

# Audit expansion and the ‘butterfly effect’ – is it time for a new EU market structure?

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## Executive Summary

The EU legislative and regulatory agenda is changing the scope of audit. Independent external reviews and assurance of non-financial information, including environmental, social and governance (ESG), data and artificial intelligence (AI) systems, have been introduced in EU legislation as a tool to ensure the proper implementation of the Green Deal and Digital Agenda’s key building blocks.

Accordingly, the requirement for audit is expanding to new domains, notably sustainability reporting and algorithm systems. Audit firms are transforming and developing from financial information experts into new areas of expertise to certify ESG information and the compliance of AI data and systems of the biggest digital platforms in line with the requirements of the Digital Services Act (DSA) and the Digital Markets Act (DMA). In the same way that financial audits contribute to building trust for the proper functioning of a market economy, these new types of audits will serve the public interest and play a key role in facing the challenges related to the development of more sustainable and more ethical digital economies. Auditors’ contribution to society will now go beyond investors and embrace consumers and citizens.

This paradigm shift for audit firms will necessarily impact the audit market in ways that might not have been anticipated. Is the EU audit ecosystem properly structured to fit these new dimensions? Will the EU audit market structure create unexpected risks and consequences?

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## The expansion of the demand for audit and assurance beyond financial information

Since the 2014 EU audit reform which led to the adoption of the [Audit Regulation](#) and the amendment of the [Audit Directive](#), the EU has adopted a significant number of laws requiring companies to have their non-financial information and/or their compliance with IT/AI complex processes and risk management procedures externally reviewed<sup>1</sup>.

The EU legislators' rationale to mitigate the risks embedded in such technical and complex areas has been to introduce several lines of defence. The EU has increased management's responsibilities, incentivised more robust oversight by the governance bodies and often complemented these with the requirement for an external review. Depending on the matter at stake, this 'independent external check' takes the form of a certification, an assurance, or a specific form of audit.

The purpose and objectives of the requested external reviews differ from one area to another. Financial statement auditing aims to ensure the fairness of financial reporting and the transparency of capital markets, whereas the objective of sustainability reporting assurance is to prevent greenwashing and misleading information from being disclosed to investors.

In the digital arena, the DSA and DMA require the largest social media/search engine and/e-commerce digital platforms to comply with several rules to prevent online disinformation, hate speech, discrimination, harm to minors or e-commerce misselling practices. As such, the DSA and DMA audits are the first algorithm audits to incorporate AI. Algorithm audits (checking the intrinsic functioning of algorithm systems) have a different focus than IT audits (checking the robustness and security of IT systems and processes) but also a different reach as algorithm audits relate to matters that impact democracy and society at large.

Audit and assurance methodologies that are mainly applied to the audit of financial statements (and the processes attached to them) are now progressively being used to audit new areas. Prominent financial audit firms have enriched their skillset to provide audit and assurance services on sustainability reporting; IT and cyber security; data protection; and the digital and ethical dimensions of platform algorithms. Traditional chartered accountant firms are becoming auditors in multiple new domains. Even the national authorities overseeing the accounting profession are transforming themselves into audit provider

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<sup>1</sup> Such laws and rules cover a variety of areas from sustainability reporting (the Corporate Sustainability Reporting Directive (CSRD), the Corporate Sustainability Due Diligence Directive (CSDDD)), IT and cyber security (the Network and Information Systems 2 (NIS 2), the Digital Operational Resilience Act (DORA), the Cyber Security Act, the Cyber Resilience Act, the Cyber Solidarity Act), to data protection (the General Data Protection Regulation (GDPR), the Data Act, the Data Governance Act), algorithm and data management systems (the Digital Services Act (DSA), the Digital Markets Act (DMA), the AI Act) and financial services (the Markets in Crypto-Assets Regulation (MICA), the Payment Services Directive (PSD)).

supervisors concerning a whole new range of audited matters (e.g. carbon prints, gender statistics, governance bodies, personal data protection systems, and recommender systems).

## The concentration of the EU audit market

The requirements for an external review have been progressively introduced into each specific EU law with their own merits and timelines. However, the whole process of extending audit requirements has failed to provide an overall assessment of the EU audit ecosystem's capacity to cope with these new responsibilities and their possible impact.

In March 2024, the European Commission published an [analysis](#) of the EU's audit market structure. Since the adoption of the Audit Regulation, this market monitoring focuses on the statutory audit of Public Interest Entities (PIEs)<sup>2</sup>, which represents the most significant statutory audits in terms of risk and fees. The main conclusion is that a very small number of large audit firms perform the vast majority of the financial audit mandates. In particular, the Commission's analysis finds that:

- There have been fewer PIE audit firms in the EU since the adoption of the Audit Regulation, which means less choice for PIEs.
- There is a persistently high market concentration, with the four dominant players (i.e. Deloitte, EY, KPMG and PWC, or the 'Big Four') being the largest audit firms.
- The Big Four hold a concentrated oligopoly<sup>3</sup> in 11 Member States in terms of the number of PIE audit assignments. Additionally, they dominate the PIE statutory audit market with over 86 % of EU total revenues for statutory audits.
- The Big Four hold an aggregated market share of around 82-84 % in segments not related to audit work provided by audit firms (i.e. non-audit services (NAS) to audited entities and NAS to other entities).

As a result of this concentration and the fact that the Big Four's activities focus heavily on NAS, one of the recent trends in the EU PIE audit market is that some PIEs, needing to change their auditor, are left with little or no choice of being able to secure a new auditor, and can even become [audit orphans](#). According to the Commission's report, responses to audit tenders show that 16 % of tenders left PIEs with no choice (one bid) and 59 % with a very limited choice (only two to three bids).

The EU legislators have opened the door for independent assurance providers (non-auditors) to perform the requested external reviews on non-financial information (ESG, AI

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<sup>2</sup> PIEs are defined in the Audit Directive and include listed companies, banks, insurance undertakings and 'national PIEs' designated by Member States (e.g. undertakings that are of significant public relevance because of the nature of their business, their size or how many employees they have).

<sup>3</sup> CR4=0 % means perfect competition; 0 %<CR4<50 % ranges from perfect competition to oligopoly; 50 %<CR4<80 % means oligopoly; 80 %<CR4<100 % ranges from concentrated oligopoly to monopoly; CR4=100 % means highly concentrated oligopoly and even monopoly (if CR1=100 %).

systems) under certain conditions. Under the Corporate Sustainability Reporting Directive (CSRD), it is left to Member States to decide whether such a category of independent assurance providers would be permitted. So far, only a handful of Member States will allow it. Under the DSA/DMA, the demand for assurance will emanate from a limited number of platform service providers<sup>4</sup> and, as the DSA/DMA audits will require significant investments to be performed efficiently, the offer for assurance will stem from a very limited number of DSA/DMA audit providers. In a market where both demand and supply are concentrated, incentives for competition based on audit quality are mechanically reduced. The risk of [audit capture](#) is therefore quite high. Indeed, it would not be surprising if PIEs ask their current statutory financial auditors to extend their services to non-financial information – in which case, it is highly predictable that the PIE audit market oligopoly will be replicated in both the sustainability assurance market and the algorithm assurance market.

Auditing is not the only information related service where the EU must confront a market concentration before the implementation of new EU law. Sustainability information disclosed by companies will be processed by data analysts, rating agencies and index benchmark providers. The Capital Markets Union (CMU) will be the first regional 'financial centre' mandating sustainability reporting, but it lacks a structured EU sustainability data and information eco-system.

Like audit firms, the key market players in the financial data and information eco-system are expanding their know-how and service offers on sustainability data and information. In the EU, such an eco-system market structure is composed of duopolies (rating agencies and data disseminators) or oligopolies (index/benchmark providers). Economic and financial risks attached to the lack of choice for service providers could jeopardise how efficiently sustainability information is introduced into EU financial markets. Such risks include price inefficiency, an increase in the cost of capital, poor audit quality, benchmarks prioritising sustainability information as a short-term risk rather than a long-term value-added factor, and incentives to save for unsustainable goals.

The March 2022 [ECOFIN Conclusions](#) on open strategic autonomy in financial markets emphasised the risk of such excessive concentration being replicated on the sustainability data and information market. It also highlighted the importance for the Commission to take initiatives to diversify the number of auditors, data providers and rating agencies. So far, the recently agreed [Regulation on ESG rating activities](#) is the only attempt to do so by

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<sup>4</sup> Under DSA, the European Commission has [designated](#) 17 very large online platforms (VLOPs) and two very large online search engines (VLOSEs). The VLOPs are: Alibaba AliExpress, Amazon Store, Apple AppStore, Booking.com, Facebook, Google Play, Google Maps, Google Shopping, Instagram, LinkedIn, Pinterest, Snapchat, TikTok, Twitter, Wikipedia, YouTube, and Zalando. The VLOSEs are: Bing, and Google Search. Under the DMA, the Commission has [designated six gatekeepers](#) – Alphabet, Amazon, Apple, ByteDance, Meta, and Microsoft – to operate 22 core platform services. These are social networks (TikTok, Facebook, Instagram, LinkedIn); intermediation services (Google Maps, Google Play, Google Shopping, Amazon Marketplace, iOS App Store, Meta Marketplace); ads delivery systems (Google, Amazon, Meta); internet browsers (Chrome, Safari), operating systems (Google Android, iOS, Windows PC OS); number-independent interpersonal communication services (N-IICS) (WhatsApp, Facebook Messenger); search engines (Google); and video sharing platforms (YouTube).

establishing a lighter, temporary, and optional registration regime of three years for existing small ESG rating providers and new small markets entrants. Small ESG rating providers who opt in under the lighter regime will not have to pay supervisory fees to the European Securities and Markets Authority (ESMA). They will have to comply with some general organisational and governance principles, as well as transparency requirements to public and users. They will also be subject to ESMA's authority to request information and conduct investigations and on-site inspections. Upon exiting this temporary regime, small ESG rating providers will need to comply with all the provisions outlined in the regulation, including the requirements regarding governance and supervisory fees. It is early days to assess the impact of such measures on diversification, but it can already be noted that they are temporary and not structural. It will have to be seen if three years is sufficient to create solid competitors to the few major ESG rating providers.

### A 'butterfly effect': from micro to macro risk

The growth of the demand for audit enhances the risks attached to the already excessive level of concentration in the audit market. If a high proportion of the various types of audits in very different areas are provided by the same limited number of audit firms, the consequence of an audit failure in one area might have a significant negative impact on other (unrelated) areas and generate a 'butterfly effect'<sup>5</sup>. For example, a financial audit failure by a dominant audit firm might put both the algorithm assurance relating to some digital platforms' content moderation in the EU and the accuracy of carbon print disclosure by key companies at risk, if the latter are performed by the same dominant audit firm.

From an EU public policy perspective, this means that, despite the provisions' relevance and their proper implementation, the CSRD's sustainability objectives or the societal and democratic objectives of the DSA/DMA could be unexpectedly jeopardised by an event occurring outside their reach. Efficient supervision in one area might not protect investors, consumers, or citizens if an unrelated contagion risk spreads when an audit failure happens in another area.

In other words, audit market concentration becomes a much more acute political issue for the EU, stretching far beyond financial audit quality, which so far has been the key focus of reform.

That said, any real political determination to reduce the risks arising from the concentration of the EU audit market and the potential contagion effect on the efficiency of other key EU policies, should first focus on the core PIE financial audit market – the root of the oligopoly.

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<sup>5</sup> Edward Lorenz [coined the term](#) in 1961, and the butterfly effect was derived from the metaphorical example in which the details of a tornado were influenced by minor perturbations such as flapping of the wings of a distant butterfly. In chaos theory, the butterfly effect is the sensitive dependence on initial conditions in which a small change in one state of a deterministic nonlinear system can result in large differences at a later state. Nowadays, the term is used to describe any situation in which a small change is supposed to be the cause of larger consequences.

A reform of the PIE audit market has been contemplated by the European Commission ever since the Wirecard fraud scandal. Beyond improving audit quality and converging supervisory practices, mitigating risks attached to excessive concentration has become one of the priorities. A recent [study](#) by the Dusseldorf Institute of Competitive Economics (DICE) examines options that could reduce market concentration in the PIE audit market. These options – including joint audit, shared audit, managed shared audit, the State appointment of auditors, as well as market share caps – are analysed in terms of their respective impacts on competitiveness, audit quality and audit fees. The findings suggest that there needs to be a new market design for the PIE audit market, one that considers fair competition and market diversity as key priorities.

Perhaps then it is the right time to initiate an EU discussion around an entirely new structure for the audit market.

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