



Banc Ceannais na hÉireann
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Eurosystem

Keeping pace with asset management innovation

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Introduction

Good morning all and thank you Jamie and ETF Stream for your invitation to speak today.¹

As you know, this year marks the 25th anniversary of the first Irish authorised ETF and with that authorisation, the advent of ETFs in Europe. Since then, the landscape within which European ETFs now operate has evolved dramatically to become nearly unrecognisable from 25 years ago. The inflow trajectory for ETFs continues with assets under management in European ETFs estimated to exceed €2.7 trillion in assets under management². Applications for Irish ETF authorisations from existing managers show no indication of slowing and we see continued interest from new ETF market entrants. Now, as then, the Central Bank is committed to a deep understanding of this fund structure and to ensuring that its approach to ETF authorisation and regulation is effective and proportionate and appropriate to the needs of investors.

The speed of innovation and the frequency of regulatory change is continual. Innovation in all aspects of the ETF ecosystem persists and the flow of regulation can somewhat seem unrelenting. That gives all of us here a dual imperative: to keep pace with innovation while remaining unflinchingly committed to safeguarding the interests of investors.

Our conversations about ETFs too often oscillate between technical fascination and regulatory caution, as if prudence and progress were mutually exclusive. Not only are they compatible; they are mutually reinforcing. A truly modern ETF ecosystem - one that harnesses innovation in all its forms – can, if properly governed, deliver both operational efficiency and robust investor protection.

Safeguarding outcomes

I begin, as we all must, with the fiduciary imperative: safeguarding outcomes for investors. While UCITS are a retail product, until relatively recently, the UCITS ETF investor profile has been predominantly institutional. That profile is changing. With the recent advent of state savings schemes and other incentives in Europe, there is a marked increase in retail investment in ETFs. Retail

¹ My thanks to Catharine Dwyer for her help in preparing these remarks.

² At August 2025, source: ETFGI.

adoption of ETFs to the same scale as that of institutional investors is also a stated industry objective. Yet scale is not a synonym for safety. Increased retail investment in ETFs requires increased circumspection to ensure the ETF infrastructure is calibrated to accommodate and protect investors of all types and also to ensure that it continues to work effectively and efficiently.

The extraordinary popularity of ETFs has created a retail gateway into exposures and strategies that were once the preserve of institutional investors. Asset classes not previously seen in ETFs are the new normal, new ETFs no longer seek broad market returns but are often trend-following and are structured to deliver both enhanced income and defined outcome returns. In some jurisdictions we see ETFs delivering exposure to private assets. In Europe we have the ongoing review of the Eligible Assets Directive – and it is not yet clear what the output will look like in terms of asset eligibility for UCITS generally. Against that backdrop, however the question facing policymakers and ETF management companies alike is how to ensure that the growing variety of strategies does not outpace the comprehension of the investor or the capacity of the ETF's environment to mitigate risk.

We all have a role here. Regulatory developments can be calibrated to facilitate innovation without impacting the objective of investor protection. Good examples from the Central Bank's perspective are changes which facilitate differentiated distribution models and active ETF strategies; namely the ability to have listed and unlisted share classes in the same fund, to use the "UCITS ETF" identifier at share class level and to have periodic portfolio disclosure. Each have inbuilt regulatory safeguards.

From the manager's perspective, we consider that these changes should be appropriately deployed with the ultimate objective of ensuring protection of the end investor. Take increased interest in delivering broad exposure to new, or complex asset classes for example. Managers are already subject to a regulatory framework which requires a risk-based and client-focussed approach to suitability that prioritises positive outcomes for investors. We would expect Boards to ensure there is synergy between the ETF's strategy, distribution and marketing framework and the expected risk appetite of end investors. ETFs, like any UCITS, can deliver complex outcomes – it is the Board's responsibility to ensure that these

important product-related factors align so as to best protect the investor and to contribute to their financial wellbeing.

Regulation notwithstanding, we must recognise that the pace of innovation demands more than a static compliance tick-box. We need Boards that can translate regulatory requirements into dynamic oversight cultures. These must be capable of interrogating proposals spanning product strategy in light of the intended target market, to re-evaluating the appropriateness and transparency of fee arrangements (in relation to securities lending, for example) to the adequacy of the ETF's underpinning liquidity provision framework and how it can be assured.

In short, safeguarding outcomes for investors must reflect an active and evolving design principle.

Operational resilience and liquidity provision

One factor which is central to that design principle is the role of authorised participants (APs) – those specialist market-making institutions that stand between the ETF and the primary market. APs are in effect, the circulatory system through which liquidity is delivered both in normal trading conditions and at moments of acute market stress. Liquidity is a keystone of the ETF framework.

This is where a Board's oversight function intersects with operational transparency and precisely why considerations relating to liquidity are, and should be to the forefront of directors' considerations. Boards should be satisfied with the firms that act as APs and with an ETF's operational set-up and should have taken a positive decision that this presents the optimal operational framework available for APs to effectively perform their function.

We saw the effectiveness of that circulatory system during the pandemic-era volatility of March 2020.³ This was in part because APs' participation in primary markets remained significant and, in some cases increased. That performance, however, was not pre-ordained; it reflected ETF operational resilience and a market infrastructure which facilitated it.

What the Central Bank later understood (during the course of its thematic engagement on ETFs, APs and market makers) was that the

³ IOSCO. Exchange Traded Funds Thematic Note – Findings and Observations during COVID-19 induced market stresses. (OR03)

there was a step missing between the operations of the ETF and the oversight role of the Board. While there was an operational infrastructure in place, the requisite governance at Board level was not apparent in all cases.

This is significant as the overarching objective of the ETF management company in supporting the crucial role played by APs is to ensure liquidity. When we speak of ensuring liquidity, we are really speaking of aligning incentives so that APs remain willing and able to create and redeem shares precisely when secondary markets are experiencing stress.

Reinforcing this very point was the objective of the Dear CEO letter issued by the Central Bank nearly a year ago⁴ and one of the central themes of IOSCO's 2023 ETF Good Practices⁵. Boards must rigorously test liquidity assumptions and ensure a formal and robust due diligence and ongoing monitoring regime is in place, and is tested, so as to ensure they can have confidence in the promise of liquidity inferred from the ETF's construct.

The need for effective good governance standards in the context of ever evolving operations has never been more relevant. Our challenge now is to preserve that record as new technologies reshape everything from ETF issuance, to order routing, to custody.

Innovation and technological development

This brings me naturally to considerations as to where innovation and technological developments can be deployed. Tokenisation and the expansion of artificial intelligence (AI) within the ETF ecosystem being two such areas.

In an already efficient structure it is interesting to pause and consider how further efficiencies could be achieved. Perhaps tokenisation – the conversion of rights in an ETF share into a digital representation on a distributed ledger – has the potential to result in true innovation. Tokenisation could shorten settlement times, automate corporate-action processing, and enable near real time trade transparency. Discussions, more particularly in Europe, centring on

⁴ Dear CEO Letter 28 November 2024 "An Examination of the Primary and Secondary Market Trading arrangements of Exchange traded Funds in Ireland".

⁵ IOSCO. Good Practices Relating to the Implementation of the IOSCO Principles for Exchange Traded Funds. (FR/07/23)

how to assess ETF liquidity in different venues would be transformed. This would be extremely impactful.

Imagine an ETF that issues native digital shares recorded on a permissioned blockchain. Each creation basket could be minted and burned programmatically, reducing operational risk and reconciliation breaks. Custody could shift from omnibus accounts into token-based segregated wallets, lowering the barriers to fractional ownership and, by extension, promoting financial inclusion.

Yet tokenisation is not a panacea; it introduces new forms of technological and cyber risk, from smart-contract vulnerabilities to key-management failures.

Boards would need to take a multidimensional view that encompasses software-development lifecycle controls, penetration testing, third-party service provider due diligence, and contingency planning for blockchain-fork events. In other words, tokenisation can enhance investor protection only if we first hard-wire operational resilience into the codebase of the product.

To be truly transformative, not only for ETFs but for funds generally, this would also require an enormous education journey requiring significant change not only in the ETF management, distribution and servicing space, but in regulatory frameworks and, most importantly in investor understanding and behaviour. While there is quite the path to tread, some have already started. From a funds authorisation perspective we are having numerous engagements with industry participants on fund tokenisation proposals.

Moving now to the potential impact of AI. AI, both predictive and generative, can reshape the ETF value chain. The ETF industry now has available to it machine-learning models which can enhance index-tracking efficiency, forecast corporate-action events and optimise sampling strategies. Transfer agents deploy natural language processing powered chatbots to field investor queries, while compliance functions leverage anomaly detection algorithms to flag potential issues in real time. These developments promise a step change in efficiency, but they also invite algorithmic bias risk, model drift concerns, and data privacy challenges.

Boards must insist upon a robust AI governance framework. This should embed technical essentials such as independent model-

validation, explainability protocols, and robust incident-response procedures. The framework should also articulate roles and responsibilities to ensure clear accountability in the use and design of the AI model and importantly, the underpinning ethical values which should be consistent with the management company's culture. The overarching principle, however is how the use of technology, or indeed any innovation best serves investors, the approach which should be at the core of any adoption.

The governance challenge is compounded even further when AI systems interface with tokenised infrastructure. Cross-functionality which ensures that regulatory requirements – from UCITS concentration limits to GDPR – are coded into system design rather than being retrofitted.

And how should regulators approach this kind of innovation, what are our key concerns when looking at a tokenised, AI-enabled ETF landscape? How is the financial wellbeing of investors being supported or enhanced? In the ETF sphere, does it come down to the question whether the ETF delivers on its promise of liquidity? These are topics we must consider in the round. From a creation and redemption perspective tokenisation could enable fractionalised creation units, potentially lowering the cost of AP engagement and widening the pool of market participants who can arbitrage price discrepancies. AI driven smart order routers can simultaneously scan multiple liquidity venues – from traditional exchanges to decentralised trading pools – identifying the most cost-efficient paths for execution. Combined, these developments could represent a positive significant impact for investors even during market stress events.

Yet regulators and boards must monitor emerging concentrations of technological power to ensure they do not result in an increase in systemic fragility. Risk management and governance frameworks must all evolve in parallel with technological advancement.

Simplification

Although I have just discussed innovation and technological advances, it would be remiss of me not to discuss European ETFs when addressing the EU's broader simplification agenda.

ETFs are natural allies of simplification. Their inherent transparency and intra-day liquidity make them ideal vehicles for delivering market exposure to retail investors in a straightforward manner. The challenge is to ensure that regulatory frameworks do not inadvertently fragment the single market. Passporting regimes under UCITS are well established, yet disparities in regulatory and listing requirements can confuse investors and dissuade cross-border distribution.

Operational efficiencies designed to enhance the AP experience, the creation of pre-contractual disclosure which is optimised for digital delivery and delivering consolidated tape for ETF transactions would improve market transparency and data access. In turn this could positively impact investor participation in capital markets and would further the EU's capital market goals.

Distribution, of course, is where simplification meets the end investor. We are witnessing a momentous shift from traditional brokerage channels to digital-first platforms, including robo-advisers, neobanks, and zero-commission trading apps. These platforms use behavioural nudges, gamification, and fractional trading to make investing feel as intuitive as booking a holiday. The upside is wider participation; the downside is the risk of mis-selling complex ETF strategies to inexperienced investors.

Governance and oversight frameworks introduced by management company Boards must reflect on how those distribution mechanisms reach the end investor in a way which respects the careful consideration that accompanied the development and authorisation phase of a product. Some questions that are relevant for Boards as they utilise different distribution models could be whether regulatory disclosure documents are suited to a smartphone screen? Will key information documents be reviewed with the necessary rigour required by Generation Z investors swiping through a feed? It is hard to see a response that would require more dense disclosure. So how should we approach this? Should we mandate that risk information is rendered in code as well as prose by requiring machine-readable metadata that can be interpreted by smart filters within the distribution platform? Could this warn, or even block retail investors from executing trades inconsistent with their stated risk tolerances?

These questions illustrate precisely how the simplicity of ETF access must be underpinned by a distribution framework which serves to better protect end investors.

Perhaps it is the case that implementation of a dynamic, data-driven and location-agnostic framework could mean ETFs become both the instrument and the infrastructure of simplification?

The importance of operational resilience

We must, however, confront the very real operational resilience obligations that accompany such an interconnected digital architecture. The Digital Operational Resilience Act, or DORA, requires management companies to conduct stress tests that simulate cyber incidents, third-party service outages, and data-integrity breaches. Operational resilience is not merely a regulatory compliance issue; it is foundational to investor trust. If a retail investor, lured by low costs and high convenience, buys an ETF through a mobile app only to experience a trading blackout during market weakness, the reputational damage will cascade across the ecosystem – from the trading venue to the issuer to the regulator itself.

Innovation and technological development can mitigate risks but none of that matters without a culture of pre-emptive governance at the board level. Directors must understand not in jargon-laced briefings but in plain terms how the technology works, where the single points of failure lie, and which key risk indicators would signal distress. Innovation without corresponding governance innovation is simply risk by another name.

As we contemplate the future role of APs in this brave new world, we must also revisit capital requirements and settlement infrastructures. If ETFs migrate to real-time or near-real-time settlement via tokenised ledgers, APs will need intraday liquidity to fund in-kind creation baskets. The potential for unintended financing bottlenecks would need to be addressed. Meanwhile, central securities depositories must determine whether and how they will integrate with distributed ledgers. ESMA's recently proposed Regulatory Technical Standards on CSDR settlement-discipline hint at a future in which settlement-fails penalties are calculated and enforced automatically. That is the natural twin of tokenisation: a settlement engine that is self-executing and self-policing. Here again,

operational resilience and investor protection converge. When settlement is automated, the scope for human error contracts, but the impact of software error expands. Therefore, fail-safe and rollback mechanisms must be coded into the very fabric of the ledger.

At this point, some may ask whether we risk over-engineering a financial product whose appeal has always been simplicity. My answer is an emphatic no. Simplicity at the point of consumption is often the by-product of immense complexity behind the scenes. Think of your smartphone: a marvel of engineering that presents itself as an icon-based grid. The task before us is to recreate that paradigm in asset management – technological sophistication yielding user-friendly investing. Tokens, AI, and advanced liquidity management should be invisible to the end investor, surfacing only in the form of lower costs, tighter spreads, and enhanced disclosures. The Board's role is to certify that this invisible complexity never morphs into invisible risk.

In conclusion, the future of European ETFs will be written at the intersection of innovation and integrity. Safeguarding outcomes for investors is not a static checklist but a living commitment that must adapt to all forms of innovation adoption throughout the ETF value chain. APs remain the linchpin of liquidity, yet their role will expand into algorithmic territory and require new supervisory vigilance. Where significant technological innovation is adopted, Boards must transcend traditional oversight and embrace technological literacy as a core competency. Operational resilience, far from being an administrative afterthought, is the *sine qua non* of trust in an always on, digitally interconnected capital market.

Finally, provided technology is wrapped in an investor-centric, outcomes focussed governance framework that promotes and protects the financial wellbeing of investors ETFs, as of their nature, are uniquely positioned to advance the EU simplification agenda.

If we succeed in these endeavours, European ETFs will not merely keep pace with asset-management innovation; they will set the pace, demonstrating that technological progress and investor protection are not competing imperatives but mutually reinforcing pillars of a vibrant, inclusive, and resilient capital market.

Thank you.



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