as a key instrument in both portfolio construction and performance attribution. This year's study, which synthesizes feedback from a wide spectrum of institutional and wholesale investors across the globe, finds a further transition underway.

While factor investing has historically been the cornerstone of systematic strategies, investors today are broadening their toolkits and using more diverse strategies **(figure 1.1)**. As one North American wholesale investor noted: "Traditionally, factor investing has been based around overweighting specific factors such as value and momentum to capture risk premia. Systematic investing now encompasses a broader range of quantitative methodologies."

For three quarters of respondents, dynamic asset allocation has become a core component of the investors approach, with investors rebalancing and adjusting their portfolio in response to the market environment. These investors are typically looking to identify and characterize the underlying market regime. They then make inferences about the impact on the relative performance of different asset classes, factors, regions, and sectors as revealed by one institutional investor based in North America. "We have expanded our selection decisions beyond factors to include regime work, so we identify certain macro environments where certain asset classes tend to outperform others. This includes forecast for future shifts in the regime and is not just focused on the here and now."

Recent challenging markets have bolstered the case for these types of strategies. Considering this dilemma, one institutional investor from North America asked: "In the voyage of long-term investment strategy, when unexpected obstacles appear, should we stay on the same course or try to skillfully steer around them? That is the question big investment players face today."

Figure 1.1
Systematic methodologies/tools used in portfolio construction, % citations



Which of the following systematic methodologies/tools are you using in your portfolio construction? Sample size: 130.

We have a systematic approach to asset allocation. We identify where we are at from a macro perspective and that involves economic growth versus inflation.

Institutional Investor
North America

> Quantitative approaches are efficient in dealing with different market cycles, as they allow you to define when the market is in a bullish or bearish phase.
>
> **Wholesale Investor**
> EMEA

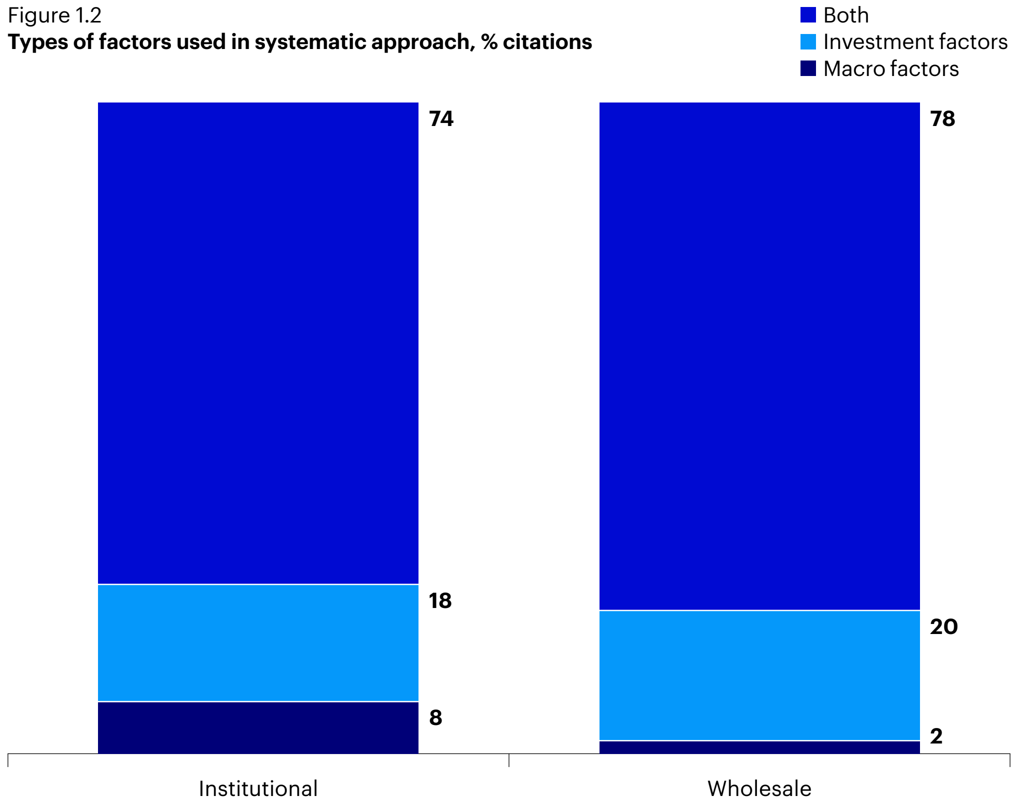
Investors are incorporating macro factors into systematic models, looking to understand drivers and outcomes across different market regimes

As systematic investing continues to evolve, most investors are integrating both macroeconomic factors and distinct investment factors into their quantitative models **(figure 1.2)**. One EMEA-based wholesale investor noted: "Our approach is comprehensive, encompassing a vast spectrum of data points, all tailored to understanding specific drivers and outcomes at varying stages of market cycles."

These systematic strategies have found support among investors who find them particularly helpful in pinpointing pivotal shifts in market conditions, effectively diminishing reliance on instinctual judgements. The byproduct has been accelerated, timely decision-making as one institutional investor in APAC revealed: "The vagaries of subjective analysis can often lead to delays, especially during crucial turning points in the market cycle. At these junctures, a clear directive from a systematic model is invaluable."

These systematic guidelines recently proved helpful with respect to inflation. Several respondents noted systematic guidelines added a degree of analytical clarity, while navigating changes in inflation rates, strengthening investors' ability to recalibrate the scale and duration of their fixed income holdings when inflation began to rise.

Figure 1.2
Types of factors used in systematic approach, % citations



Which types of factors do you use in your systematic approach? Sample size: 129.

> Our systematic approach is used for both trading decisions and long-term portfolio allocations.
>
> **Wholesale Investor**
> EMEA

> **Market conditions have made it more conducive to use systematic strategies.**
>
> **Wholesale Investor**
> North America

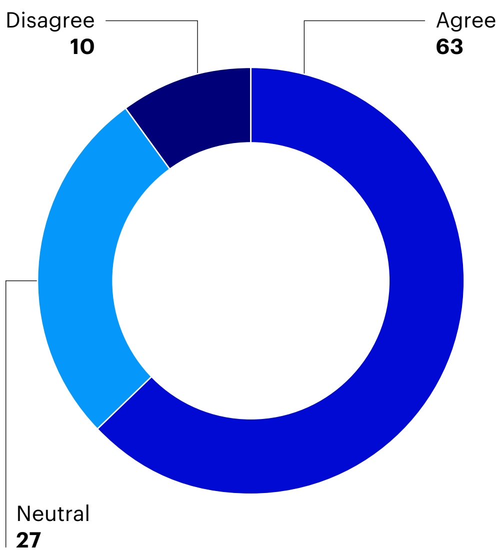
Navigating choppy waters: the systematic approach helps investors tame volatility

In the last year, the ability of systematic strategies to mitigate market risks has been evident, with nearly two-thirds of investors saying systematic strategies helped them manage market volatility **(figure 1.3)**.

Indeed, risk management is seen as one of the most important benefits of a systematic approach allowing investors to gauge and measure potential portfolio impacts across various scenarios. As uncertainty grows, the risk management benefits of these strategies appear set to become more pronounced. One wholesale investor from North America remarked: "The more uncertainty there is, the more attractive systematic strategies become as they can better react to risk." This is seen not only as beneficial for short-term adjustments but also for long-term stability by improving understanding of the underlying factors driving diversification.

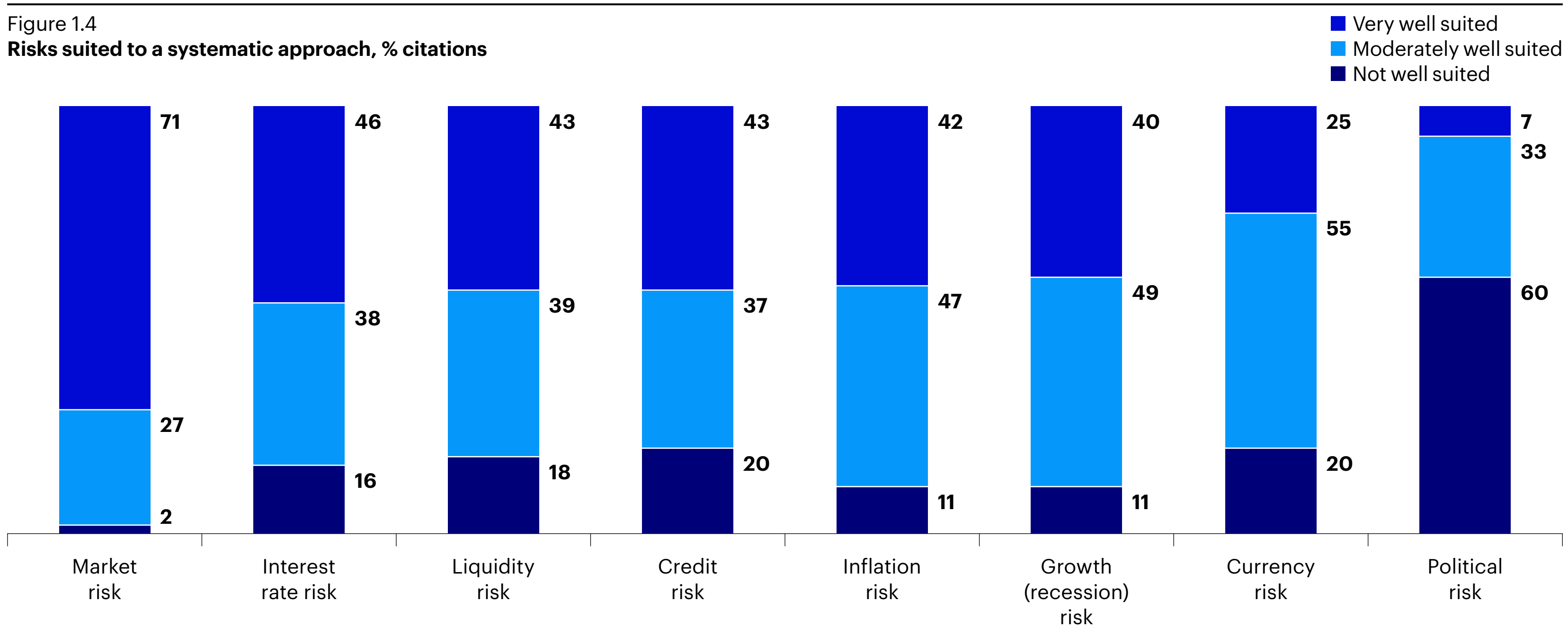
The 2022 market correction, with falls in both equity and fixed income markets, challenged the conventional belief in the stability of fixed income within portfolios. Investors described putting more emphasis on developing a deeper quantitative-based understanding of how a portfolio might perform across different macro environments, and when needed, the potential to make strategic moves to counterbalance risks. As one North American institutional investor noted: "A systematic approach tends to be much more risk-aware, shedding light on the blend of exposures." Systematic strategies have demonstrated their aptness in managing market risks and are also gaining traction for addressing varied risks including interest rate fluctuations, liquidity concerns, credit issues, and inflationary pressures **(figure 1.4)**.

Figure 1.3
Systematic strategies have helped manage volatility in past 12 months, % citations



Do you agree or disagree with the following statement: Systematic strategies have helped us manage market volatility over the past 12 months? Sample size: 129.

Figure 1.4
Risks suited to a systematic approach, % citations



Which of the following are well addressed via a systematic approach? Sample size: 122.

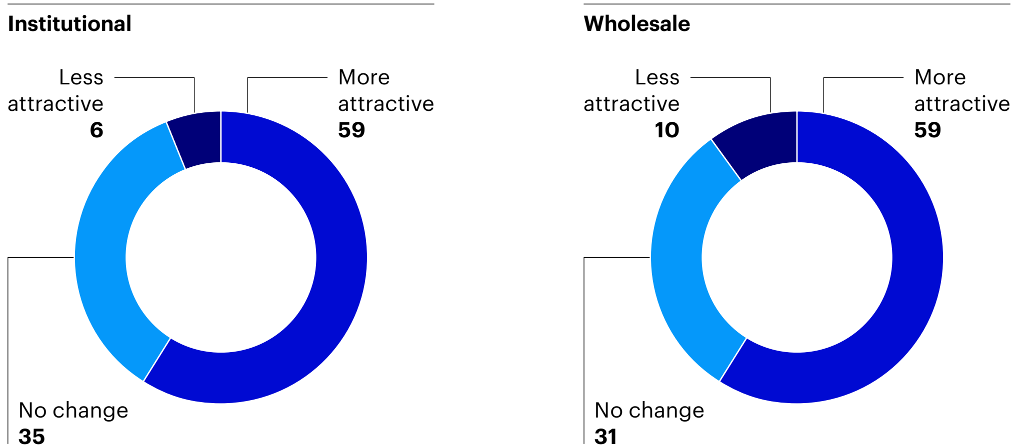
Systematic strategies flourish in a higher yield landscape

Nearly 60% of respondents said the new market regime of higher inflation and higher interest rates was supportive of a systematic approach **(figure 1.5)**. Both for managing elevated levels of risk and for identifying new return opportunities. Over the past 8 years, fixed income has risen to prominence among quantitative-based investors; almost three quarters of respondents now adopt a systematic approach in this asset class **(figure 1.6)**. One EMEA-based institutional investor observed: "With the market now reflecting a genuine discount rate, fixed income has grown more appealing. This realignment has nudged us towards increasing allocations to fixed income, particularly through systematic strategies."

Although systematic models are now well-embedded within fixed income and equities, the anticipation is growing for this approach to spread to other asset classes **(figure 1.6)**. Higher yields, coupled with a shift away from quantitative easing, means conventional macro factors are taking center stage in determining returns across various countries and sectors. This has bolstered the appeal of commodities and currencies pursued with systematic strategies. While only about a fourth of investors presently target commodities this way, a significant 59% view this as a focal point moving forward **(figure 1.6)**.

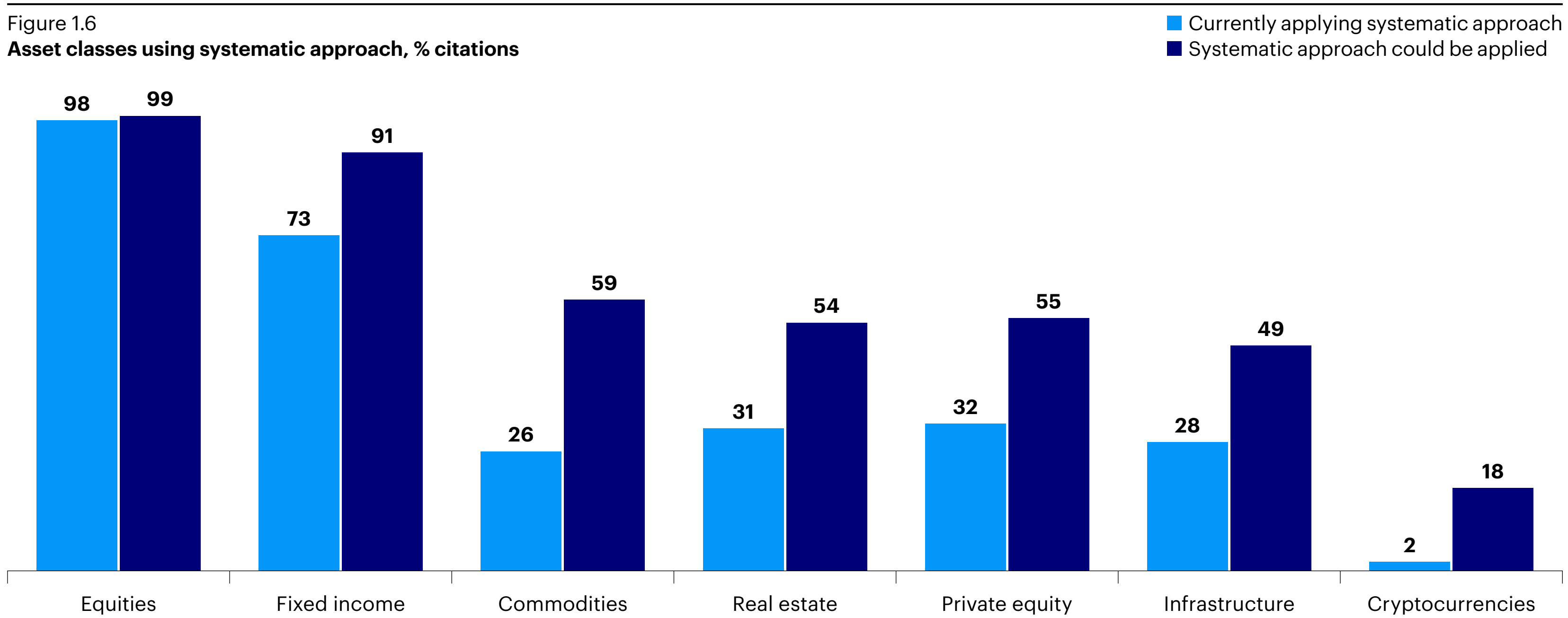
The push is also on to better understand factor exposures of private market investments and to gauge the impact of a global shift towards private markets on the performance of traditional investment factors. As one EMEA-based institutional investor explained: "A lot of the larger institutions are now looking for value in their alternative portfolios via private equity or infrastructure. This then has implications for the attractiveness of value in listed markets. Understanding these kinds of dynamics is becoming more important as alternatives grow to become a greater proportion of portfolios."

Figure 1.5
Attractiveness of systematic approach over past 12 months, % citations



How has the environment of the past 12 months (high inflation and rapidly rising interest rates) impacted the attractiveness of a systematic approach? Sample size: 129.

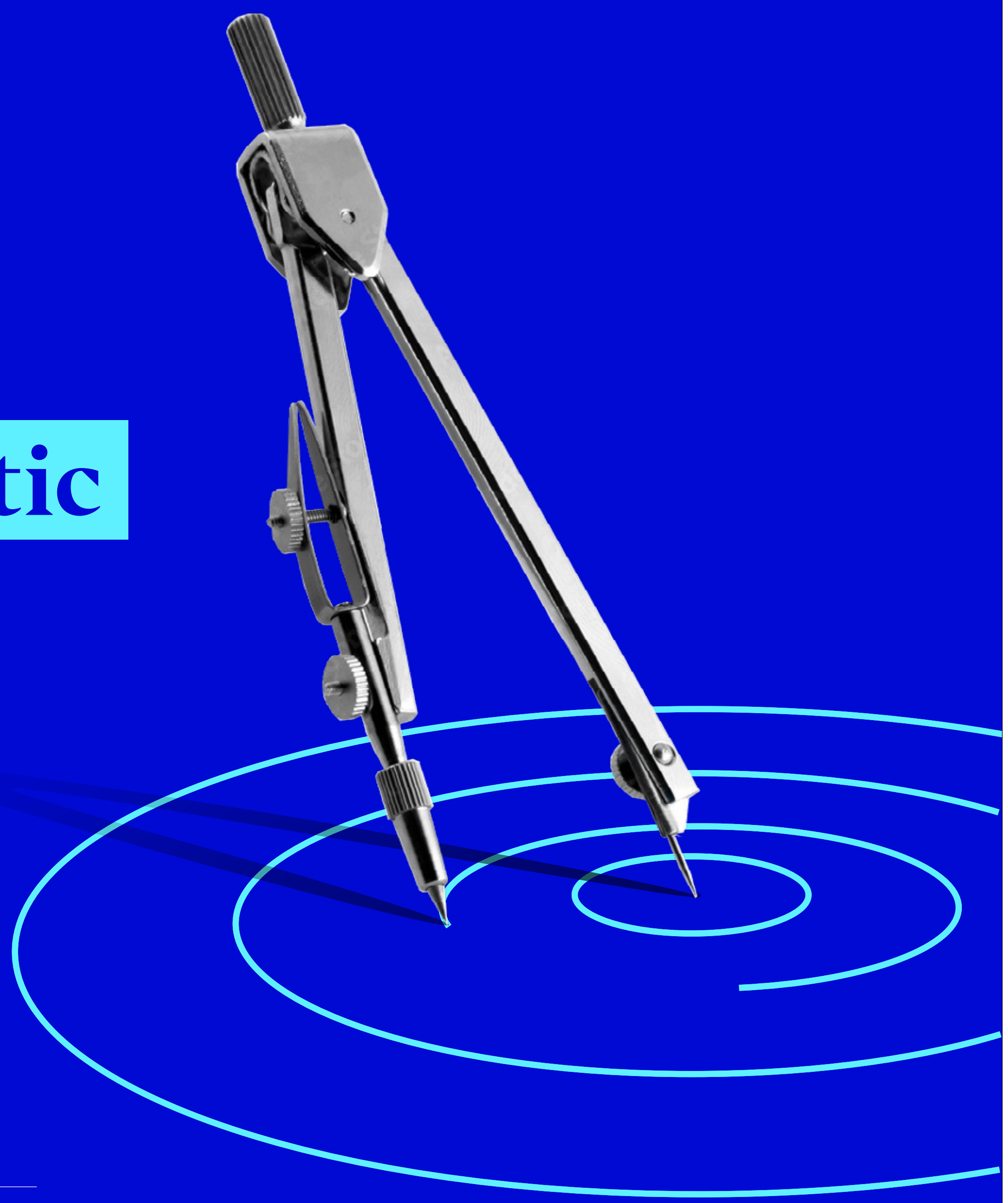
Figure 1.6
Asset classes using systematic approach, % citations



In which asset classes of your portfolio are you using a systematic approach? In which parts of your portfolio do you think a systematic approach could be applied? Sample size: 128.

Theme 2

The evolution of systematic portfolio construction



Investors continue to target a diverse range of factor exposures, adjusting exposures to reflect expected performance potential under different macro regimes.

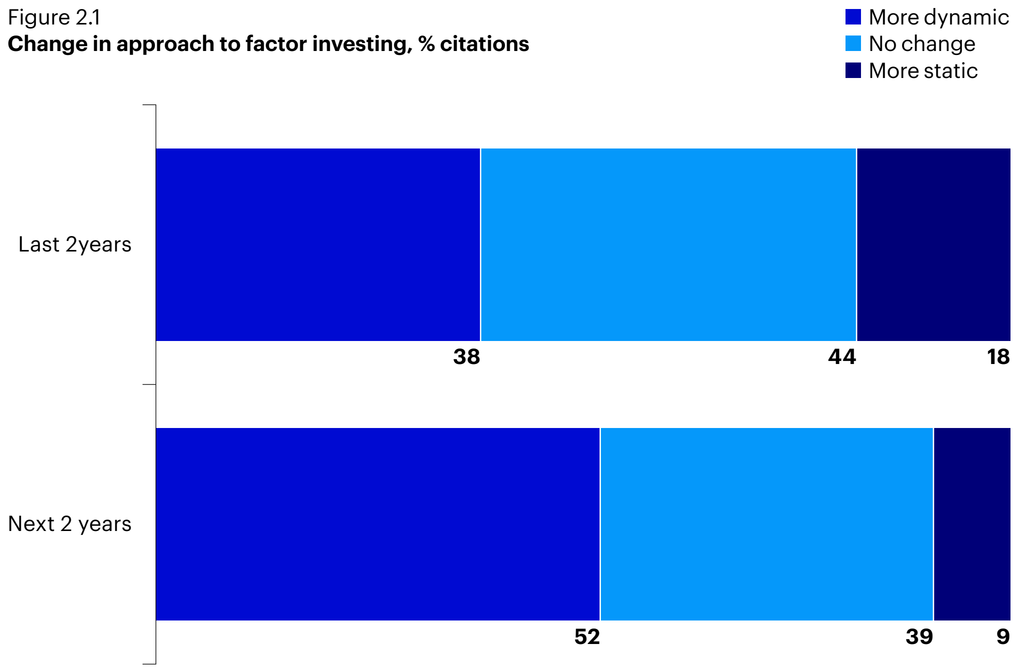
Four in five respondents consider 'growth' to be an investment factor, with two-thirds of these investors targeting growth within their portfolios.

Half of institutional investors and two-thirds of wholesale investors are using ETFs as part of their systematic strategies.

The second theme of this year's study identifies evolving dynamics in portfolio construction driven by systematic tools, joining with traditional models of factor investing. Over the life of this study, we have highlighted a trend towards a more dynamic application of factors, one expected to continue over the next two years **(figure 2.1)**.

> **Multi asset, multi-factor is how I think about it. Finding that balance between diversification and pursuing high return opportunities.**
>
> **Wholesale Investor**
> North America

Figure 2.1
Change in approach to factor investing, % citations

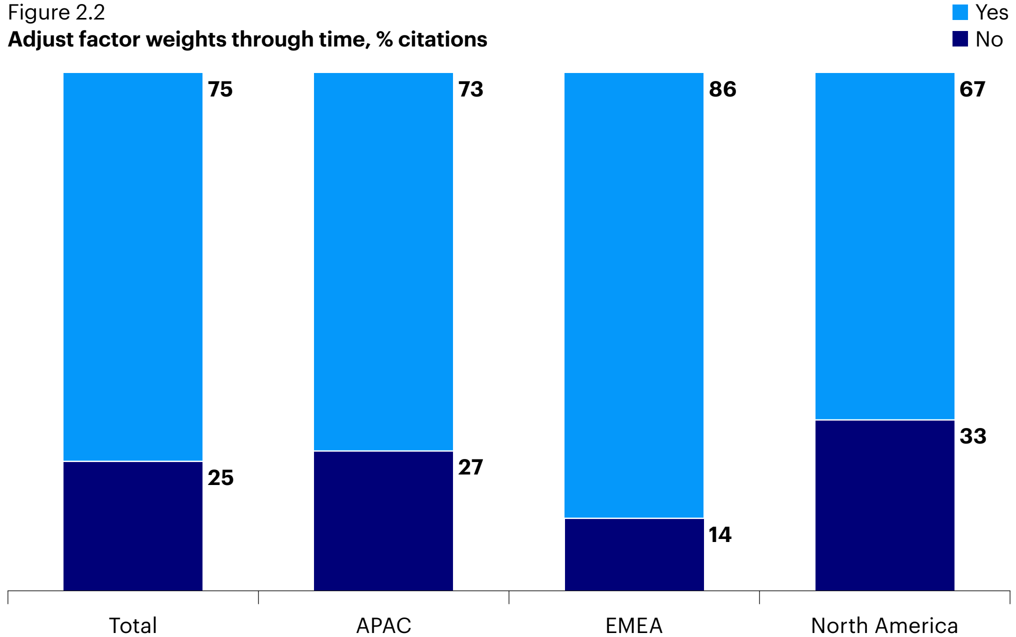


How has your approach changed over the past 2 years? How do you expect it to change over the next 2 years? Sample size: 128.

Significantly, around three quarters of investors are frequently tweaking factor weights. Their decisions hinge on anticipated factor performance at different junctures in the market cycle and the desire to balance portfolio exposures **(figures 2.2 and 2.3)**. Rather than seeing factors simply as a way of targeting risk premia over the long-term, investors are increasingly using factors to help decode patterns of performance across the cycle (as discussed in theme 1).

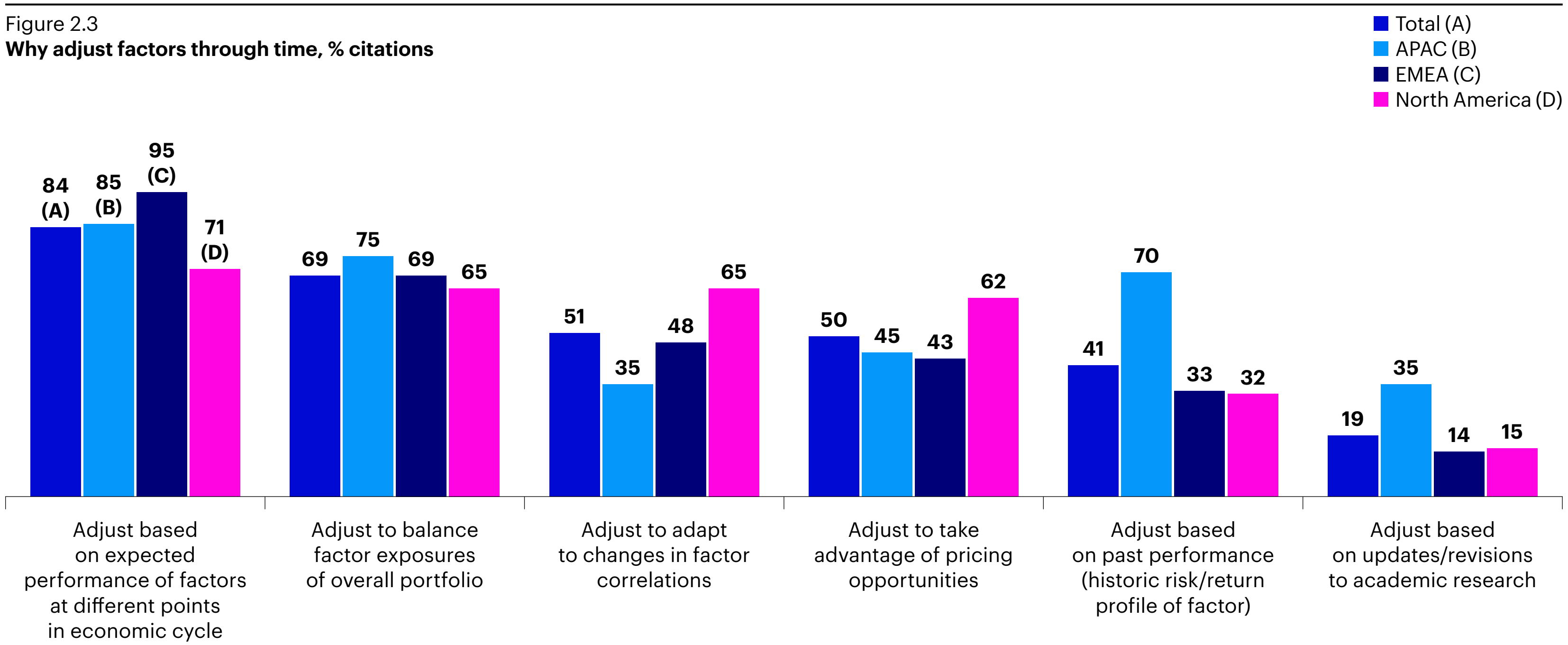
This has given rise to investors increasingly considering 'momentum within factors.' Investors are keen on targeting trending factors or those appearing temporarily oversold. A case in point: "We look at factors that are trending well or have moved outside their normal area and are poised to mean revert. If it is neither we do not feel compelled to have it there like we did in the past," said an institutional investor based in North America.

Figure 2.2
Adjust factor weights through time, % citations



Do you adjust your factor weights through time? Sample size: 130.

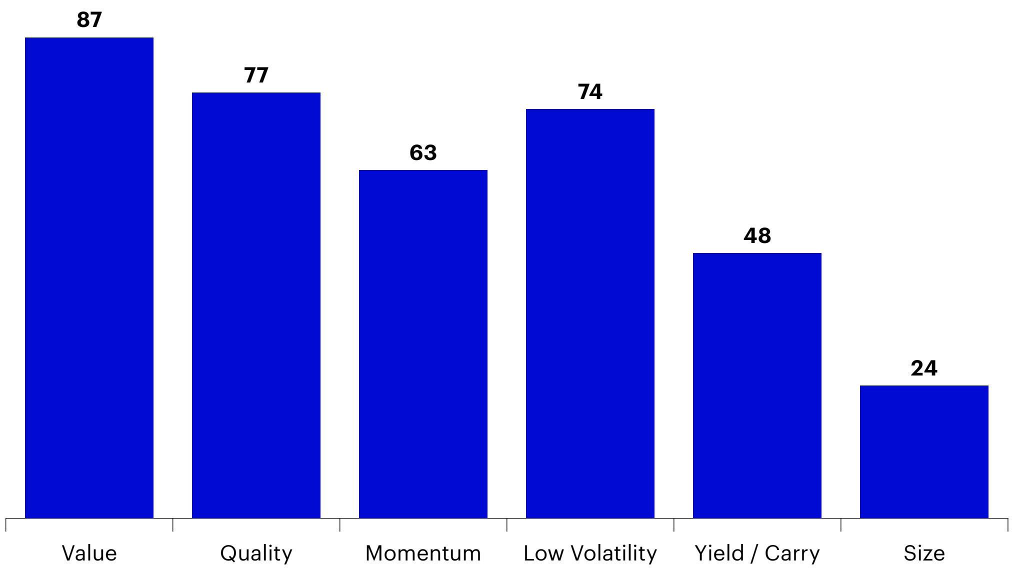
Figure 2.3
Why adjust factors through time, % citations



Why do you adjust your factor weights through time? Sample size: 96.

> **It isn't that we have given up on certain factors, but we are more willing to turn it off if something is not working and instead trend follow the factors that are working.**
>
> **Institutional Investor**
> North America

Figure 2.4
Factors targeted, % citations



What investment factors do you explicitly seek / have exposure to within your portfolio (or client portfolios)? Sample size: 125.

Investors continue to target a diverse range of factor exposures, but often weight towards factors expected to outperform

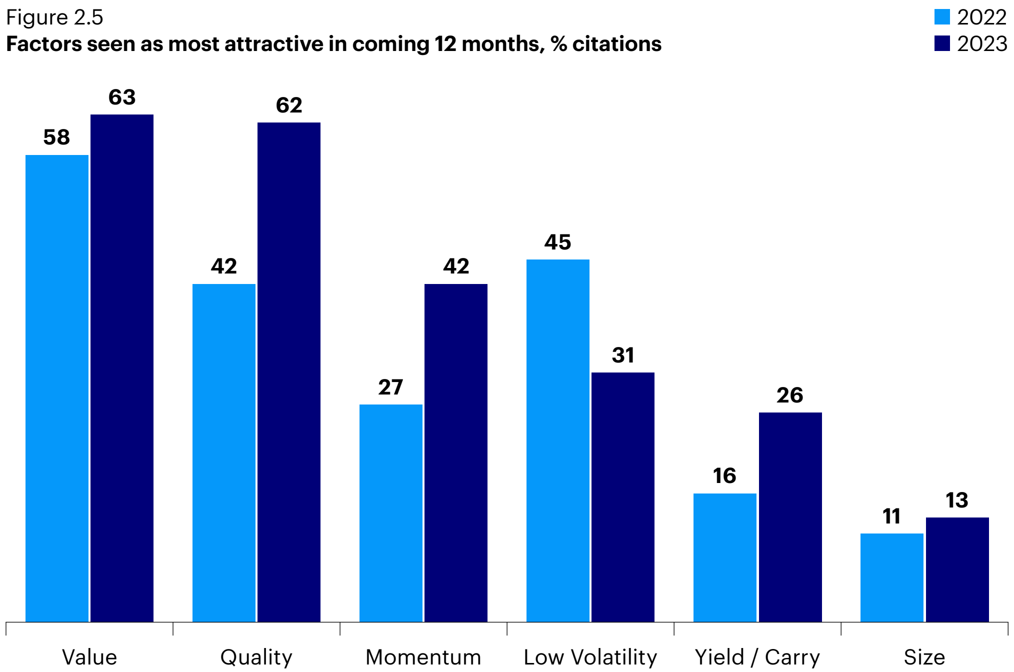
Investors are displaying more agility in their factor investing strategies, ready to exclude a factor they perceive as misaligned with the prevailing macro regime. One North American institutional investor remarked: "Factor investing was somewhat of a religion, and everybody was very devoted to the fact that these were risk premia and if you held them consistently over time, it was possible to generate outperformance. I think we have become more willing to make changes. If my portfolio managers want to turn off a factor that is not working, I am not going to have an issue with that. We are more willing to be more dynamic than we were 3-5 years ago."

While investors are becoming more dynamic, it is also evident that most continue to target a diverse range of factor exposures, looking for investments that can perform well in different economic environments **(figure 2.4)**. As a wholesale investor from North America put it: "We seek an array of different factors and monitor for that, aware they are going to come in and out of favor. We just want to be well covered for any environment."

In essence, while they value long-term factor diversification, investors also keep an eye out for opportunities to overweight factors expected to outperform in the current market. The recent trend shows a gravitation towards value and quality, coupled with an increase in the attractiveness of momentum and a reduced appetite for low volatility **(figure 2.5)**.

> Some factors may look compelling over a century of data, but we don't have 100 years! So the approach we are using has got to do its job within the time frame we are working with.
>
> **Institutional Investor**
> North America

Figure 2.5
Factors seen as most attractive in coming 12 months, % citations



Which factors do you expect to outperform or be most attractive in the coming 12 months? Sample size: 117.

Expanding boundaries: four in five respondents now consider 'growth' an investment factor

Investors' perspectives on factors are evolving, evidenced by changing definitions of what constitutes a 'factor.' Notably, four in five respondents now recognize 'growth' as a factor, challenging traditional academic views **(figure 2.6)**. While academic literature supports the positive premia associated with factors such as value and quality, the same cannot generally be said for growth.

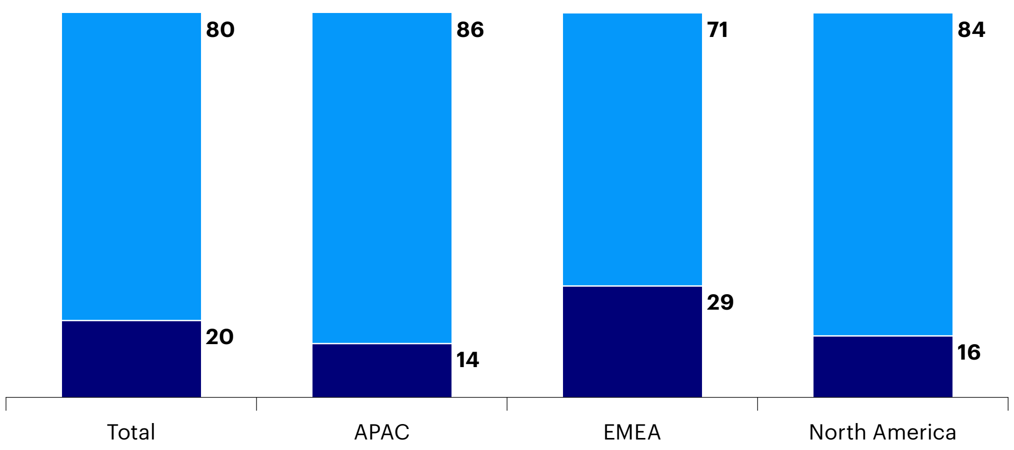
This ambiguity partly arises from the lack of a standard definition of 'growth.' Is it based on historic performance or analysts' projections? Then, there is the debate that fast growing companies are usually priced at a premium, suggesting a possible inverse correlation with value. Could there then exist long-term performance premia for both value and growth simultaneously?

For many respondents, these concerns do not weigh heavily. Two-thirds of investors that see growth as a factor integrate it into their portfolios, focusing either on specific growth stocks or related factors like quality **(figure 2.7)**. This increased flexibility towards factor definitions aligns with the emerging dynamism in portfolio construction. There is a growing sentiment that certain market regimes reward growth, prompting many to lean into it when conditions appear favorable. An institutional investor from North America remarked: "Although historically growth wasn't considered a factor in academia, or a consistent performer, we now recognize market conditions where growth is rewarded."

The prevailing idea is not value opposes growth, or vice versa. Investors often see them as being distinct or complementary. Sophisticated methods are now used, such as combining value metrics alongside growth to identify 'growth at a reasonable price'. Similarly, value and quality metrics merge to spotlight 'value of reasonable quality'. Some respondents noted the current market conditions, like higher inflation and rates should be positive for value. However, an expectation for rate reductions, coupled with the clamor around AI, has been positive for growth. Modern 'Factor investing' is increasingly about leveraging systematic tools to identify and take advantage of such insights in a way that can help investors deliver alpha.

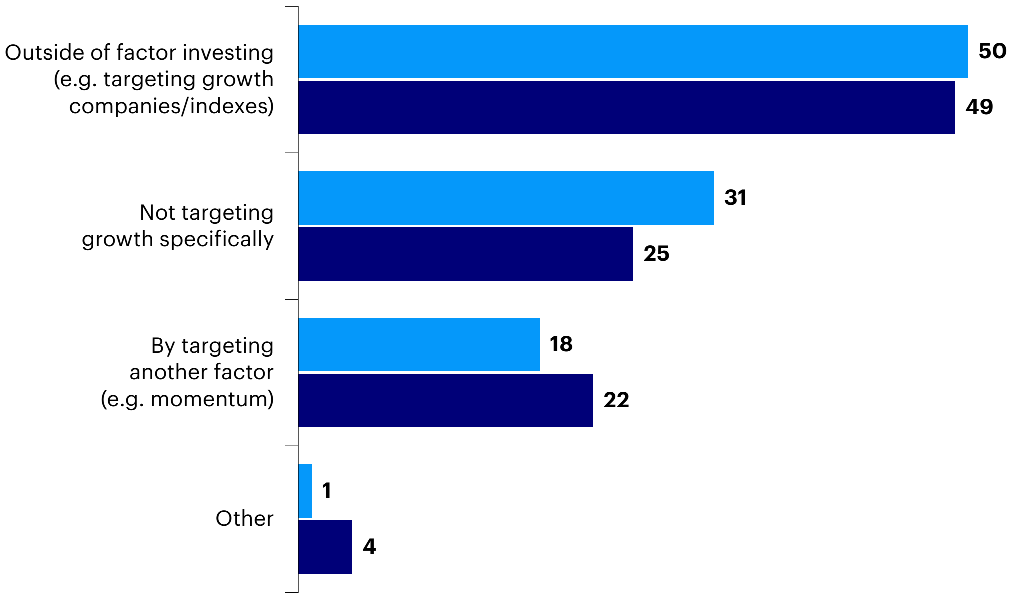
> **Many systematic managers are not really in the game of forecasting the future. They would say that nobody can predict the future, but I would push back and say that you must.**
>
> **Wholesale Investor**
> North America

Figure 2.6
Consider growth to be an investment factor, % citations



Do you consider growth to be an investment factor? Sample size: 127.

Figure 2.7
How targeting growth in portfolio, % citations



How are you targeting growth in your portfolio? Sample size: 129.

Systematic products are used to target factor strategies, for hedging and to manage overall portfolio exposures

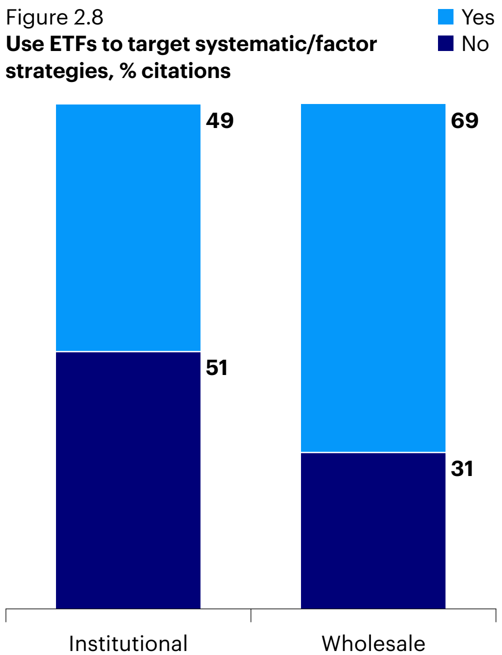
Investors are turning to ETFs for their adaptability in dynamic portfolio management. Around half of institutional and two-thirds of wholesale investors include ETFs in their systematic approach **(figure 2.8)**. They are not just sticking to traditional uses: ETFs are now regularly employed for hedging. With economic regime model forecasts guiding exposure levels, many foresee an uptick in this strategy, especially given the lack of protection offered by fixed income recently. As EMEA-based wholesale investor noted: "If bonds don't offer protection, we need to find new solutions."

Moreover, ETFs play a key role in tweaking factor exposures **(figure 2.9)**. They allow investors to temper specific biases in their portfolios. For example, holdings tilted towards high growth thematic strategies like AI or renewable energy can be offset with value factor ETFs. An EMEA-based wholesale investor said: "We flatten down some of our overwhelming growth exposure by owning a value factor ETF."

Investors see room for further innovation, anticipating and demanding innovative ETF products, especially ones facilitating hedging, tactical asset allocations, and balancing portfolio exposures. AI's advancements are viewed as pivotal in spurring the development of sophisticated products and informing selection. As a North American wholesale investor explained: "There is an explosion in systematic ideas driven by AI. While not everyone can build their own AI model, all investors should be able to gain access to these technologies through new investment tools and products."

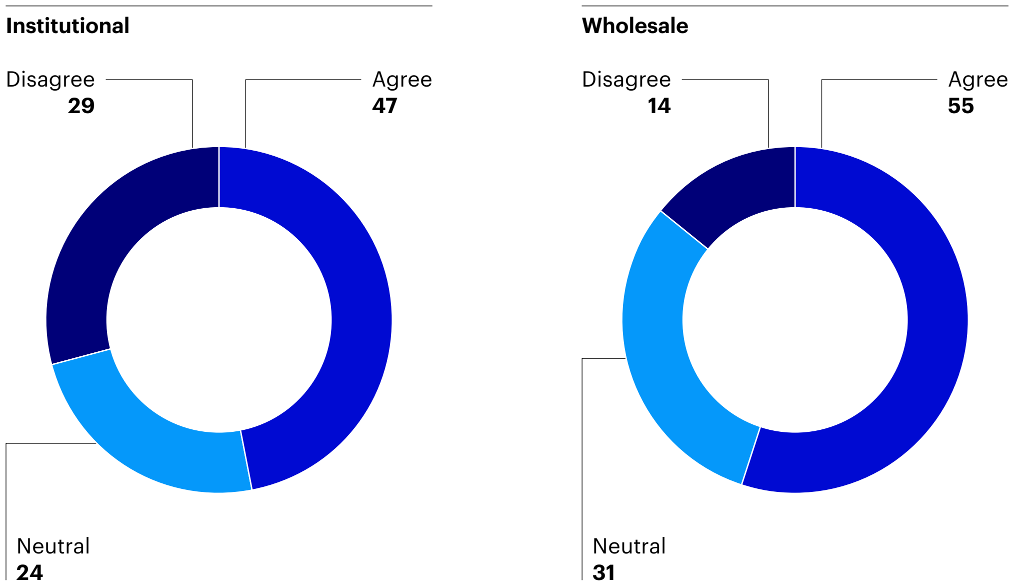
> **We use ETFs as it is the easiest way for us to quickly change our factor exposures.**
>
> **Institutional Investor**
> North America

Figure 2.8
Use ETFs to target systematic/factor strategies, % citations



Do you use ETFs to target factors/systematic strategies? Sample size: 126.

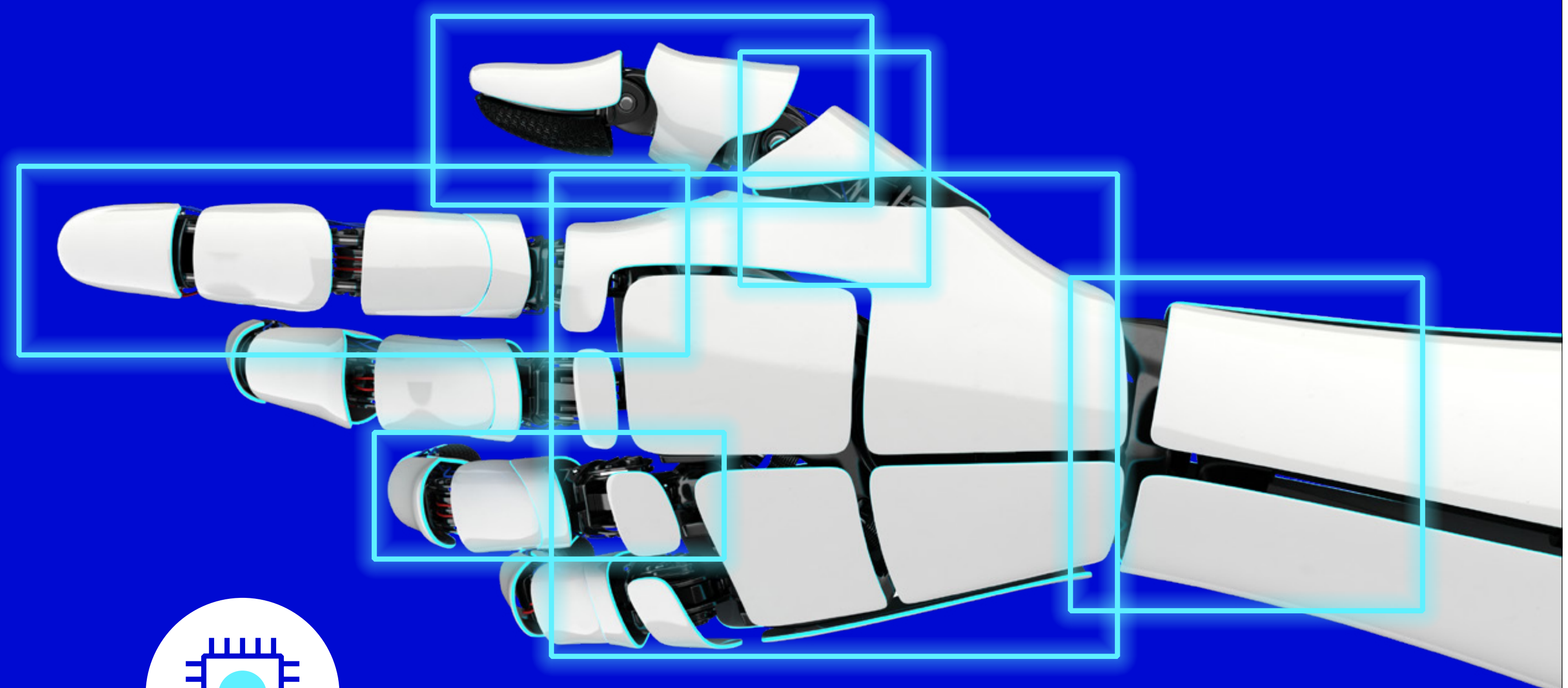
Figure 2.9
Use ETFs to help manage overall portfolios exposures, % citations



Do you agree or disagree with the following statement: We use ETFs to help manage our overall portfolios exposures? Sample size: 110.

Theme 3

Algorithms and alpha: investors look to an Artificial Intelligence-based future



Half of systematic investors have introduced AI in some form, with sentiment analysis the most common application.

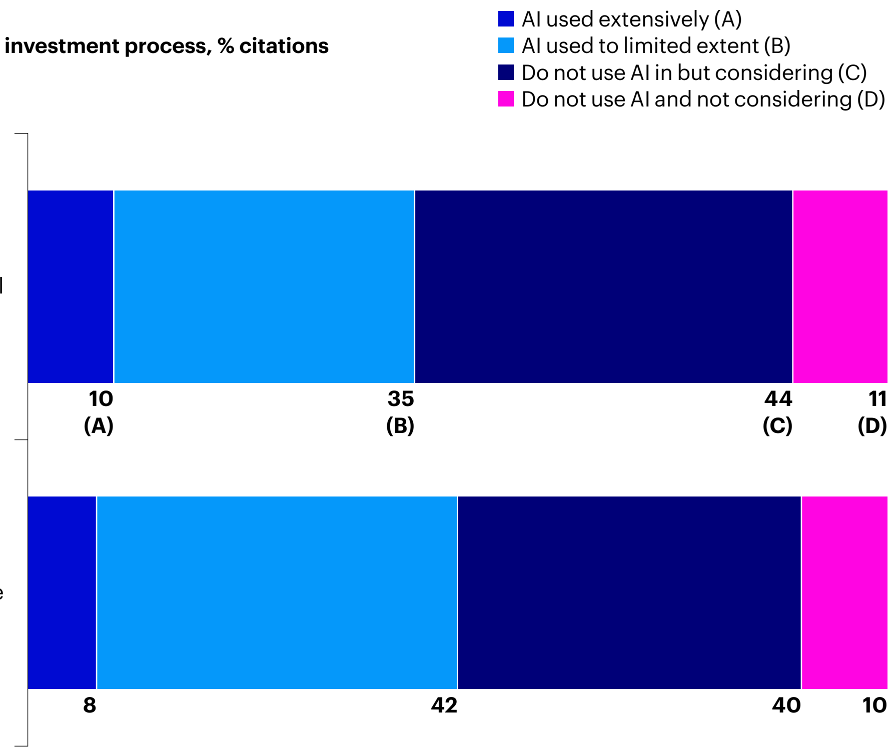
Proprietary data's value is increasing as AI tools advance.

While AI promises unparalleled advantages, complexity and cost challenges persist; non-adopters in wholesale risk disruption.

Artificial intelligence (AI) recently emerged from the shadows, evoking excitement, anticipation, and trepidation across industries and investment markets. The introduction of large language models (LLMs) such as ChatGPT has offered a glimpse of an imminent AI-led era.

Our study of systematic investors offers evidence that this revolution is already underway. Approximately half have integrated AI into their investment processes in some form, with 10% using it extensively **(figure 3.1)**. The most common current use is identifying patterns and trends in market behaviour **(figure 3.2, page 16)**. Respondents reported harnessing AI to better comprehend the market environment and identify macroeconomic turning points. Investors particularly appreciate AI's potential for risk management, its ability to help forecast and prepare for the unexpected, and its potential to mitigate human biases which might otherwise prevent proper exploration of tail risks.

Figure 3.1
Use of AI in investment process, % citations



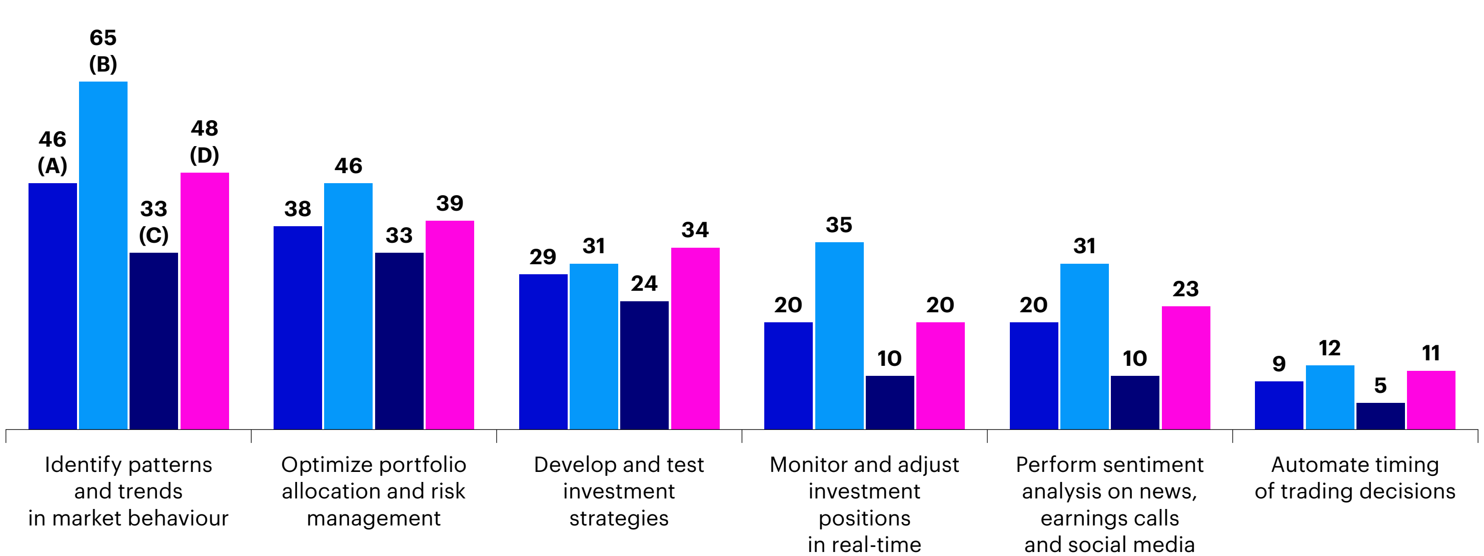
Do you incorporate AI into your investment process? Sample size: 130.

We employ AI to facilitate and automate our data analysis procedures, provide predictive models to aid in precise forecasting, create custom algorithmic frameworks, and implement behavioural analytics to better predict market trends and changes.

Institutional Investor
APAC

Looking ahead, investors foresee a transformative role for AI in portfolio management – be it in monitoring investments, fine-tuning allocations, or optimizing trading decisions with automation **(figure 3.2)**. Respondents who have embarked down this AI path see significant advantages in this approach. An institutional respondent from APAC reported, "We use AI modules to monitor our investments and automate the timing of trading decisions. This has enabled us to measure, and up to certain level, control risks." "The use AI in execution has proven to be incredibly valuable" added a North American wholesale investor.

Figure 3.2
How using AI in investment process, % citations



	Identify patterns and trends in market behaviour	Optimize portfolio allocation and risk management	Develop and test investment strategies	Monitor and adjust investment positions in real-time	Perform sentiment analysis on news, earnings calls and social media	Automate timing of trading decisions
Most future value (Total)	**87%**	**86%**	**76%**	**55%**	**67%**	**41%**

How do you use AI in your investment process? Where do you see the most value in the future? Sample size: 112.

> **The trend-following funds that we invest in are using AI to see when the market turns and to identify the patterns when trends change. We are experiencing the output from that from a fund perspective.**
>
> **Wholesale Investor**
> EMEA

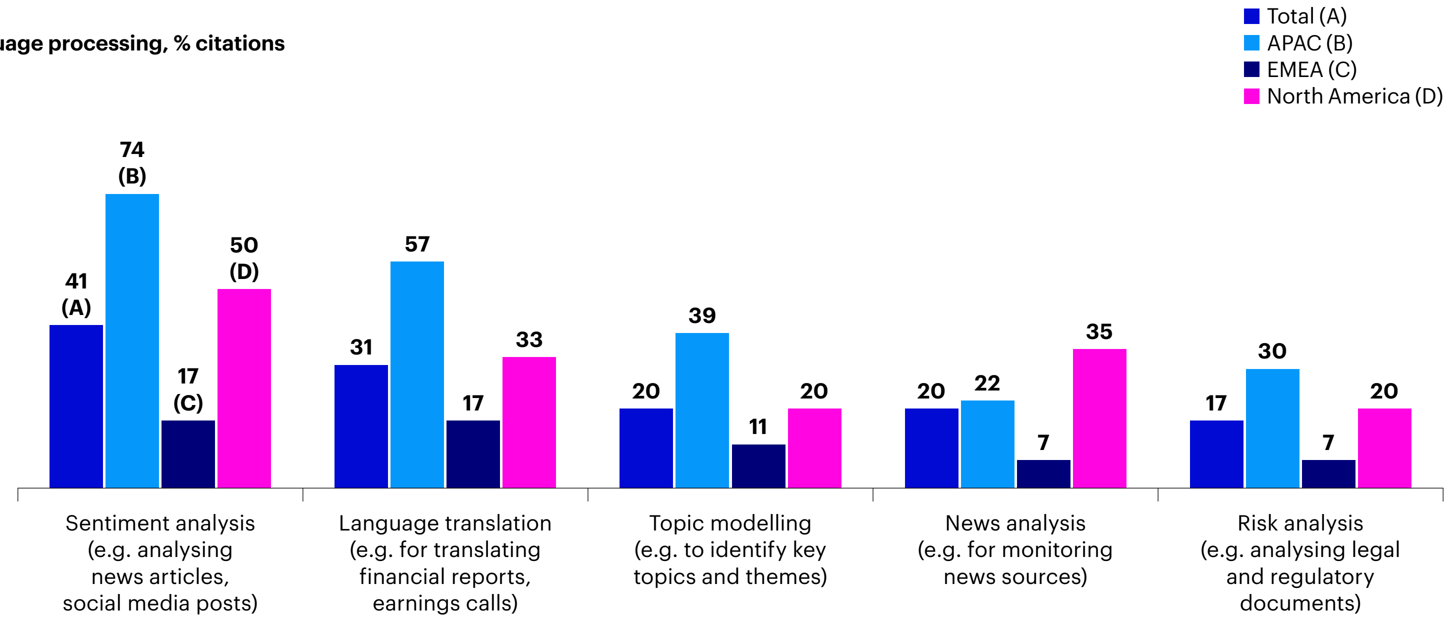
NLP adoption momentum expected as the level and utility of its application to increase

The launch of ChatGPT and other similar tools underscores the potential of AI-backed natural language processing (NLP) to engage in meaningful and coherent conversations and to automate a spectrum of linguistic tasks. The investors in this study have quickly embraced these new tools, harnessing them for a range of internal processes, including:

- Summarizing and digesting white papers in succinct format
- Rapidly addressing spontaneous client queries
- Converting recommendations into accessible language for sales teams and clients
- Modulating communication tonality for different client groups

"Our marketing team is using it to tailor messages to different clients – say, adopting different touch words for a professor and an engineer. In catering to varying segments, ChatGPT augments our communications," revealed a wholesale investor based in EMEA.

Figure 3.3
Use of natural language processing, % citations



	Sentiment analysis	Language translation	Topic modelling	News analysis	Risk analysis
Likely to use in the future (Total)	**73%**	**51%**	**54%**	**66%**	**60%**

What types of Natural Language Processing (NLP) techniques do you use in your investment process? Which do see as playing an important role in the future? Sample size: 109.

There's palpable anticipation around the next evolutionary curve. As more refined systems emerge, investors envisage harnessing these platforms to explore their proprietary data, spawning internal 'co-pilots' primed to optimize processes across a range of functions.

Meanwhile, the infusion of NLP models in investment processes is already gaining momentum. Around 4 in 10 respondents are capitalizing on NLP for sentiment analytics **(figure 3.3)**. Several investors mentioned crawling online discussion boards and social channels to decipher prevailing market narratives around firms, measuring both frequency of mentions and context. Such insights were seen as invaluable, particularly when making short-term trading decisions or assessing overnight and weekend market risks.

Around 3 in 10 respondents are using NLP for language translation, for example to translate company earnings and reports **(figure 3.3)**. This was seen as a monumental stride in developing global investment decisions. For example, investors recollected past practices of commissioning translations for company reports from countries like China or Japan. Now, with the maturation of large language models, this process can be automated and streamlined, improving the amount of data and the viability of systematic-based investing for a growing number of markets.

> **From Google feeds, we can see how often a particular name occurs and the words associated with that name.**
>
> **Institutional Investor**
> EMEA

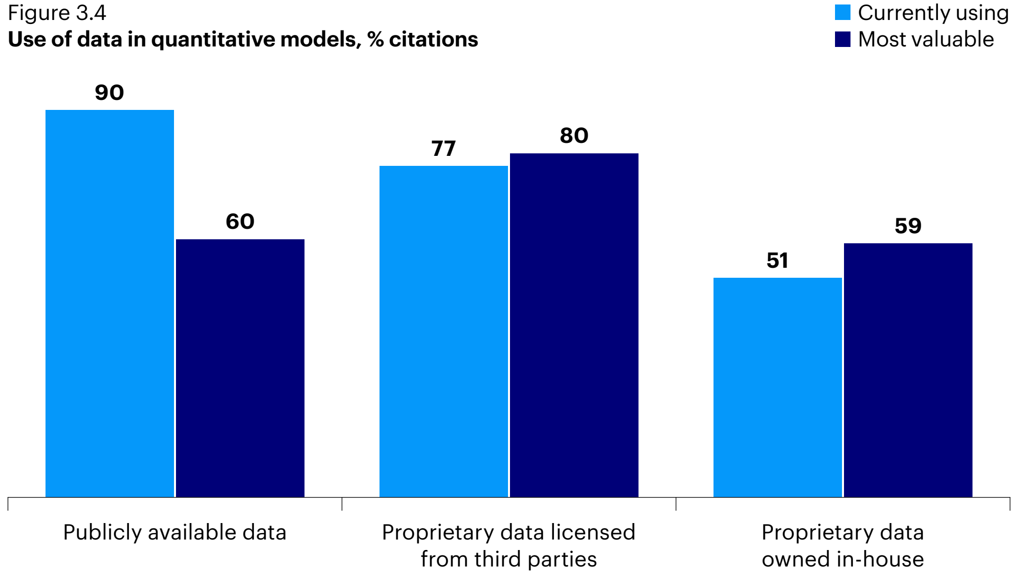
Combining proprietary and public data strategies a must

When building systematic models, respondents are currently making use of both public data and proprietary data licensed from third parties. However, proprietary data was seen as the most valuable **(figure 3.4)**. As AI tools continue to facilitate the ingestion of very large data sets there was an anticipation the value of proprietary data would continue to grow.

Investors are making use of a range of alternative data sources **(figure 3.5)**. As noted, sentiment analysis is currently the most common use-case for natural language processing models. This tallies with news sentiment data being the most widely used alternative data set and rated as one of the most valuable. Currently, social media data was the third most used and seen as the second most valuable. "We use sentiment analysis based on Twitter (now X) data in our systematic models. It helps us to digest big data and include not only quantitative but also qualitative elements in our analysis," said an institutional investor based in APAC. As the value of this data within AI tools is increasingly recognized, there was an anticipation data sets which had been previously free to access would become more limited with more of the value accruing to the platform owners (a situation playing out in relation to Twitter/X).

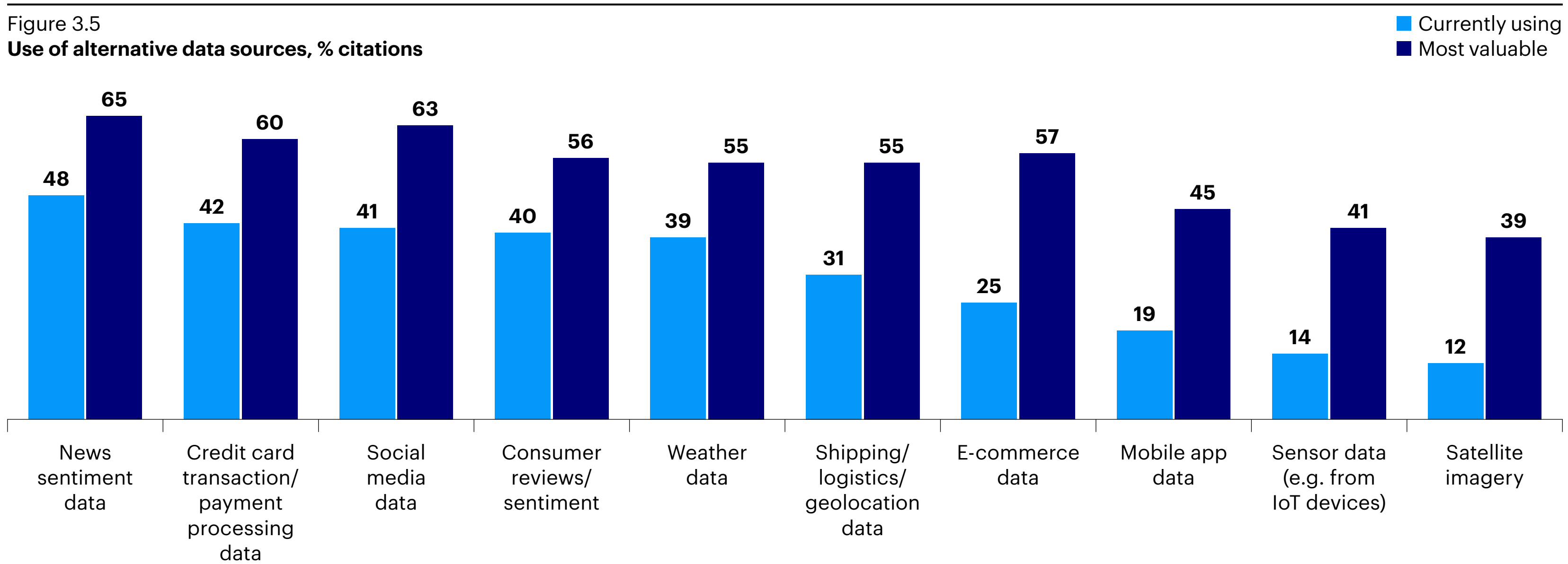
As these data sources become more widely utilized, investors noted they were always exploring new data in search of an edge, with respondents highlighting the growing value of shipping and satellite imagery to assess supply chains and as an input into larger macro models.

Figure 3.4
Use of data in quantitative models, % citations



Which types of data do you use in your systematic/quantitative models? Which types of data do you see as most valuable? Sample size: 113.

Figure 3.5
Use of alternative data sources, % citations



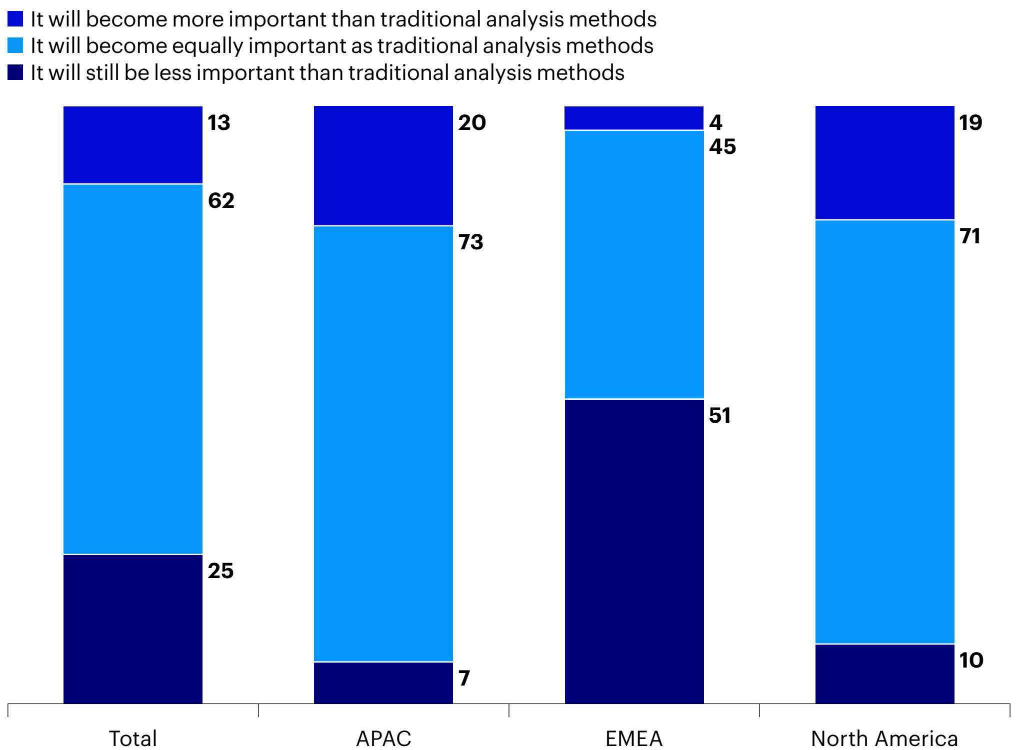
Which of the following alternative data sources do you make use? Where do you see the most value in the future? Sample size: 121.

The Double-Edged Sword of AI in Investment

Some 62% of investors interviewed, anticipate that within a decade, AI will be as important as traditional investment analysis. An additional 13% foresee it surpassing traditional methods **(figure 3.6)**. These investors believe AI will reshape the investment landscape, noting its potential in providing timely, accurate insights, improve risk management, and increase process efficiency **(figure 3.7, page 20)**. Wholesale investors see room for the development of AI tools which pinpoint high-performing products and managers. They envision AI tools transforming the quantitative stages of the selection process and playing an influential role in the creation of marketing and diligence materials, as well as aiding in tailoring advice for clients.

For institutional investors, however, complexity stands as a potentially formidable obstacle **(figure 3.8, page 20)**. For investors such as pension funds, the obligation to explain the methods and mechanisms behind an AI model's decisions to stakeholders has made them wary of 'black box' solutions. One APAC institutional investor reflected on this: "The main challenges are the complexity of AI models. Efforts are underway to simplify this for investment professionals. Additionally, the regulatory landscape surrounding the use of AI and decision accountability remains ambiguous."

Figure 3.6
Role of AI in 10 years' time, % citations



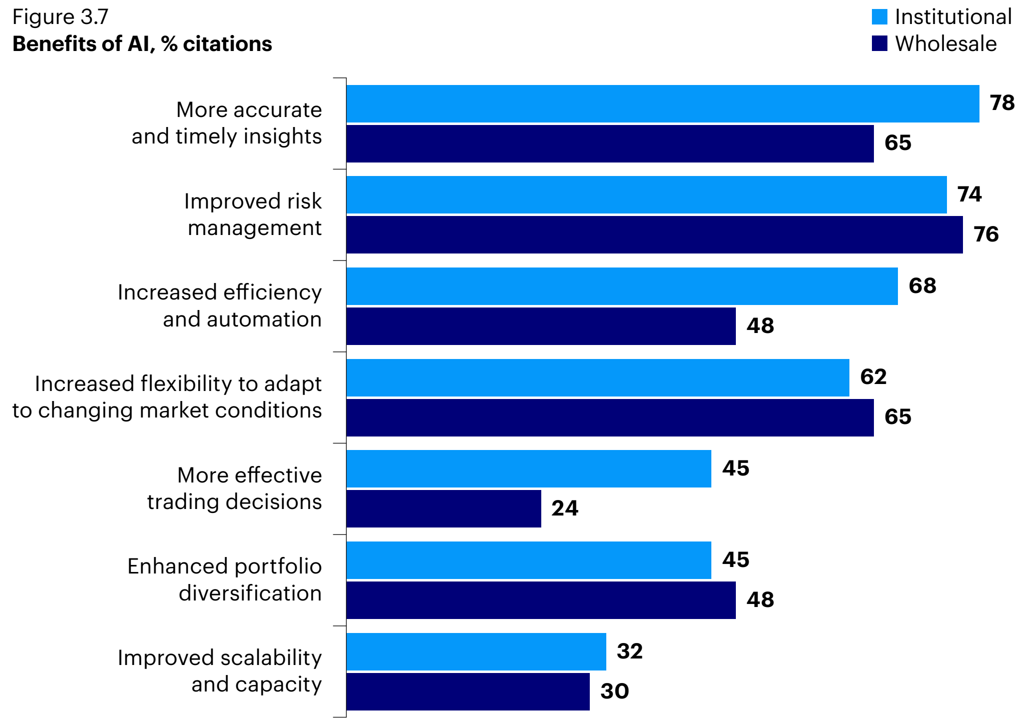
How do you see the role of AI in the investment process evolving in the next 10 years? Sample size: 127.

> **In the future, we want to be using AI to provide more personalized advice to clients based on their individual financial goals.**
>
> **Wholesale Investor**
> APAC

> “It would be great if we could use AI to identify attractive manager strategies. It would also be good if I could feed in the marketing materials and spit out the preparation of diligence materials.

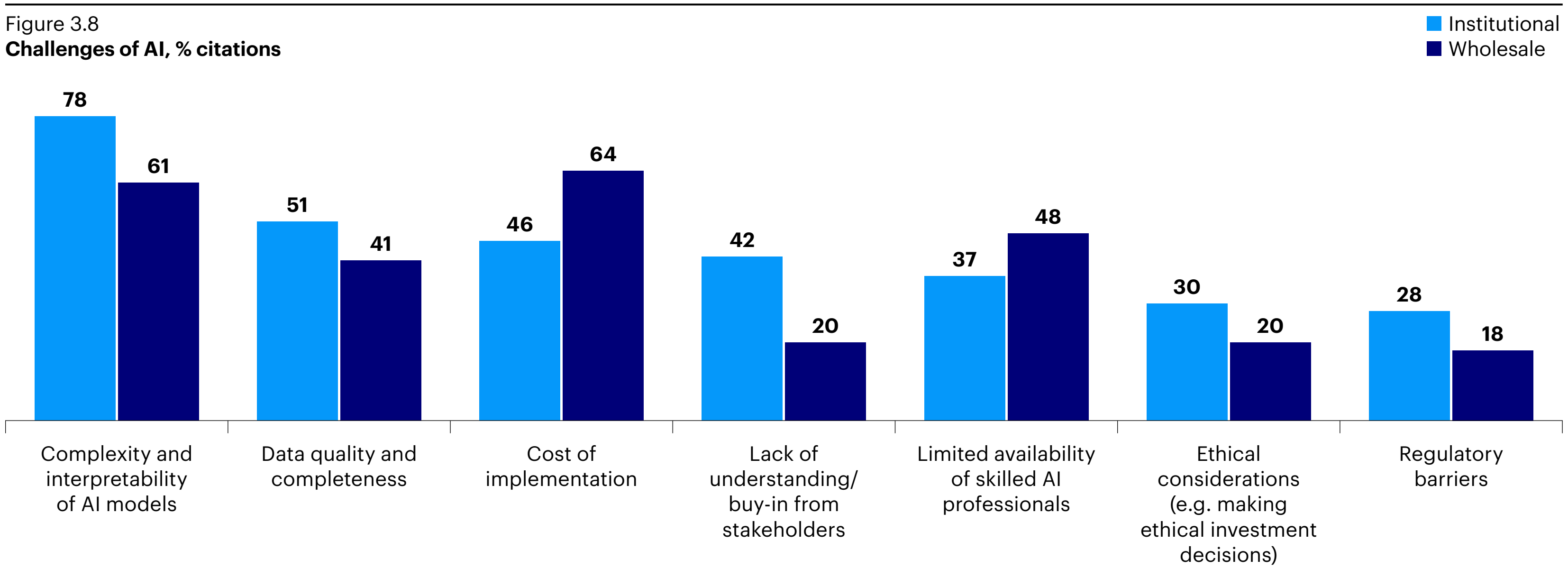
Wholesale Investor
North America

Figure 3.7
Benefits of AI, % citations



What do you see as the main benefits of using AI in the investment process? Sample size: 119.

Figure 3.8
Challenges of AI, % citations



What are the main challenges of using AI in the investment process? Sample size: 120.

For wholesale investors a pressing issue is the looming threat of AI-driven portfolio strategies potentially overshadowing traditional models. This was seen as especially true for attracting younger investors, with model portfolio services believed to be at heightened risk of disruption. The prevailing sentiment is a mix of caution and urgency as an EMEA-based § investor described: “I am concerned that AI models could divert assets from firms like ours. Innovation like this may be tempting for many. So, we need to prepare for that. While we lack expertise to construct an AI-managed portfolio now, we must consider future investments in this area.”

Nearly two-thirds of wholesale investors see cost as a barrier to getting out in front of this transition **(figure 3.8)**. However, those failing to harness the power of AI see a real risk of their business model being disrupted as one North American respondent explained: “If your value proposition rests on picking investments or asset allocation this could quickly be made redundant if AI tools can do it better. To be resilient we are looking to embrace this technology to become more efficient while also developing our offering in high-touch areas that cannot be easily displaced.” “AI offers many benefits, but these innovations are also a potential threat to the traditional service model of many wealth managers” added an APAC-based wholesale investor.

Theme 4

Investors look to systematic strategies to overcome ESG challenges and meet competing goals

Two-thirds of respondents that incorporate ESG in their portfolio do so with systematic strategies driven by improved performance and risk management.

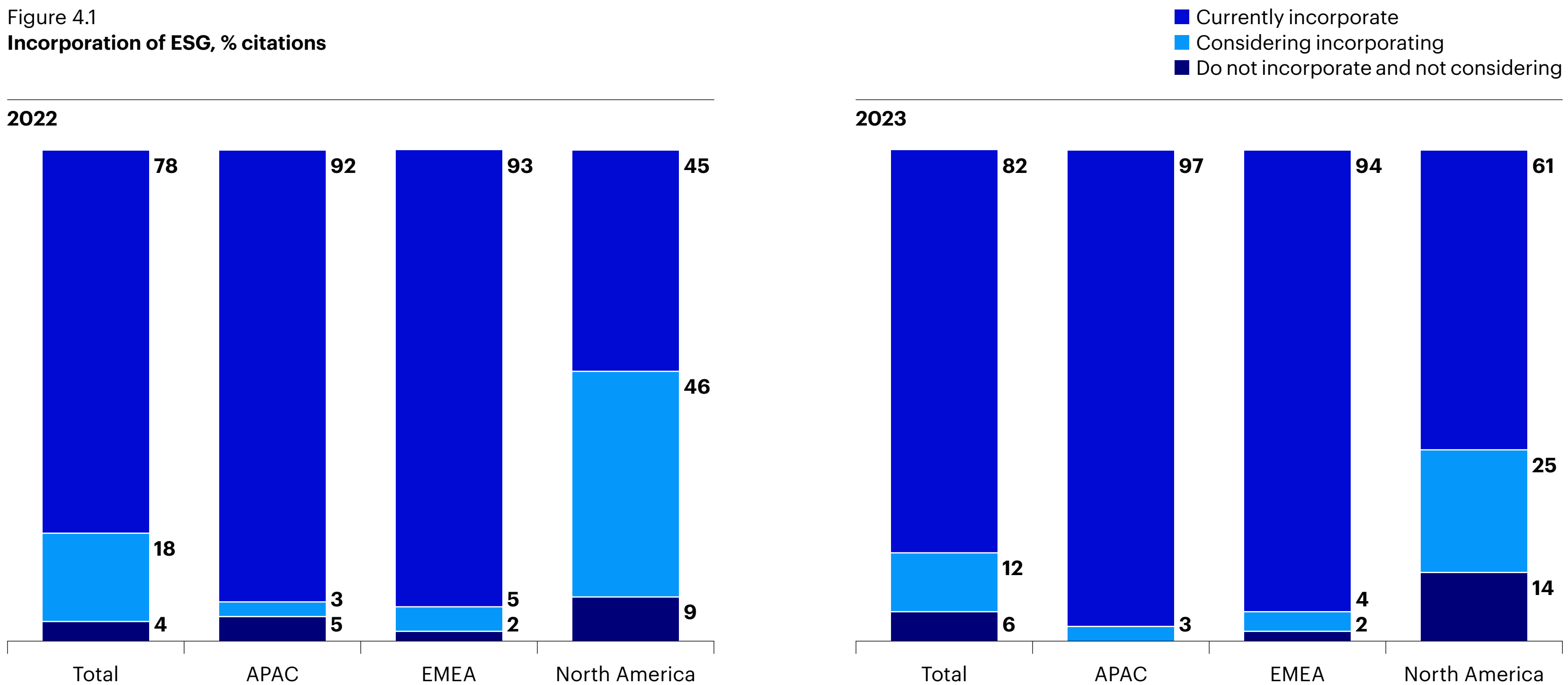
Systematic tools are being used to reconcile inconsistencies between ratings agencies and to overcome data gaps, helping to drive the extension of ESG into new asset classes.

AI's future role in ESG integration is growing, with half expecting to use it as such in future – compared to less than a fifth today – citing benefits to proprietary data development and clarifying performance impacts.

Our 2022 study highlighted the steady adoption of Environmental, Social and Governance (ESG) elements into investor portfolios, notwithstanding performance challenges and escalating politicization surrounding ESG in some markets. Fast forward a year, and these challenges largely remain.

While impediments persist, 82% of respondents have incorporated ESG considerations into their investment processes, increasing from 78% the year before **(figure 4.1)**. This increased uptake, however, has not shielded ESG decision-making from ever greater scrutiny – both from within investment organizations and the public domain. A significant cohort is looking to systematic solutions to help overcome these hurdles and meet a growing list of ESG objectives.

Figure 4.1
Incorporation of ESG, % citations

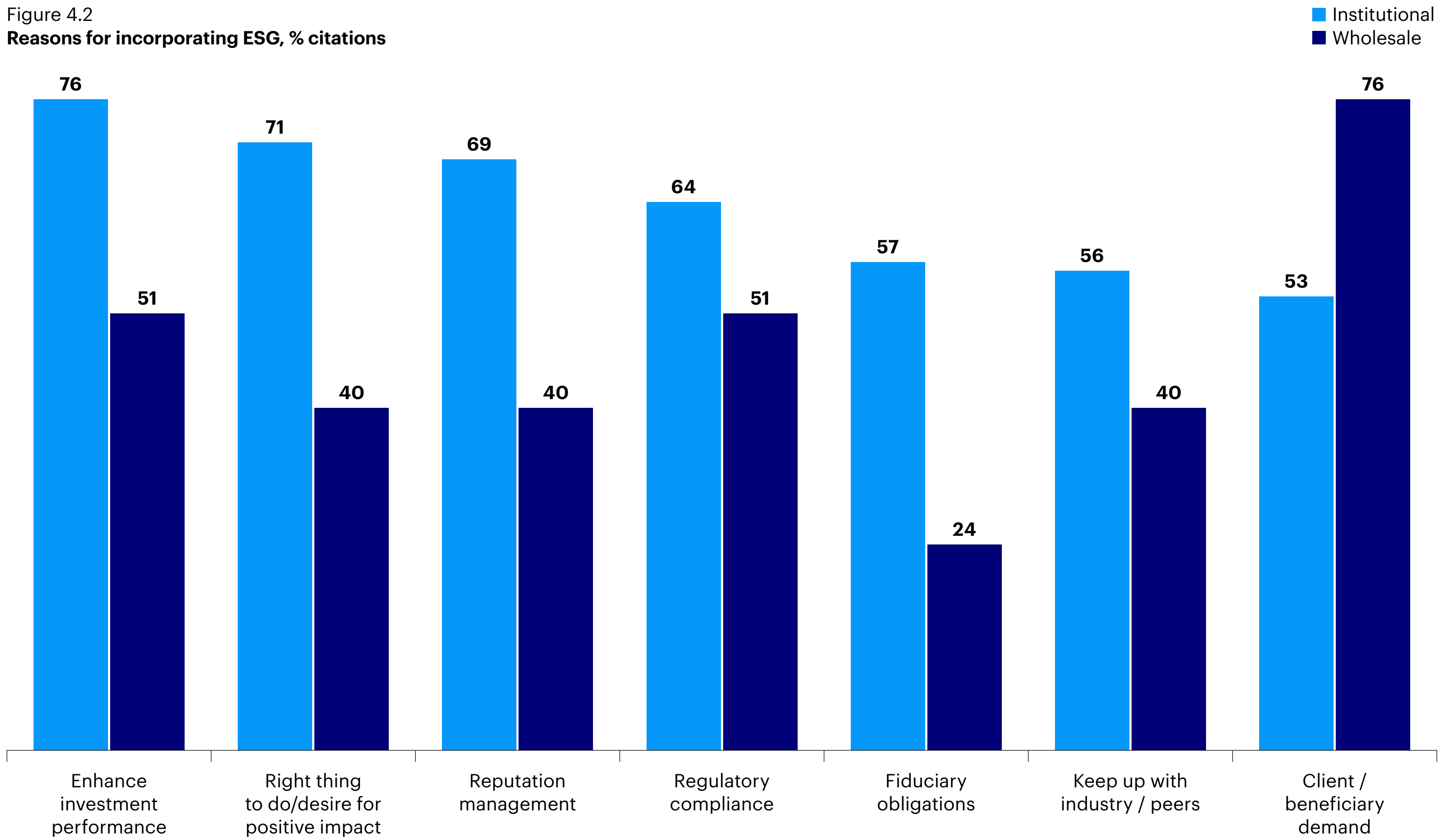


Do you incorporate ESG in your overall portfolio? Sample size: 130.

> Some tobacco companies have high ESG scores because they do a lot for the underlying community in places like India, because they give the farmer a fair price. Oil companies have become a major investor in renewables.

Institutional Investor
EMEA

Figure 4.2
Reasons for incorporating ESG, % citations



Why do you incorporate ESG? Sample size: 120.

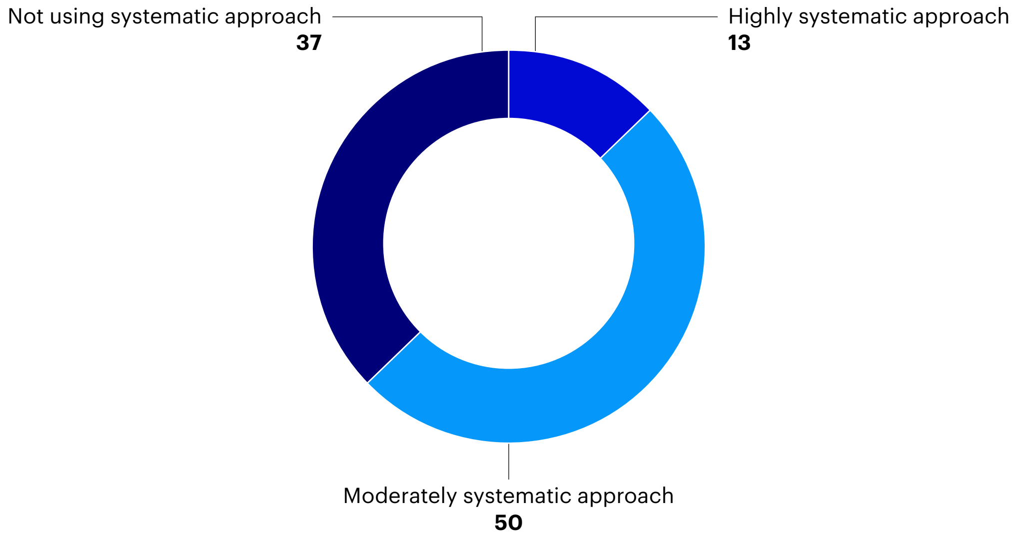
When incorporating ESG, investors must navigate through diverse objectives. For institutional investors, the trifecta of performance, impact, and reputation management takes precedence. Conversely, wholesale investors are focused on meeting client demands **(figure 4.2)**.
Time has rendered ESG goals more quantifiable, courtesy of its evolution and the availability of better data. Yet today's investors find themselves at a crossroads of competing demands, often stemming from varied data reservoirs. The quest for coherence amid complexity propels them towards systematic methodologies, aspiring for clarity and alignment with their burgeoning list of ESG objectives.

Decoding ESG complexity with systematic strategies

Most respondents incorporating ESG into their portfolios are turning to systematic strategies, with approximately two-thirds doing so **(figure 4.3)**. This includes 13% describing their approach as 'highly systematic.' The key advantages for adopting a systematic approach relate to improved performance, better risk management, and enhanced portfolio diversification **(figure 4.4)**. Specifically, these tools have become useful for helping investors zero in on ESG variables which might have a meaningful impact on future performance. They also reveal potential portfolio biases that could inadvertently impact diversification and tracking error **(figure 4.4)**.

The most popular tools in the systematic toolbox are addressing ESG-associated risks. A prime example is the potential impact of climate change on company performance **(figure 4.5, page 25)**. As one North American institutional investor noted: "There is a wide spectrum of potential policy responses or carbon taxation. Including these as key risks in our model ensures we pay sufficient attention. Another North American investor added: "Environmental costs have historically not been fully accounted for when you looked at companies. Our belief is that at some point those risks will be priced into the company."

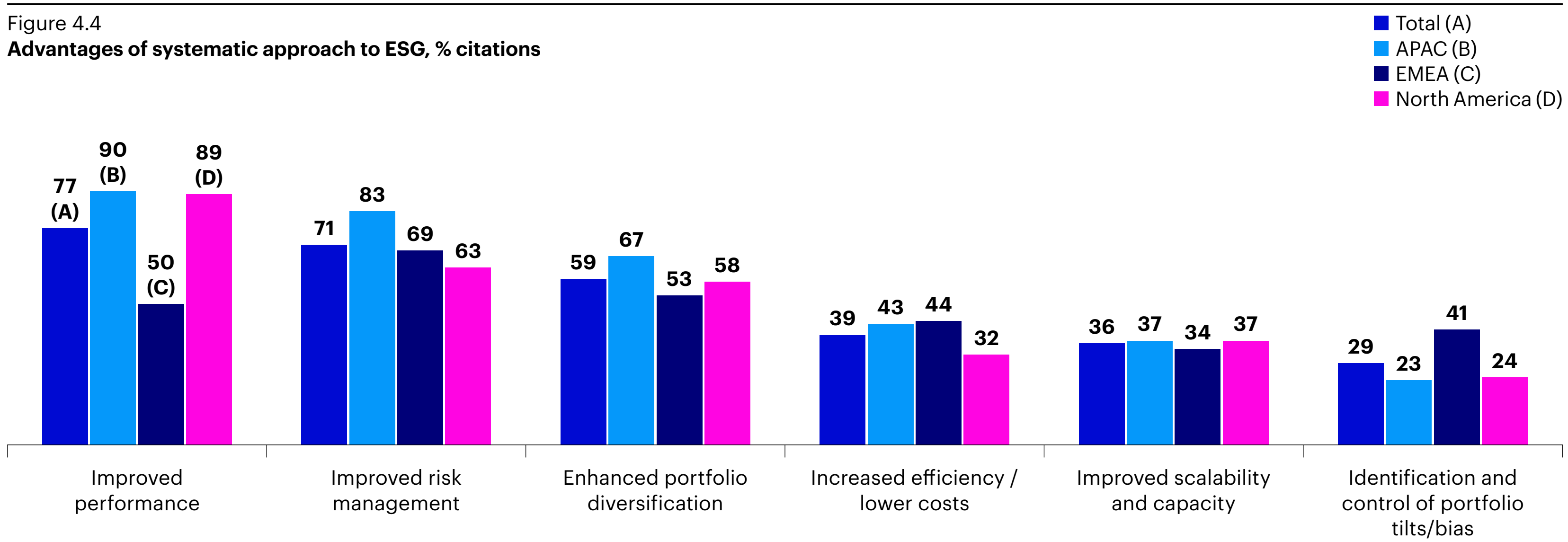
Figure 4.3
Use of systematic approach to incorporate ESG, % citations



To what extent are you using a systematic approach to implement ESG? Sample size: 123.

> **There is currently no industry standard to evaluate and properly disclose ESG data which places a lot of reliance on generalized ESG scores offered by the third-party providers.**
>
> **Institutional Investor**
> North America

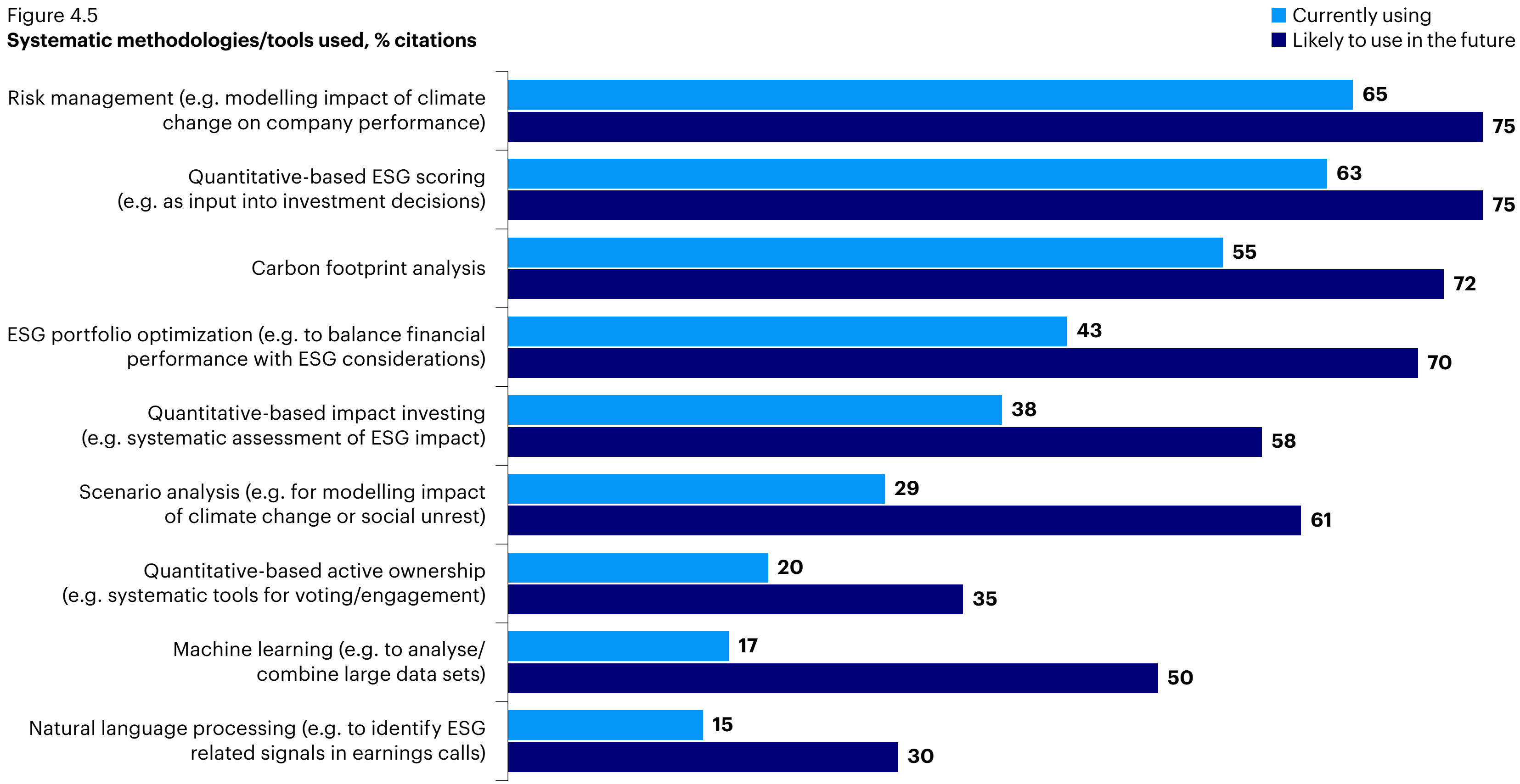
Figure 4.4
Advantages of systematic approach to ESG, % citations



What are the advantages of a systematic approach to applying ESG? Sample size: 100.

Ranking second and third in popularity are quantitative ESG scoring techniques and carbon footprint analysis. As the race to meet ambitious net zero targets heats up, the latter has risen rapidly in significance. "We started out with classic quant exclusionary portfolios. We then added scoring techniques that rated companies on ESG factors. We are starting to get beyond that as clients look for more thoughtful solutions, we are looking to broaden how we score carbon emission. As the data becomes more available it is an area we will continue to expand" revealed a wholesale investor based in North America.

Figure 4.5
Systematic methodologies/tools used, % citations



What systematic tools/methodologies are you using to implement ESG? Which do anticipate using in the future? Sample size: 110.

> **We believe ESG concepts have significant investment value but realizing these benefits requires a sophisticated systematic approach.**
>
> **Institutional Investor**
> EMEA

Looking into the future, respondents expressed their enthusiasm for portfolio optimization tools designed to balance financial performance with ESG considerations. Such instruments, as highlighted by respondents, offer a lens to discern how the incorporation of ESG may shift their portfolio away from benchmarks, highlighting the potential to rebalance accordingly. The performance challenges faced by some ESG focused portfolios have put these types of considerations firmly under the spotlight. "We want our ESG managers to do just as well as other managers and we do not want to create some alternative hurdle. If we have a large cap ESG manager they need to be measured against the S&P500 and not just a screened down subset" revealed a wholesale investor based in North America.

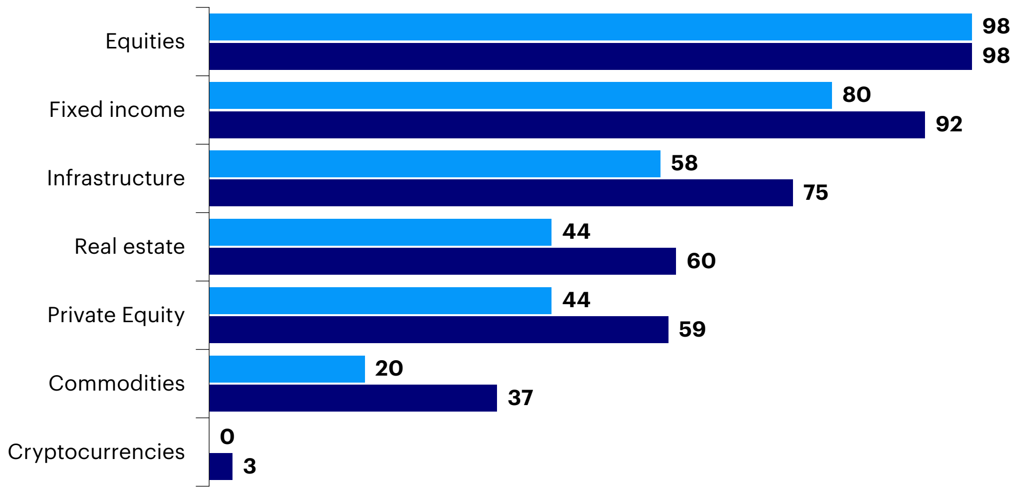
Artificial intelligence (AI) is expected to play an even more important role here: 50% of respondents expect to use AI for ESG integration in the future, a substantial increase from the 17% doing so today. AI was seen as a valuable tool for overcoming data gaps and for spotting patterns within individual companies as one EMEA-based institutional investor explained: "We scan through company PDFs using a large language model to establish the relevant ESG keywords. We then look to see if it is a long term or short-term plan: have they repeated the same thing in previous company reports or press releases. We outsource the initial labelling, and the AI model then learns what we are looking for to develop scores for different companies."

ESG in permeating across asset classes; systematic tools are supporting this evolution

While equities and fixed income currently see the highest levels of ESG integration, private markets are expected to be the focus for the next three years **(figure 4.6)**. Data constraints is the primary hurdle for respondents when implementing ESG systematically, a challenge more pronounced within private markets **(figure 4.7)**. Nonetheless, systematic techniques are emerging as an antidote; around half of respondents agree systematic investing can help apply ESG when data is scare **(figure 4.8, page 27)**.

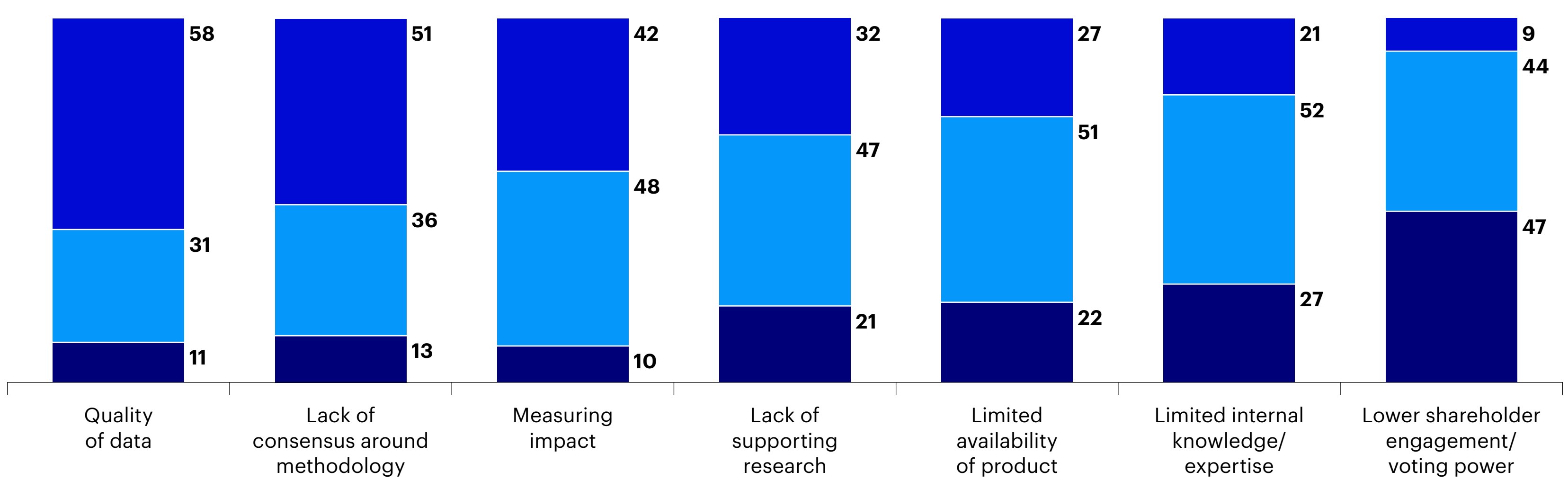
> **Not everybody is providing the same level of transparency, so you must be able to make judgments with the available data. We are increasingly looking to sophisticated systematic solutions to overcome this problem.**
>
> **Institutional Investor**
> North America

Figure 4.6
Asset classes incorporating ESG, % citations



In which asset classes are you applying ESG? Where do you think you will be applying ESG in 5 years' time? Sample size: 118.

Figure 4.7
Challenges of implementing ESG with systematic approach, % citations



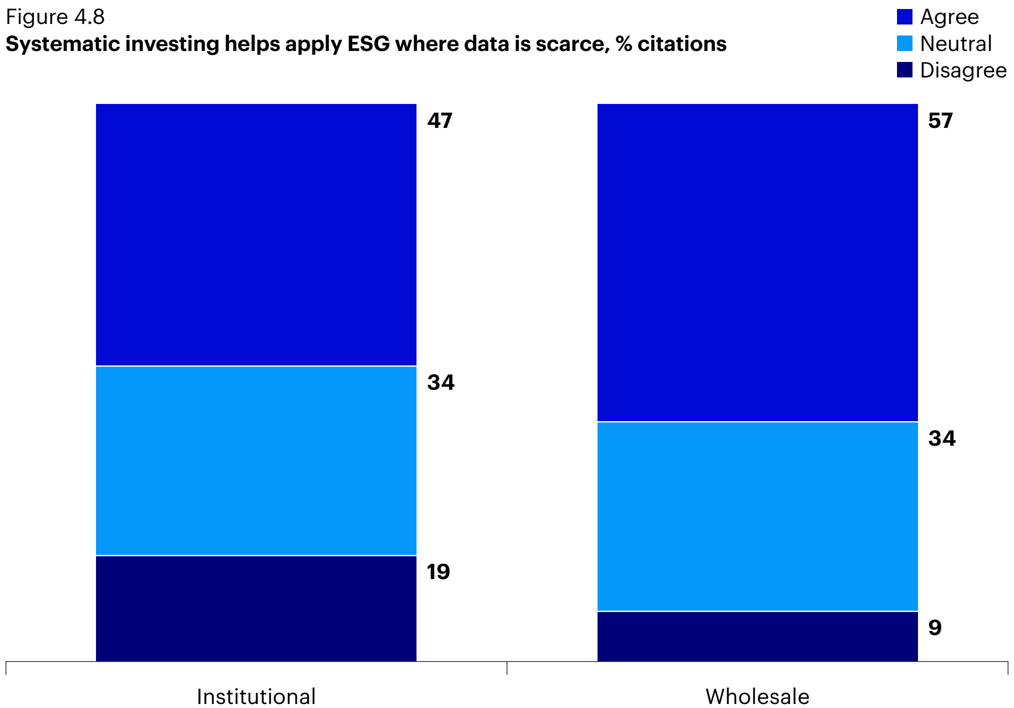
What are the challenges of implementing ESG with a systematic approach? Sample size: 116.

“

We have seen that a lot of companies in the responsible/ESG space have done better than the companies that are not responsible. Therefore we have incorporated ESG as a factor into our linear investment model.

Institutional Investor
EMEA

Figure 4.8
Systematic investing helps apply ESG where data is scarce, % citations



Do you agree or disagree with the following statement: Systematic/factor investing can help in applying ESG in asset classes where conventional ESG data is scarce? Sample size: 122.

Investors noted they were using systematic tools to reconcile inconsistencies between ratings agencies and develop custom scores from raw data. “There is low correlation between different ratings agencies; it is quite an immature market in comparison to credit ratings. We are therefore using systematic models to make sense of the available data” said an EMEA-based wholesale investor.

AI-based analysis has emerged to assist investors. They are deploying this technology to analyze earnings calls and company documents, aiming to efficiently and accurately extract relevant information and develop their own internal ESG metrics. This is, in part, a way to reduce reliance on external agencies. For example one EMEA-based wholesale investor revealed they were using AI tools to develop a deeper understanding of risk factors behind good governance via pattern recognition of companies who experienced negative governance events: “We want to develop a deeper understanding of what makes ‘G’ good. Using traditional techniques is hard given the quantity of reporting that can impact that decision.”

Sample and methodology

The fieldwork for this study was conducted by NMG Consulting. Invesco chose to engage a specialist independent firm to ensure high-quality objective results. Key components of the methodology include:

A focus on the key decision makers conducting interviews using experienced consultants and offering market insights.

In-depth (typically one hour) face-to-face interviews using a structured questionnaire to ensure quantitative as well as qualitative analytics were collected.

Results interpreted by NMG's strategy team with relevant consulting experience in the global asset management sector.

In this study, all respondents were 'systematic investors', defined as investors that employ structured, rules-based quantitative models and algorithms to make investment decisions and build portfolios. We deliberately targeted a mix of investor profiles across multiple markets, with a preference for those that were larger and/or more experienced.

In 2023 we conducted interviews with 130 different pension funds, insurers, sovereign investors, asset consultants, wealth managers and private banks globally. Together these investors are responsible for managing $22.5 trillion in assets (as of 31 March 2023). This core study was supplemented with 30 additional in-depth interviews with highly experienced systematic investors. The breakdown of the core interview sample by investor segment and geographic region is displayed in **Figures 5.1**, **5.2** and **5.3**.

Institutional investors are defined as pension funds (both defined benefit and defined contribution), sovereign wealth funds, insurers, endowments and foundations.

Wholesale investors are defined as discretionary managers or model portfolio constructors for pools of aggregated wholesale investor assets, including discretionary investment teams and fund selectors at private banks and financial advice providers, as well as discretionary fund managers serving those intermediaries.

Invesco is not affiliated with NMG Consulting.

Figure 5.1
Assets under management by segment ($ trillion, as of 31 March 2023)

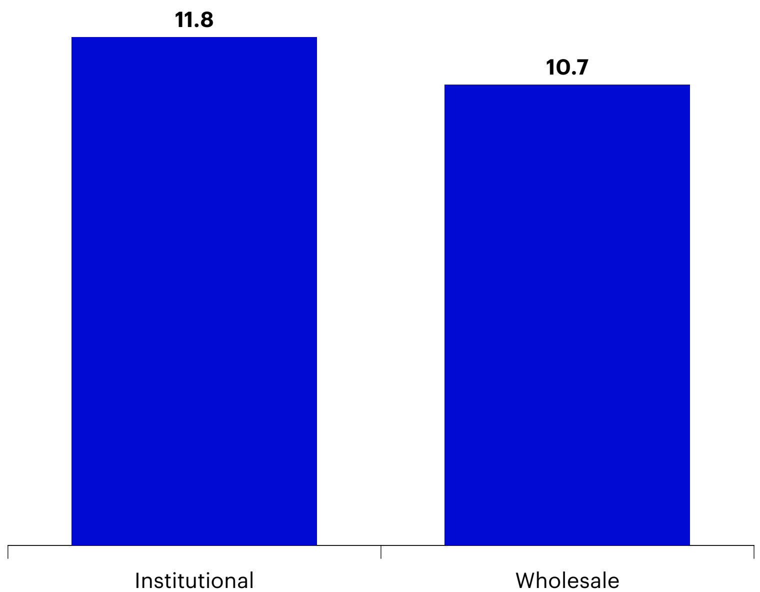


Figure 5.2
Sample by segment

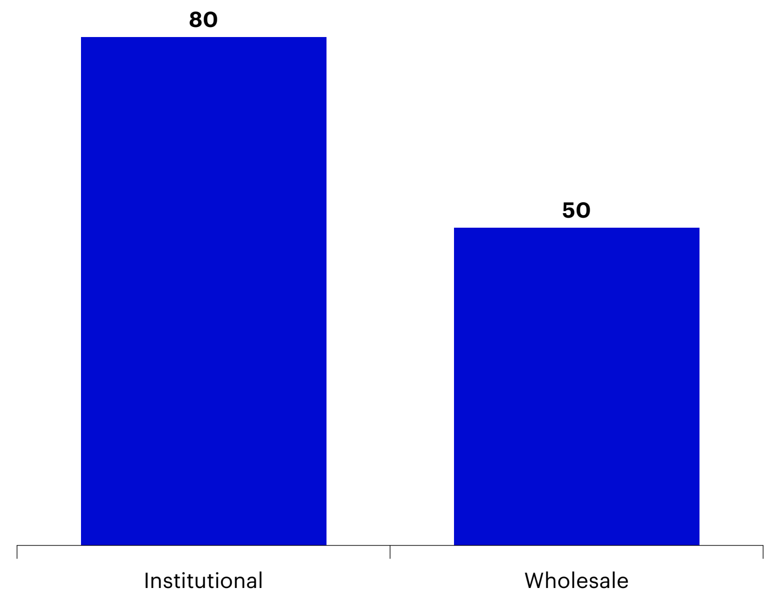
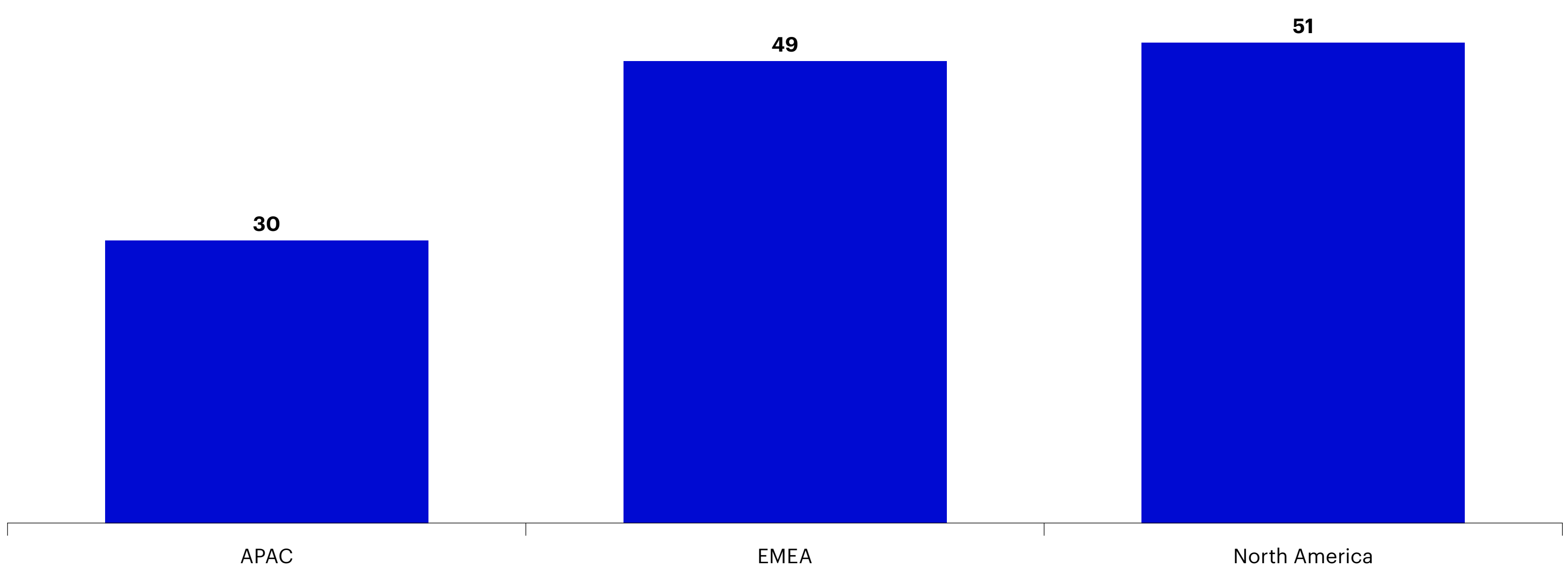


Figure 5.3
Sample by region



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The value of investments and any income will fluctuate (this may partly be the result of exchange rate fluctuations) and investors may not get back the full amount invested.

Factor investing (as known as smart beta or active quant) is an investment strategy in which securities are chosen based on certain characteristics and attributes that may explain differences in returns. Factor investing represents an alternative and selection index-based methodology that seeks to outperform a benchmark or reduce portfolio risk, both in active or passive vehicles. There can be no assurance that performance will be enhanced or risk will be reduced for strategies that seek to provide exposure to certain factors. Exposure to such investment factors may detract from performance in some market environments, perhaps for extended periods. Factor investing may underperform cap-weighted benchmarks and increase portfolio risk. There is no assurance that the investment strategies discussed in this material will achieve their investment objectives.

A value style of investing is subject to the risk that the valuations never improve or that the returns will trail other styles of investing or the overall stock markets.

Companies that issue quality stocks may experience lower than expected returns or may experience negative growth, as well as increased leverage, resulting in lower than expected or negative returns to Fund shareholders.

Momentum style of investing is subject to the risk that the securities may be more volatile than the market as a whole or returns on securities that have previously exhibited price momentum are less than returns on other styles of investing.

Of course, low volatility cannot be guaranteed.

Stocks of small-capitalization companies tend to be more vulnerable to adverse developments, may be more volatile, and may be illiquid or restricted as to resale than large companies.

Interest rate risk refers to the risk that bond prices generally fall as interest rates rise and vice versa. An issuer may be unable to meet interest and/or principal payments, thereby causing its instruments to decrease in value and lowering the issuer's credit rating.

In general, stock values fluctuate, sometimes widely, in response to activities specific to the company as well as general market, economic and political conditions.

The use of environmental, social and governance factors to exclude certain investments for non-financial reasons may limit market opportunities available to funds not using these criteria. Further, information used to evaluate environmental, social and governance factors may not be readily available, complete or accurate, which could negatively impact the ability to apply environmental, social and governance standards.

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GL3110177/2023