

Quantitative Mortgage Risk Analytics

Effective solutions for credit and
market risk management



Boundless thinking. Practical solutions.



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Who We Are

Montana Analytics is one of the nation's fastest growing quantitatively-focused enterprise risk management consulting firms. Since 2002, we have successfully served the mortgage lending industry with analytical solutions for credit and market risk management. These include probabilistic risk exposure modeling, value-at-risk (VaR), economic capital measurement, asset pricing, and valuation techniques. Additionally, we have assisted in the development of enterprise-level model validation programs to ensure financial soundness for CFO certification to meet Sarbanes-Oxley requirements.

In the capital markets space, we have developed risk analytics for MBS/ABS trading groups and have developed and implemented analytics to manage portfolio risk and hedging, using sensitivity analysis, rate shocks, option-adjusted spread (OAS) and daily VaR.

Montana Analytics is uniquely qualified to offer your organization the most advanced technological solutions to successfully manage your complex risk issues. Our practice areas include:

- ▶ Market Risk Analytics
- ▶ Credit Risk Analytics
- ▶ Residential Housing Analytics
- ▶ Model Validation
- ▶ Predictive Modeling
- ▶ Technical Systems Development

Why Choose Us

Our advisory team has over 25 years of combined experience designing and developing key models and decision tools, such as automated underwriting, estimating loan loss exposure and competing risks, economic capital, and VaR. We develop solutions using state-of-the-art statistical methods and coordinate implementation using a robust systems infrastructure.

Our unique combination of experience in residential mortgage analytics coupled with technological systems development enables us to provide cutting-edge solutions across the entire enterprise risk management spectrum.

We deliver practical, applied solutions with rigor and integrity. Whether you are a CEO, CFO or CRO, you will appreciate our direct methods.

Let Montana Analytics help improve your organization's risk management methodologies, processes and systems. For more information, call 612-481-9073 today or visit www.montanaanalytics.com.

Solutions:

■ Market Risk Analytics

We have proven experience providing analytical services to trading desks as well as executive management. The Market Risk Analytics solution includes:

- ▶ Interest rate modeling and analysis
- ▶ Position level prepayment sensitivity analysis
- ▶ Position level loss analysis for distressed securities
- ▶ DV01 sensitivity analytics
- ▶ Option-adjusted spread (OAS) analytics
- ▶ Holistic market risk modeling

■ Credit Risk Analytics

Our Credit Risk Analytics solution includes the following components that integrate with portfolio analysis to produce an appropriate executive decision-making framework:

- ▶ Loan level credit default estimation
- ▶ Measures timing and severity of defaults
- ▶ Geographic market risk assessment
- ▶ Provides estimation of loan loss exposure
- ▶ Simultaneous estimation of competing risks
- ▶ Holistic credit risk modeling

■ Residential Housing Analytics

We offer applied solutions to assess residential housing supply, demand and pricing, as well as the propensity for price declines. The Residential Housing Analytics solution includes:

- ▶ Predicting the probability of home price decline
- ▶ Credit risk management
- ▶ Whole loan – portfolio bidding/pricing analytics
- ▶ Market analysis and valuation

■ Model Validation

Let our experience with program development and interaction with auditors lead you to sound, defensible practices. The Model Validation solution includes the following components that produce an assertive, rigorous and defensible framework:

- ▶ Independent model validation
- ▶ Model validation program design and development
- ▶ OCC compliance, Sarbanes-Oxley and external audit preparation

■ Predictive Modeling

We build predictive models for a wide range of applications essential in mortgage banking, consumer lending and enterprise risk management areas. The Predictive Modeling solution includes the following components that produce a rigorous and stable framework:

- ▶ Predictive modeling
- ▶ Scorecard/model discriminant power
- ▶ Scorecard/model stability
- ▶ OCC and external audit consideration

■ Technical Systems Development

As a building block for our primary solutions, we offer significant experience in the design and development of technical systems. This component provides the necessary foundation for appropriate executive decision-making. The Technical Systems Development solution includes:

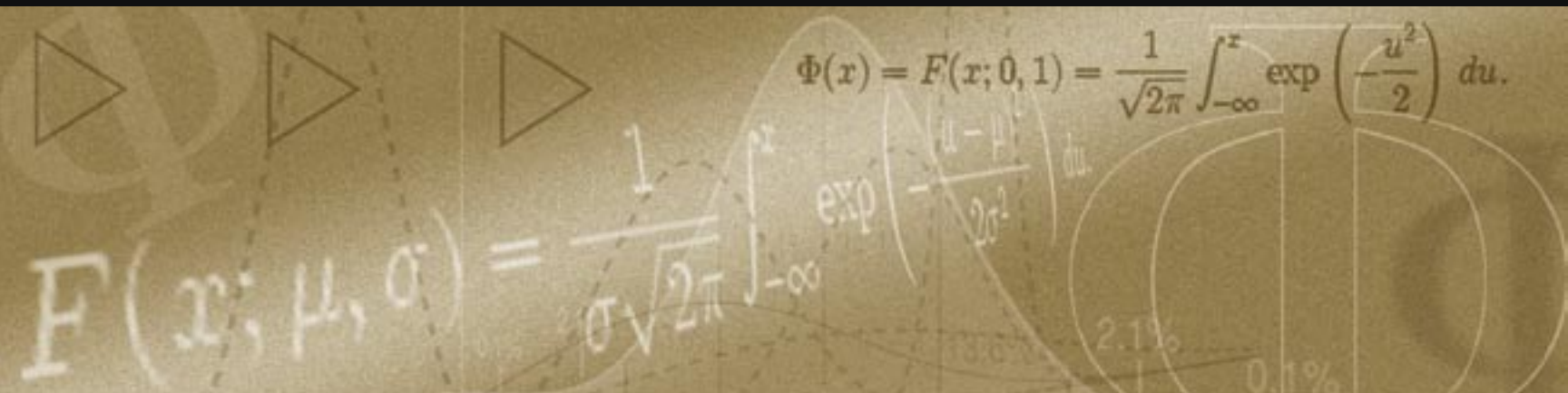
- ▶ Advanced analytical solutions
- ▶ SAS programming
- ▶ Integration with Excel and Visual Basic
- ▶ Data infrastructure design and development

“Montana Analytics provided guidance and analytical expertise as we developed and implemented our Model Validation Program. Their knowledge of statistical modeling and ability to provide independent advice has been invaluable.”

— Mike Van Erdewyk, Managing Director,
Enterprise Risk Management, GMAC-RFC



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