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AI Governance for Deposit Guarantee Schemes: Ensuring Accountability, Explainability and Compliance in Financial Stability Functions

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Abstract

The accelerating adoption of artificial intelligence (AI) in financial supervision, crisis management, and resolution planning is reshaping the operational and analytical foundations of the European financial safety net. Machine-learning models, network-based systemic-risk forecasters, and automated valuation tools are increasingly embedded in early-warning systems, stress-testing frameworks, and crisis decision-making processes. For Deposit Guarantee Schemes (DGSs), this technological shift coincides with a profound expansion of statutory responsibilities under CMDI reform agenda and the BRRD/SRMR framework, which extend DGS mandates beyond traditional pay-box functions to include least-cost assessments, transfer tools, resolution financing, and preventive interventions. While AI offers significant analytical advantages in terms of speed, scale, and predictive capacity, its use in these high-stakes domains raises fundamental governance challenges related to transparency, explainability, fairness, accountability, and legal defensibility. The introduction of the EU Artificial Intelligence Act further intensifies these challenges by classifying many AI applications relevant to DGS functions as high-risk systems subject to stringent requirements for data governance, traceability, robustness, documentation, and human oversight. Despite growing academic and policy interest in AI governance, existing literature offers only fragmented guidance and does not adequately address the specific institutional constraints, legal obligations, and operational realities of DGSs. This paper addresses this gap by developing a policy-oriented governance architecture tailored to the deployment of high-stakes AI in DGS operations. It proposes a structured framework grounded in core normative principles and translates these principles into concrete governance mechanisms. The paper aims to ensure that AI

adoption strengthens the institutional legitimacy and financial-stability role of DGSs rather than undermining it.

Keywords: Accountability; Crisis management; Explainable AI; Financial stability; Governance