DERIVATIVES. THE NEXT STEP.
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BE IN CONTROL

Tap into a powerful, independent platform for creating, pricing, analyzing and sharing derivatives and structured products with the Bloomberg Derivatives Library.
FROM SIMPLE VANILLA TO EXOTIC PAYOFFS

The Bloomberg Derivatives Library, DLIB <GO>, is a comprehensive platform for pricing and analyzing derivatives, structured products and dynamic strategies.

DLIB <GO> enhances the coverage offered by Bloomberg’s derivative-pricing tools by supporting even the most exotic payoffs. DLIB <GO> provides tools for every step of your workflow, including sophisticated models that capture the full range of market risks.
DLIB is ideal for participants in the structured product market who need an independent and sophisticated platform capable of creating, pricing and analyzing all of their deals. Participants include:

- Buyers and sellers of structured notes
- Risk managers, valuation and treasury groups
- Investment advisors

CUTTING-EDGE TECHNOLOGY
DLIB leverages the latest technology to provide:

- Advanced models and calibration analytics for equity, FX and rates that cover single assets and hybrid structures
- Flexibility in contract creation using BLAN, our simplified Bloomberg scripting language
- Desktop and server API supporting Excel integration

EFFICIENT & TRANSPARENT WORKFLOW
DLIB streamlines your workflow from end to end with:

- Transparent market data, calibration and models
- Minimal operational risk, leveraging life-cycle automatic generation
- Pricing outputs, including implied probabilities and projected cash flows

FULLY INTEGRATED
As part of the Bloomberg Professional service platform, DLIB is fully integrated with:

- All Bloomberg market data
- Desktop and server API
- Excel®
- Multi-Asset Risk System, MARS
- Independent valuation service for portfolios
- Distribution of trades and ideas on the Bloomberg Terminal

Scenario analysis stress testing – Users can build custom stress scenarios with SHOC, then apply them seamlessly to any deal. Bloomberg stress-testing scenarios are also available.
IDEA GENERATION

DLIB <GO> offers multiple tools to support a full range of user ideas — from market-data analysis to the structuring and pricing of new products.

These convenient, sophisticated tools enable users to analyze the risk of new products by running fully customized scenarios and stress analyses, calculating sensitivities and performing historical price analyses.

» Solve for trade parameters and target price
» Generate back-test payoffs and strategies
» Price products using past market data
» Analyze portfolios, your own or your clients’, to generate new trade ideas
» DLIB <GO> scenario analysis and stress testing is integrated with the cross-asset scenario manager, SHOC <GO>
» Create their own products using our flexible, simplified scripting language, BLAN

DLIB HELPS BRING IDEAS TO LIFE

Idea generation can be a hit-or-miss process. Typically, an investor with a view on market direction has to search for relevant structures within the set of derivatives available to him to monetize his view.

Many investors lack the tools that allow them to cover products beyond vanillas. Therefore, if a client is interested in structured or exotic products, she has to ask the sell side to find suitable ideas. This can be time-consuming, with success depending on the continuing cooperation of the seller through an iterative process.

DLIB <GO> streamlines idea creation by providing direct access to price discovery and an idea-generation mechanism for all products, including exotic payoffs and dynamic strategies. Life-cycling and back-testing tools improve understanding of the payoff and support better trading decisions. DLIB <GO> is also available in Excel, offering a flexible workflow where, for instance, many underlyings can be tried simultaneously. DLIB <GO> in Excel can be used for total return analysis on investment products and matrix pricing.

In addition to saving time and improving results, DLIB <GO> can enhance the buyer’s relationship with his sell side — whom he contacts only when he is closer to trading and more educated about the product.

BLAN, our easy-to-use scripting language, offers full flexibility for idea generation and structuring of products. Only a handful of key words need to be learned to enable you to create most of the products in the market.

DERIVATIVES LIBRARY // 05
Take control with sophisticated pricing and verification tools that include:

- Independent pre-trade pricing of structured products
- Independent post-trade calculation of mark-to-market throughout the life cycle of the product
- Pricing outputs such as implied probabilities and projected cash flows
- Transparent models and market data
- Scenario analysis — Stress testing, including reproducing past events such as market crises

**DLIB <GO> MAKES DERIVATIVES MORE TRANSPARENT**

Buy-side clients trading structured products greatly benefit from having an independent tool to verify price. Without one, they have to depend on their sell-side counterparties for price input, mark-to-market and margin-call calculations. This approach takes time and doesn’t provide full transparency around the value of illiquid underlyings. Also, problems can arise if only one party provides a quote or if various parties disagree on the price. By contrast, DLIB <GO> empowers buyers to price, analyze and create derivatives. They can access the components that influence the price and choose the most sophisticated models in each asset class.

DLIB <GO> helps the seller educate the buyer about the various embedded risks in the product and highlight hedging assumptions and reserves. In addition, model risk can be assessed in DLIB <GO> as well as the impact of funding assumptions. DLIB <GO> also shows calibration error and back-testing results. All of these might be included in calculating the final trading price. User can also customize outputs that help explain the price. By providing the sophistication that only few Tier One banks have, DLIB <GO> brings the buy side and the sell side closer together because of the transparency it provides.

### Table: DLIB <GO> Pricing Calculations

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<th>Action</th>
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<th>Derivatives Library</th>
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| Type | Method | Price Using | Return Type | Return Freq. | Period | Value of illiquid underlyings. Also, problems can arise if only one party provides a quote or if various parties disagree on the price. By contrast, DLIB <GO> empowers buyers to price, analyze and create derivatives. They can access the components that influence the price and choose the most sophisticated models in each asset class.

**Correlation—rolling windows** — DLIB <GO> is fully integrated with market data; price intra-day or by using custom data or snapshots. DLIB <GO> provides several methods to compute correlation in its models.
DLIB <GO> enables users at all levels — manufacturer, distributor and buyer — to save and share deals, portfolios and trade ideas on the Bloomberg platform.

Share common analytical tools for pre-trade analysis, pricing and risk. DLIB <GO> enables users to examine all aspects of a deal together on screen — testing assumptions and often reaching agreement more quickly.

DLIB <GO> has a flexible document-generation technology that can be customized. Currently, it is used to create trade sheets in the pdf format that can be sent by email.

**DLIB SIMPLIFIES COMMUNICATION**

DLIB <GO> offers a streamlined alternative to conventional communications. A common way for a buyer to get a price from the seller is to send an email with a term sheet or to contact the seller by phone. The seller often needs time to understand and verify the terms and make sure that they agree on the interpretation of the payoff.

Now, a client can experiment with a structure in DLIB <GO>, then save and share the deal with the seller. Both sides view the same deal on their Bloomberg Terminals, so no confusion arises about terms such as “inputs,” “life-cycling events” and “cash flows.” This makes the negotiation and agreement phases faster and more efficient and minimizes the potential for misunderstanding.

DLIB <GO> can also be used for two-way customization of a deal. Clients can incorporate their own market data, as well as underlying models, and use the DLIB platform as a trade distribution and sharing mechanism incorporated into the workflow.

**DLIB ASSISTS THE PRICE-RECONCILIATION PROCESS**

Sometimes an investor doesn’t fully understand the pricing methodology that the seller offers. Before an agreement can be reached, the seller often has to explain the various components that led to the price. This may require a time-consuming conference call to review terms and clarify relevant concepts.

Structuring desks can use DLIB <GO> to share deals with the buyer right on the Terminal and demonstrate how the price was reached in an efficient and transparent manner.

Model implied probabilities are generated by DLIB <GO> — DLIB gives clients access to model output such as the implied probability of hitting the barrier and expected payoff when the barrier is hit. This enhances risk management ability as well as provides better understanding of the product.
Buyers and sellers both have a strong interest in making sure that every product is well-understood. However, payoffs may not be easy for non-sophisticated clients to comprehend. As a result, clients may have an unrealistic view of risk, and they may be unpleasantly surprised if their investments result in losses.

DLIB <GO> helps clarify for clients the major aspects of the deal, including life-cycle events, probabilities, scenarios and back-testing.

This is not limited to the trades at inception but also includes the secondary market trades. DLIB <GO> has a sophisticated life-cycle mechanism that automatically handles corporate actions. Clients can choose different sources of fixings. DLIB <GO> provides an audit trail for the changes applied to life-cycling events, thus creating transparency and minimizing operational risk.

**DLIB <GO> HELPS USERS COMPLY WITH RISK REGULATIONS**

DLIB <GO> offers a convenient way to meet increasingly stringent risk regulations in global markets. For example, the buy side might be required to have an independent tool to value its derivatives in order to enter a deal. DLIB <GO>, with its transparent pricing and market data, is an ideal solution.

**LIFE-CYCLE CASH FLOWS**

DLIB <GO> generates life-cycle events on the fly from trade descriptions. This information is extremely useful for minimizing operational risk and the time needed to model trades.

**DOCUMENT GENERATION**

Pre-trade regulations such as MiFID II and PRIIPS in Europe require producing a document that explains the product and its risks in addition to other information, e.g., cost.

Life-cycle cash flows — Customize the display and information related to life-cycle events. DLIB <GO> displays payment dates, currency and amount; it confirms whether the payment is certain and establishes probabilities of an event.
This pairing is ideal for a wide range of market participants, including risk managers in private banks, regional banks and tier two and three banks with portfolios of structured products.

Once a product is created in DLIB and added to a portfolio in MARS, the user can appraise its incremental impact on the aggregate risk profile.

DLIB users have access to Bloomberg’s powerful risk-management system, including these integrated tools:
- Mark-to-market
- Greeks
- Portfolio scenario analysis and stress testing integrated with cross-asset scenario manager, SHOC
- Historical portfolio valuation

**DLIB OFFERS A BETTER WAY TO DEVELOP & EXPLAIN NEW PRODUCTS**

A major private bank recently chose DLIB to help it develop and market derivatives and structured products to its clients. DLIB, used with the Multi-Asset Risk System, MARS, enables the bank to quickly analyze client portfolios. It then develops new products — or identifies existing products — that suit each client’s yield demand or risk profile. DLIB also provides an independent pricing tool to validate or challenge prices quoted by counterparties.

The bank employs DLIB to produce client-facing marketing documents that explain the life cycle of the deal, payoff probabilities and potential investment scenarios. All of this is done more conveniently and at a lower cost than if the bank had developed an equivalent set of in-house tools.
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Access your account through your smartphone when you’re in between meetings, in transit or on the go. Just download the Bloomberg Professional app for iPhone, iPad, Apple Watch, BlackBerry or Android phones. The experience is optimized for mobile, which makes it easy to monitor events and markets, research securities, find your customized alerts and other features, including messaging and IB chat. The result is a seamless, personalized experience that keeps you connected from virtually anywhere with any type of device.
The founding vision in 1982 was to create an information services, news and media company that provides business and financial professionals with the tools and data they need on a single, all-inclusive platform. The success of Bloomberg is due to the constant innovation of our products, unrivalled dedication to customer service and the unique way in which we constantly adapt to an ever-changing marketplace. The Bloomberg Professional service is a powerful and flexible tool for financial professionals — whatever their needs — in cash and derivatives markets as diverse as equities, currencies, commodities, money markets, government and municipal securities, mortgages, indices, insurance and legal information. The Bloomberg Professional service seamlessly integrates the very best in real-time data, news and analytics.

In addition, Bloomberg users benefit from on-demand multimedia content, extensive electronic trading capabilities and a superior communications platform. Bloomberg customers include influential decision makers in finance, business and government. Business and financial professionals recognize the Bloomberg Professional service as the definitive tool for achieving their goals because it offers unparalleled assistance and functionality on a single platform for a single price.

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