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Promoting responsible innovation in finance through AI multipronged Evaluation

Increasing technicity

Supervisors' technical expertise needs to follow market innovations in AI. Ideally, it would mirror - both in breadth and in depth - the tradecraft of those implementing the systems: just like supervisors hired statisticians to master the intricacies of internal models developed for banks by quants, their staff should include AI experts.

We propose grounding AI evaluation on four pillars: performance (minimizing prediction errors), fairness (yielding decisions, which do not discriminate against individuals or groups), stability over time, and explainability. The latter is particularly prevalent nowadays due to the regulatory context but also as an ethical duty. This implies being able to «open the black box» enclosing any algorithm whose output directly impacts individuals. Thus, the supervisory method itself should evolve: supervision must become more technically-oriented and cross-disciplinary.

As for fairness, the world we live in is full of biases. Those biases are by definition reflected in - and often reinforced by - ML algorithms. The emerging research domain of bias mitigation aims to alleviate discriminatory and unethical outcomes from their output. At any rate, algorithms and data must be evaluated hand-in-hand. Hence, a proposed dual approach to empirical evaluation of AI, based on challenger models and benchmark datasets, will be subjected by the ACPR to feedback from a public consultation.

AI supervision has much to gain from defining methodological best practices, which would cover the entire lifecycle of AI, from data preprocessing and model selection through industrialization to stability issues.

Promoting responsible innovation

On the other hand, the speed of AI adoption in finance should not be overstated: few ML (Machine Learning) algorithms are in production, and those few are rarely the more advanced kind, especially in highly regulated domains or client-facing tasks. Reasons for excessive caution in AI implementation include its operational and compliance risks.

Indeed, as AI strives by nature towards autonomy, the most prevalent threat beyond generic cybersecurity and ML-specific threats is a loss of control, whether by dearth of skills or inappropriate oversight. Supervisors should thus encourage the positive effects of its widespread usage. Hence one of our key missions: to foster responsible innovation - in other words remove undue obstacles

and ensure proper interpretation of the regulation, while also ensuring proper risk management and customer protection.

Co-designing supervisory technology

ACPR SupTech strategy builds around mastering AI technology, which enables us to dialogue with the marketplace, anticipate emerging risks, and enhance our own methods and technologies.

We rely heavily on networking for this: bi-lateral exchanges with national, European, or international authorities and working groups. Such dialogue may result in proposals for regulatory amendments, but also in more technical deliverables, such as data exchange protocols or software code sharing: for example, pseudonymization (a common GDPR requirement) benefits from all financial supervisors contributing their country- and language-specific expertise. ●