

## Integrated Derivatives Analytics with Risk Management System Provides Efficiency, Transparency, and Enterprise-Wide Insight

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Ronald Holanek, President, The Financial Risk Group



FINANCIAL RISK  
GROUP

### COMPANY OVERVIEW

Financial Risk Group (FRG) is an international risk management services firm, dedicated to helping clients around the world maximize the effectiveness and value of their investments in risk management technology, methodology and processes. All of FRG’s team members have extensive risk management technology and business knowledge that is forged from years of experience. From business analysis services, including analysis of relevant regulations, to in-depth analytical modeling and system implementation, FRG provides a one-stop shop for risk management services.

FRG provides these services primarily to financial institutions including banks, asset management firms, and hedge funds, as well as to non-financial institutions in the energy and commodity-based business. FRG’s specialized offerings leverage the SAS risk solution and FINCAD derivatives analytics library, helping clients implement enterprise-wide market risk management systems covering a wide range of financial instruments, including OTC derivatives.

### CONSULTING PROJECT FOR US BANK

Virtually every bank across the globe is focusing on ways to better monitor risk and keep compliant with increasing regulation. In a consulting project with one of the top 10 largest banks in the US, FRG recommended the bank implement a risk management system that would be flexible enough to meet their diverse instrument needs and allow them to evaluate risk across the enterprise. The system needed to be able to model portfolios of financial instruments that included over 30 different types of derivatives across multiple asset classes including foreign exchange, interest rates, and fixed income.

#### THE CHALLENGE

With the need to improve its risk-adjusted returns and make more efficient use of its capital, FRG’s client was looking for ways to enhance its portfolio and predictive modeling capabilities. With extensive financial industry expertise, FRG conducted a full assessment of the bank’s risk management processes and technology. It identified that the bank’s multiple risk management systems across various business units were creating inefficiencies since the bank was using different valuation and risk measurement techniques. The different technology platforms

also made it difficult to roll all the risks from the business units into one giving the bank’s executives and senior managers an enterprise-wide view of risks.

#### THE SOLUTION

With FRG selected to implement the SAS risk solution, the Company also identified the need for the right derivatives analytics library that could integrate well with SAS, provide the bank the transparency it needed, and handle the bank’s diverse, cross-asset instrument needs, from large fixed income portfolios to complex interest rate derivatives. Having assessed numerous derivatives analytics packages, FRG selected FINCAD for its breadth of coverage, ease of use, and comprehensive documentation. “FINCAD not only had the coverage to support our client’s valuation needs with its comprehensive cross-asset class analytics library, but the solution contains extensive documentation of all its models and functions, providing the transparency our client needed for regulatory compliance,” stated Ronald Holanek, President of FRG. With the FINCAD derivatives analytics library, every model is fully documented so that users are able to review the mathematics behind the functions and instruments and every point on the curve

# Case Study *continued*

can be viewed. "Having this kind of documentation was not only key for presenting the project idea to our client, but it was also important for our client to be able to present this documentation to their regulators," added Mike Forno, Partner with FRG.

## **THE BENEFITS**

According to Regitze (Ricki) Ladekarl, Senior Risk Analyst for FRG, the integration of FINCAD with SAS and the ease of development were significant factors in the successful implementation of their client's risk management system. "FINCAD Analytics Suite for Developers is an extremely versatile product to develop with. The magnitude of the function library and coverage is amazing. But more importantly, from a development standpoint, I like the consistency across the functions. It's not compartmentalized like some products; with FINCAD, the fixed income functions work in a similar manner to the interest rate functions and with other asset classes. This consistency applies not only to the pricing functions, but also to the curve and volatility functions. This reduced our time to market for the implementation." FRG also used FINCAD Analytics Suite for Excel as a prototyping tool for the project. "The two products, built using the same analytics library, are great complementary tools as you can integrate the functions from the Suite for Developers product in your risk management system while testing the calculations against the Suite for Excel

product. FINCAD has really made this process easy," said Ladekarl.

With the integration between SAS and FINCAD, FRG's client is now valuing more than 6,000 positions from multiple business units on a daily basis, giving the bank the details needed to manage risk effectively. The SAS risk solution calls the FINCAD library multiple times for each position – to add a spread to a curve, to generate a cash flow table, to price a derivative – and it may call the FINCAD library for one price or multiple prices in different scenarios, sometimes up to 5,000 scenarios. The versatility and calculation speed of FINCAD has greatly benefited the bank's new risk management processes. The numbers are aggregated and rolled up into risk reports for the Enterprise Risk Group and disseminated among the business units so they can plan and execute new trades or strategies accordingly.

The consulting engagement provided by FRG has allowed the bank to obtain a more holistic view of risk across the enterprise using complementary technologies – a leading risk solution from SAS and derivatives analytics from FINCAD.

## **OTHER PROJECTS**

Building on its success integrating FINCAD with SAS for its banking client, FRG has engaged in

similar projects but to different magnitudes with its other clients. For example, it provided consulting services for a global agribusiness and food company on how to use FINCAD analytics to validate and reconcile the results from the client's risk system. In this case, the client was using FINCAD's commodity functions, vanilla derivatives such as FX options, and some bespoke OTC structures. In another project, FRG is working with consultants in the Asia-Pacific region to integrate FINCAD for a large bank, to incorporate its derivatives-heavy portfolio into a SAS risk solution. In this case, the bank has hundreds of thousands of positions across multiple instrument types, including exotic instruments.

In all three projects, FINCAD is relied on heavily for the valuation or pricing component of the risk management systems. The versatility of the product, its comprehensive cross-asset class coverage, and extensive documentation have all been key in the success of the implementations. "FINCAD's documentation is so extensive and detailed, that I've used it to train some of our clients about the models and risk statistics used for specific derivatives. It has become an invaluable part of our clients' risk management processes," said Forno. "We are pleased to partner with a leading derivatives analytics provider."

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