

INNOVATIONS IN DERIVATIVE PRICING: BUILDING EFFICIENT MARKET SYSTEMS

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ABSTRACT

Innovations in derivative pricing have become pivotal in fostering efficient market systems, particularly in today's fast-paced financial landscape. This research delves into emerging advancements that optimize derivative valuation through technology-driven methods, such as machine learning algorithms, stochastic models, and quantum computing frameworks. With a focus on reducing market inefficiencies, the study explores how these innovations enhance pricing accuracy, mitigate arbitrage risks, and improve market liquidity. Additionally, it analyzes the impact of real-time data integration and automation on accelerating pricing mechanisms. The findings suggest that these developments not only streamline trading operations but also strengthen regulatory compliance through transparent risk assessments. By aligning with modern financial needs, these advancements offer a pathway to sustainable market systems that are resilient, adaptive, and inclusive for participants across global financial markets.

KEYWORDS: *Derivative Pricing, Efficient Market Systems, Machine Learning, Stochastic Models, Quantum Computing, Pricing Accuracy, Arbitrage Risk Mitigation, Market Liquidity, Real-Time Data Integration, Automation, Regulatory Compliance, Financial Markets, Sustainable Trading Operations*

Article History

Received: 16 Jun 2020 | Revised: 18 Jun 2020 | Accepted: 26 Jun 2020
