Charting the unpredictable: Harnessing data-driven solutions to enhance investment decision making

Pension funds, long regarded as the bedrock of long-term financial security for millions of workers worldwide, are currently navigating an increasingly tumultuous landscape. Traditionally conservative in their investment strategies, these institutions now face a confluence of challenges that demand innovative thinking and strategic foresight. Environmental concerns, short-term regulatory pressures, and market and geopolitical uncertainties have created a complex environment that tests the resilience and adaptability of pension funds.

Ortec Finance, founded in 1981, stands as one of the most established risk-return technology providers serving the pension fund industry and is uniquely positioned to address the complex challenges facing pension funds and offer innovative strategies for adaptation and growth.

Three of Ortec Finance's key experts – Marnix Engels, Elske van de Burgt, and Maurits van Joolingen – who collectively have more than five decades' experience in this field, share their insights on how pension funds are adapting to this new reality.

Pension funds face a complex set of challenges

As populations age, more pensions in developed countries are being paid out. At the same time, there has been a notable decline in the number of active contributors, resulting in fewer incoming payments to replenish the coffers. This demographic shift, coupled with the persistent low interest rate environment, which has compressed returns on traditional fixed-income investments, has created a precarious balance, tipping pension funds towards an asset allocation containing more illiquid investments.

Simultaneously, the global pension landscape has been undergoing a significant transformation in recent decades, with a shift from defined benefit (DB) to defined contribution (DC) pensions plans. This shift has implications for asset allocation, with DC plans typically having higher equity exposure and shorter-duration fixed income portfolios compared to DB plans.

Maurits van Joolingen, Managing Director of Climate & ESG Solutions at Ortec Finance, elaborates that the move towards DC plans has intensified the focus on liquidity management for pension funds. Unlike DB plans, where pension funds bear the investment risk and are responsible for ensuring sufficient funds to meet pension obligations, DC plans transfer this responsibility to individual participants. This individualization of pensions has led to a greater emphasis on short-term liquidity needs, as DC plan participants may require access to their funds more frequently, particularly in times of economic stress. Consequently, pension funds managing DC plans must maintain higher levels of liquid assets to meet redemption requests, potentially limiting their

Maurits van Joolingen, Managing Director of Climate & ESG Solutions at Ortec Finance

ability to invest in long-term, illiquid assets that could offer higher returns.

In contrast, the principle of solidarity, which is more prevalent in DB plans and some collective DC arrangements, allows for a longer-term investment horizon and potentially greater risk-taking. This approach can lead to more efficient asset allocation and potentially higher returns over time. However, even DB plans have been forced to adapt their liquidity management strategies in response to regulatory changes and market pressures.

The individualisation of pensions has also led to a fragmentation of the pension landscape, with a proliferation of smaller pension pots and increased administrative complexity. This fragmentation can make it more challenging for pension funds to achieve economies of scale and may result in higher costs for participants. Additionally, the shift towards DC plans has coincided with a trend towards greater individual responsibility for retirement planning, which may leave some participants vulnerable to poor investment decisions or inadequate savings.

The move to diversify into alternative investments has created liquidity issues

While this shift has provided greater flexibility and choice for participants, it has also introduced new challenges in balancing short-term liquidity needs with long-term investment goals.

"Liquidity management is now more important than ever before," says Marnix Engels, Managing Director of Global Pension Risk at Ortec Finance. "With traditional assets offering lower yields, pension funds have been compelled to seek higher returns through alternative investments, leading to a significant shift in their portfolio strategies. This has resulted in a substantial push into new asset classes, particularly illiquid investments such as private equity, private debt, direct real estate, and infrastructure projects."

This trend has, however, been somewhat constrained by pension fund investment regulations which typically impose limits on asset allocation to ensure diversification and the appropriate management of risk. While specific rules vary by jurisdiction, common restrictions include caps on equity investments. These rules aim to balance the pursuit of returns with the need to safeguard retirees' benefits, though there's a trend towards allowing more flexibility in asset allocation to adapt to changing market conditions.

Pension funds have come a long way in the past few years. Whereas pension funds 20 years ago might have allocated to only five asset classes with a significant home bias, the consolidation in the sector has created much larger entities better equipped with bigger and more sophisticated teams to handle the demands of more diverse investment portfolios.

"The consolidation has led to a greater pooling of assets across the sector", says Elske van de Burgt, Managing Director of Investment Performance at Ortec Finance. "As the number of pension funds has reduced, the larger entities that remain are much more professional than they were. This has led to a significant change in how they operate, especially how they make investment decisions."

Elske van de Burgt, Managing Director of Investment Performance at Ortec Finance

There is also a requirement for them to be much more transparent and able to justify their decisions. "Nowadays everyone can see exactly how they are invested, right down to the individual stock level," adds van de Burgt. While alternative investments offer the potential for higher returns and diversification benefits, this shift is not without challenges. The illiquid nature of these investments means they cannot be easily or quickly converted to cash. They can also be difficult to value accurately, particularly during periods of market stress or volatility, which could cause uncertainty about the true worth of pension fund assets.

This foray into alternative assets also highlights the importance of understanding the impact of less traditional risks on investment allocation decisions. Rising up the priority list, climate change has become a major concern for pension funds, worldwide.

What happens when you add climate change to the mix?

"Climate change, once considered a distant threat, has emerged as an immediate and pressing issue for pension funds," explains Maurits van Joolingen, Managing Director of Climate & ESG Solutions. "The physical risks associated with extreme weather events, rising sea levels, and shifting climate patterns pose tangible threats to investments across various sectors, particularly infrastructure investments. Simultaneously, the global transition towards a low-carbon economy introduces transition risks that could render certain assets obsolete or significantly devalued."

Van Joolingen adds that the cumulative effect of even minor reductions in expected returns can substantially erode a pension fund's ability to meet its future obligations. Over decades, these seemingly small decreases compound, potentially leading to significant shortfalls in accumulated funds.

The impact of climate-related risks on various sectors and asset classes means that pension funds must carefully reassess their investment strategies to maintain financial resilience. Failure to adapt could result in diminished returns, increased volatility, and ultimately, an inability to fulfil pension promises.

Another complexity, says Van de Burgt, is that pension funds face significant challenges in aligning their investments with carbon emission limit goals due to the need to balance long-term financial returns for beneficiaries with climate risk mitigation. They must carefully navigate the transition to low-carbon investments while maintaining portfolio diversification, managing risk, and ensuring sufficient returns to meet future pension obligations, all within the context of an evolving global economy and regulatory landscape.

While the challenges are significant, the transition to a low-carbon economy also unveils a wealth of investment opportunities. New technologies, renewable energy sources, and sustainable infrastructure projects offer promising avenues for growth. However, identifying and evaluating these opportunities demands specialized knowledge and rigorous due diligence. Pension funds are having to cultivate expertise in emerging sectors and develop robust frameworks for assessing the long-term viability and impact of these investments.

Tied closely with climate change risks has been the rise of the concept of corporate sustainability. In recent years, environmental, social, and governance (ESG) considerations have moved from the periphery to the forefront of investment discussions. Members, particularly of the younger generation, are demanding greater accountability and sustainable investment practices from their pension providers. While a positive cause, the rise of ESG does, however, pose several challenges for pension funds.

"Obtaining and analyzing ESG data presents significant difficulties due to the lack of standardized data and reporting methodologies," elaborates van de Burgt. "This complicates data collection, analysis, and comparison across companies and sectors. Moreover, traditional investment frameworks struggle to adequately account for ESG risks, necessitating new asset allocation models."

Despite these difficulties, pension funds recognize the importance of ESG integration for long-term sustainability and are investing in robust internal processes to manage ESG data. The increased demand for transparency has created a complex balancing act for pension funds, as they strive to meet the expectations of ESG-conscious stakeholders while maintaining their long-term investment focus. This tension between short-term transparency demands and long-term value creation presents a significant challenge for pension funds in the evolving ESG landscape.

This extends beyond the realm of ESG. Van de Burgt believes that as pension funds are required to disclose more detailed information about their investments and returns, there is a risk that stakeholders may fixate on immediate performance metrics rather than long-term strategic goals. This heightened scrutiny can pressure fund managers to prioritize short-term gains over long-term value creation, potentially compromising the fundamental purpose of pension funds to provide stable, long-term retirement income.

How are pension funds adapting to this new landscape?

In the last few years, pension funds have become a lot better at measuring and analysing performance with a view to being able to explain the rationale for their decisions, both past and future. Transparency and increased access to information generally, means that where previously a pension fund would have reported to smaller groups of well-informed stakeholders, such as boards and trustees, these days they need to be prepared to justify decisions to a much broader group of stakeholders, including end consumers.

"With a better handle on the drivers behind past performance, managers are making more informed decisions about how they run their portfolios as well as being equipped to explain their choices. This is an area where we can provide significant help," says Van de Burgt. Long term strategic planning is at the heart of what Ortec Finance does for its clients. How they approach this has evolved significantly over the past 20 years. "Back then, it was at a much higher level than it is now. We focused on basic asset allocation. These days we take far more factors into consideration, such as liquidity, pension reforms and now climate change," says Engels.

He compares it to a flight simulator where the technology supports the pilot in their decision making, allowing them to practice in different situations: "We do the same for pension fund managers by using our technology to look at a range of economic scenarios. What would happen with high or low interest rates, strong or weak equity markets etc? How does the management team react? What can we do to reposition the portfolio?"

The only difference between now and 20 years ago is that the environment is far more complex. "Having a reliable risk management model in place really helps pension funds to be consistent over the long-term and justify decisions to stakeholders," says van Joolingen.

"Our technology and approach helps fund managers to identify a whole host of issues linked to how efficiently they manage their portfolios, ranging from asset allocation to hedging currency exposures and how effectively they manage contracts with third party providers and partners," adds Van de Burgt.

In the Netherlands, Ortec Finance has recently used its modelling to help pension funds evaluate how to integrate a major set of pension reforms, informing them how they should invest and how to set contributions. "But it goes further than that", says Engels. "Our model is also being used to ensure that the reforms are being applied fairly across age groups so that everyone is treated equally."

Marnix Engels, Managing Director of Global Pension Risk at Ortec Finance

Tipping his hat to the potential that AI has to transform the pension fund industry, van Joolingen hints that Ortec Finance is investigating how machine learning could optimize asset allocation for pension funds. "One of the big problems with traditional portfolio optimization theory is that it's impossible to analytically calculate what a dynamic asset allocation would look like," he says. He believes that AI could enable this kind of analysis, potentially allowing managers to run portfolio optimisation algorithms on an annual basis.

"In the future, the trend to individualisation is also likely to grow", adds Engels. "Individuals are more interested in understanding how their investment will evolve over time and technology is already making this a reality." This is part of the democratisation of data and decision making that is occurring across the financial services sector. Yet, it is crucial to recognize that technology and data tools are not enough in isolation. The most successful strategies will combine advanced analytics with human expertise, sound governance, and a deep understanding of each fund's unique objectives and constraints. As the investment landscape continues to evolve, adaptability and continuous learning will be key.

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