

Complex Asset Solutions

New financial processes and the use of sophisticated quantitative models are transforming the way investors analyze and manage risk, price financial instruments and evaluate business strategies. Duff & Phelps provides the tools that investors need in this changing environment, improving their ability to identify, control, diversify, mitigate and/or exploit risk. Using sophisticated mathematics, Duff & Phelps professionals design and evaluate financial instruments to help achieve our clients' goals.



Duff & Phelps provides valuation advice related to complex derivatives and other financial instruments. Our Financial Engineering professionals help you answer the following questions:

- How will changes in exchange rates impact the value of your derivative?
- How do you bifurcate and value an embedded derivative?
- You are negotiating the purchase price of an acquisition target. A large percentage of the acquisition price is contingent on the achievement of several milestones. How do you measure the value of these contingent payments?
- Can you increase the value of your financial ownership in a new joint venture?
- How can you mitigate your downside risk, while increasing your exposure to upside potential?
- Your company is vulnerable to commodity price fluctuations. How should you respond?
- How do you value employee stock options and other management incentive plans?

Duff & Phelps consultants have helped clients solve critical, complex business problems using technically sophisticated mathematical models. These models have helped management readily understand complicated issues, enabling decision making based on rigorous analysis rather than best guesses. Our people, tools and models draw on the latest developments in mathematics, computer science and finance theory. We employ the appropriate stochastic process to describe the price evolution of the underlying asset and the right payoff function to measure expected value.

DUFF & PHELPS PROFESSIONALS APPLY DECISION-MAKING SCIENCES TO FINANCE, AND USE TECHNIQUES SUCH AS SIMULATION AND OPTIMIZATION TO MEASURE THE VALUE OF COMPLEX SECURITIES AND DERIVATIVES.

Case Examples

Designing a Security to Achieve a Specific Ownership Goal

A major pharmaceutical client needed to enter into a joint venture with a developing technology company, while minimizing the impact on their reported financial results. We helped our client acquire effective control of their investment in a volatile technology project, without breaching the reporting requirements to consolidate financial results. This was achieved by designing a convertible equity security, which provided our client with downside protection in the event of poor results while fully preserving their right to participate in the upside potential.

Valuation of a Complex Preferred Stock and Embedded Derivative

One of our clients was undertaking a major refinancing that included the issuance of multiple tranches of debt and equity instruments, including preferred stock with an embedded derivative. Our client wanted to understand the value of the preferred instrument to assess potential dilution. We analyzed the security using binomial models and decision analysis tools to break down the preferred stock into its components, including cumulative dividend feature, redemption features, stock price barriers, change of control feature and a participation right. Our analysis enabled management to better understand the “costs” associated with this particular security in the refinancing process.

Analysis of a Senior Convertible Note

We worked with a major U.S. technology company to value an embedded derivative on the company’s senior convertible note. The note carried a semi-annual coupon, was convertible into shares of the company’s common equity under certain conditions, and was redeemable by the company. In addition, the investors had the right to require the company to repurchase the note at a pre-determined price. We valued the note and embedded derivatives by applying bond valuation methodologies, option pricing models and other advanced techniques and mathematical models. The results of our analysis were used by the FASB in connection with Statement of Financial Accounting Standards No. 133, “Accounting for Derivative Instruments and Hedging Activities.”

Management Compensation Incentive Plan

A large publicly traded client wanted assistance in aligning their management incentive compensation system with some specific stock price performance targets. We developed mathematically based models of stock price movements and used simulation analysis to provide probabilities of certain stock price targets being met. The result provided a framework for all stakeholders to understand the objectives and allowed performance targets to be set and agreed upon.

For more information please visit our website:

www.duffandphelps.com

About Duff & Phelps

As a leading global independent provider of financial advisory and investment banking services, Duff & Phelps delivers trusted advice to our clients principally in the areas of valuation, transactions, financial restructuring, dispute and taxation. Our world class capabilities and resources, combined with an agile and responsive delivery, distinguish our clients’ experience in working with us. With offices in North America, Europe and Asia, Duff & Phelps is committed to fulfilling its mission to protect, recover and maximize value for its clients.

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