

Insurance Economic Scenario Generator Modelling Suite

Valuation and risk modelling solutions

The global insurance industry is facing a range of risk and capital management challenges, driven by regulatory and market pressures. The Barrie & Hibbert Insurance Economic Scenario Generator (iESG) is a suite of leading-edge stochastic asset modelling tools within a flexible framework that allows insurers to undertake a wide range of risk management activities. Clients use our models to assess group-wide economic and regulatory capital needs, to develop capital management strategies and to price complex embedded guarantees and options. The iESG is fully transparent, integrated with the leading ALM software and supported by a range of services.

Meeting industry challenges

The iESG combines advanced stochastic asset models and calibrations within a Monte Carlo simulation framework, giving decision makers at all levels and across all functions a shared view of the asset scenarios that will affect their business. It is used by insurance clients to help address their key market risk concerns including:

- Economic or "realistic" valuation of complex liabilities, to satisfy regulatory and accounting requirements, e.g. Market Consistent Embedded Value, Solvency II.
- Projection of liabilities into the future, to understand solvency risk and allocate prudential capital. Identification and evaluation of capital management strategies in with-profits, annuities and other contingent guarantees.
- Group-wide economic capital assessment for ratings agencies, analysts and as part of internal performance measurement.
- Designed for life insurers, the iESG gives actuaries, risk managers and finance managers a common integrated framework for developing economic scenarios. It allows them to define statistical asset models for business needs, set up a wide range of economies and then calibrate these models with our standard or their own in-house calibrations.
- Understanding the impact of new asset strategies such as structured credit and hedge funds.
- Understanding product design and pricing where there are complex guarantees.



*Best provider of Economic Capital and Scenario Generation
2009 and 2010*

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The benefits

Meets the industry challenges – Capital market outputs are generated for large numbers of economically coherent scenarios that can be used to value complex liabilities and better understand potential future risk and capital positions. We model joint behaviour of complex assets which is not always available in historic simulation or closed form modelling, but is very important across a range of business applications, such as: Market-Consistent Liability Valuation; Solvency II Technical Provisions; MCEV 1-year VaR Projections; Solvency II SCR Economic Capital; Multi-Year Projections Run-off Capital; Asset Allocation; Business Planning

Wide range of calibrated models

A wide range of assets can be modelled including equities, nominal and real interest rates, inflation, corporate bonds, real estate, exchange rates and alternative assets such as hedge funds, private equity and commodities. We offer different model choices giving you the flexibility to customise and calibrate to your specific requirements. Our breadth in calibration is unrivalled - we currently calibrate to 30 global economies and are continuously extending this, responding to your needs.

Transparent and open

None of our models are a *black box*. We implement best of breed models developed by academics and widely used within the industry. Fully documented and transparent, they can be understood by senior management, auditors and regulators. Our calibration methods are also fully documented and constantly reviewed by our Technical Advisory Panel of clients, auditors and academics.

Fast, easy to use and integrate

An easy-to-use standard windows interface allows models to be built via simple mouse clicks. To run a very large number of simulations (such as a stochastic-on-stochastic analysis) the software can be set up to take advantage of the processing power of a grid. Outputs can be created in a variety of formats that can then be imported into all leading valuation software. You can easily integrate the tool in your wider processes using the application programming interface (API), which gives programmable control and the ability for the software to be configured and run by other programs.

Save time, costs and key person dependency

Upfront and ongoing investment in in-house built models is substantial and adds significant operational risk in the form of key person dependencies. We have spent over 14 years and over 100 man years of highly skilled effort from quantitative analysts, actuaries and software engineers. Making use of our investment will mean you can be up and running in a fraction of the time, significantly reduce the development and maintenance costs and always have access to expertise when you need it.

Adapts to evolving requirements

Insurers have constantly changing, and increasingly sophisticated, needs. We recognise this and our R&D programme continually reviews and updates our models and methods as new techniques become available. We provide regular updates of both our market-consistent and real-world parameters to reflect changes in the market and our views on long-term targets.

Fully supported

Ongoing support, access to our research library and training are a key part of our service. Our user groups give you an opportunity to contribute to our planning and developments and share in collective experiences and ideas. We offer a number of additional services to help you make the most of your investment.

Features

Many features are included as standard, but we offer additional models, tools and services to help you tailor the iESG to your needs - please contact us to find out more.

	Included as standard	Features
Software	✓	Flexible Monte Carlo Framework: User interface to define parameters and outputs
	✓	Broad Risk-Factor Coverage: Interest Rates, Inflation, Equity, Real Estate, Alternatives, GDP and Earnings growth.
	✓	Validation: Built-in Martingale and volatility tests.
		Multi Economy: Coherent multi-economy model and exchange rate model.
		Credit Model: Model corporate bond portfolios.
Tools		Advanced Models: Cutting edge stochastic volatility and jump models available.
	✓	Runtime Optimisation Tools: Deploy onto multiple processors or on a grid ¹ .
		Programmatic Control: Control from other systems and tools via the API.
Services		Calibration Tools & Infrastructure: Helps you to calibrate the models yourself.
	✓	Maintenance: Access to regular upgrades and maintenance.
	✓	Support Desk: Resolution of software and financial modelling issues.
	✓	Documentation: User, model description and calibration evidence.
	✓	Online Resources: Technical details of models, methods and research.
Support	✓	User Conference: Invitation to our user conferences.
		Bespoke Workshops: Bespoke documentation, site visits, etc.
	✓	Market-Consistent Calibration: Quarterly updates for economies purchased.
	✓	Real-World Calibration: Quarterly updates for economies purchased.
	✓	Implementation service: On-site assistance to get you up and running.
	✓	Training: Free places on our standard training courses.
	✓	Calibration Services: Stress calibrations, alternative indices, faster delivery.
	Bespoke Calibrations: Based on your data, methodology and other requirements.	
	In-house Calibration Services: Helps you to build and manage you own in-house process.	
	Other services: Integration, variance reduction, runtime reduction services.	

Rely on our knowledge and experience

Barrie & Hibbert was established in 1995 by John Hibbert and Andrew Barrie. We provide a range of software modelling tools, research and consulting services to a wide range of financial institutions and strategic partners.

Our primary focus is the identification, quantification and management of financial risk in savings and investment products, institutional portfolios and life and pensions balance sheets. We have developed a powerful library of financial models that can be used to understand the complicated joint financial relationships that drive uncertainty in long-term financial plans.

Our people

The world-class reputation of our products and services is testament to the outstanding quality of our people. Barrie & Hibbert has one of the largest teams in the world committed to the commercial development and delivery of stochastic models – a team that includes financial experts and academics, economists, mathematicians and actuaries, all working together to bridge the gap between financial market theory and practice.

As well as those who build, develop, deliver and support our models, we employ experienced market practitioners who know how to integrate and align our products to specific clients' needs. This close engagement with our clients helps us to stay ahead in our ever-evolving marketplace and ensures that our clients reap maximum benefit from our products and services.

The outstanding level of our people's expertise has established Barrie & Hibbert as the world's leading provider of stochastic modelling tools.

We never stand still

Because the needs of our clients are constantly changing, we never stand still. Our dedicated research team is always at the leading edge, constantly working to enhance our products. This future-proofing, which is the cornerstone of our business, is also supported by strong links to practitioners, regulators and academia.

Our clients speak volumes

Over the years we have built up an impressive client base and over 65% of major global insurers now use Barrie & Hibbert models to support the measurement and management of economic risk capital. Many of the global actuarial and accountancy consultancies use our models as part of their service offerings.

Find out how Barrie & Hibbert can help your business manage risk more effectively.

Go to: http://www.barrhibb.com/products_and_services/detail/iesg

Contact: info@barrhibb.com

www.barrhibb.com

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