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30 September 2013

International Valuation Standards Council
68 Lombard Street
London EC3V 9LJ
United Kingdom

Submitted via CommentLetters@ivsc.org

Re: **Exposure Draft: The Valuation of Equity Derivatives**

Dear Sir/Madam:

Markit[1] is pleased to submit the following comments to the International Valuation Standards Council (the "***IVSC***") in response to its Exposure Draft on the *Valuation of Equity Derivatives* (the "***Exposure Draft***" or the "***ED***").[2]

Introduction

Markit is a provider of financial information services to the global financial markets, offering independent data, valuations, risk analytics, and related services across regions, asset classes and financial instruments. Our products and services are used by a large number of market participants to reduce risk, increase transparency, and improve the operational efficiency in their financial markets activities.

Markit offers pricing and valuation services for a wide variety of equity derivatives. Such services typically utilize consensus data and in-house implementation of industry standard models and are carefully calibrated to market levels. Specifically the following of our services seem most relevant in the context of the ED:

- Markit Portfolio Valuations[3] is an independent post-trade valuation service, mainly for buyside firms, that differentiates itself through Markit's high-quality market data and client support. We use consensus data to calibrate the relevant pricing models and provide our clients with fair values for a range of liquid and illiquid securities, structured products and derivatives.

- Markit Totem is a monthly service that provides market makers in OTC derivatives with consensus-based prices to check their trading book valuations. The service encompasses the equity, interest rate, currency, commodity, credit, property and bond markets, providing pricing matrices for a large variety of both vanilla and exotic products.[4]

[1] Markit is a financial information services company with over 3,000 employees in Europe, North America and Asia Pacific. The company provides independent data and valuations for financial products across all asset classes in order to reduce risk and improve operational efficiency. Please see www.markit.com for additional information.
[2] IVSC Exposure Draft: "The Valuation of Equity Derivatives". 1 July 2013.
[3] Markit Portfolio Valuations has 250 direct clients representing a universe of several thousand funds. It performs over 4 million independent valuations per month for 240,000 OTC derivatives and cash positions.
[4] In the area of equity derivatives, Markit Totem covers around 100 indices and 1,400 individual stocks with maturities out as far as 30 years, and strike ranges from 20% to 300%. Totem's coverage of exotic equity derivatives includes index, stock and quanto correlations, variance swaps as well as more complex structures such as barriers, cliquets and autocallables.

- Markit Equity Volatility data provides users with mid-market assessments for the more liquid products in the Equity derivative markets.[5] The data provided by this service will typically be a consensus of assessments provided by the major market makers.

Markit has been actively and constructively engaged in the discussion regarding regulatory reform of the financial markets. We regularly provide regulatory authorities with our insights on current market practice, for example in relation to valuation methodologies, the provision of scenario analysis, and the use of reliable and secure means to provide daily marks. We have also advised regulatory bodies on potential approaches to enable the timely and cost-effective implementation of newly established requirements, for example through the use of multi-layered phase-in or by providing participants with a choice of means for satisfying regulatory requirements. Over the last several years, we have submitted over 90 comment letters[6] to regulatory authorities around the world and participated in numerous stakeholder meetings.

We welcome the publication of the Exposure Draft and appreciate the opportunity to provide IVSC with our comments.

Responses to the IVSC's questions

Question 1: Under the heading of "Equity Derivative Products" (para 11-22) the main types of equity derivatives are listed. Do you believe there are any material omissions? If so, please indicate what they are.

We believe that, in addition to the main types of equity derivatives listed in the ED, the IVSC should expand the section on equity swaps to include Volatility Swaps, Dividend Swaps, Total Return Swaps, contracts for difference, outperformance options, quanto options, target redemption notes and Correlation Swaps. The IVSC should also note that for many of these swaps the payoff is related to the realised component[7] at the maturity of the transaction.

Question 2: Do you believe the descriptions provided for each of the listed products are sufficiently detailed?

We believe that IVSC's descriptions of each of the listed equity derivatives products are sufficiently detailed for the purposes of this ED.

Question 3: Do you think more complicated derivatives and strategies should be included? For example where products are combined, such as in straddles and strangles?

We believe that it would be worthwhile for the IVSC to also discuss equity derivative strategies such as zero cost dollars, covered calls, bull spreads, barbells, dispersion trades, straddles, strangles, butterflies and risk reversals. This is because as part of today's market practice many equity derivatives are traded as part of a strategy. We would also recommend for the IVSC to explain why these specific strategies are used and how they could affect the risk profile of a portfolio.

Question 4: The discussion on forwards (para 23 to -27) includes a number of formulae. Do you find the inclusion of formulae to be helpful in understanding the principals or would you prefer a purely descriptive narrative?
Question 5: Would you prefer to see greater use being made of formulae to illustrate principles in other parts of the TIP?

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[5] Markit Equity Volatility Data covers over 300 single stocks, over 50 equity indices and has 16 major market participants contributing data.
[6] This number includes responses submitted by MarkitSERV, a now fully-owned subsidiary of Markit Group.
[7] Correlation, dividend, etc.

We generally believe that it is helpful for some formulae to be included in the ED. However, we recommend for the IVSC to also consider the technical understanding of the ED's readers when including formulae. Specifically, the use of additional and different formulae would make the ED more complicated and could potentially confuse some readers. We therefore recommend keeping the use of formulae to a minimum in the main text of the paper while providing more detailed mathematical explanations in an appendix. Additionally, we would recommend for the IVSC to include graphical representations, such as payoff diagrams, where possible as they might help readers to visualise the relevant concepts.

Question 6: The discussion of various model types includes the key assumptions and other inputs required. The objective is not to provide detailed instruction on the use of the model, but do you think the information on these inputs is sufficiently detailed to provide an understanding of the principles involved by someone relying on the valuation?

The discussion of various models in the ED contains a high-level description of each model's potential usage and limitations, providing the reader some background and comparison of various models. However, we would suggest further discussion of the following items as they are key drivers in determining whether a model can produce an accurate and reliable value for the specific equity derivative:

- Market data inputs required versus market data availability
- The reliability, accuracy, and timeliness of the available market data across the range of required underlyings (broken out by region, exchange, and underlying type)
- Methods or processes used to validate the models to ensure that they, initially and on an ongoing basis, capture the requisite market dynamics to consistently tie out to within the bid/ask spread of executed levels of directly comparable instruments

In summary, while it is certainly valuable to understand the basic principles behind specific models, whoever relies on the valuation should ensure that the valuation is based on industry best practice in terms of model, method, and market data.

Question 7: Do you believe the model section of this paper should discuss each model's relative applications and when it is appropriate to use one rather than another, for example, by mapping each model to a list of products?

The IVSC states that the overall objective of the ED would be "to reduce diversity of practice" in the valuation of equity derivatives.[8] To achieve this goal we believe it would be necessary for the model section to discuss each model's relative applications and cases when its use is most appropriate. However, in this respect, the IVSC should take more of an advisory approach rather than a rules-based approach. This is because every institution may use a slightly different model and have a legitimate rationale for doing so.

The IVSC should suggest that every institution creates a robust control environment where models have to be thoroughly tested and back-tested before being signed-off and released into production. The models should also be periodically reviewed to ensure they remain representative of the market.

We also believe it would be helpful to present a tabular summary containing all models that are discussed in the ED along with a list of required market data for accurate calibration (where appropriate) and a list of equity derivatives that are commonly valued using industry standard models.

Question 8: "The Greeks" are summarized with brief descriptions in this paper. Do you believe it would be helpful if there were a more detailed discussion of sensitivities?

We believe that "the Greeks" sensitivities are a fundamental part of risk management and should therefore be properly understood by all readers of the ED. However, as the key focus of the ED is to provide a non-

[8] IVSC ED p. 6.

technical reader an overview of the standard models, methodologies, and market data inputs applicable to the valuation of common equity derivatives, the brief description of Greeks in the ED provides an adequate introduction to first-order sensitivities.

Question 9: Please list the departments within your organisation that you believe would find this document useful, e.g. Executive Management, Treasury, Risk, Financial Reporting, Product Control etc.

As Markit Portfolio Valuations is an independent valuation service provider for the buy-side, we believe that this ED, in a final form that incorporates industry feedback, could be a useful document within Treasury, Finance, or Product Control to serve as a comparison against internal or outsourced usage of models, methods, and market data in the valuation of equity derivatives.

Question 10: Do you consider that the overall level scope and level of detail in this proposed TIP is sufficient to meet its objective of reducing diversity of practice and raising awareness of the principle methods used for valuing equity instruments among the wider financial community, and in particular investors?

We believe that, with this ED, the IVSC has provided a thorough summary description of current equity derivative valuation practice and raises awareness of the models and methods used for valuing equity derivatives in the wider financial community.

However, we also believe that the ED generally does not provide readers with sufficient guidance as to the most appropriate models and approaches to use depending on the product and circumstances. To achieve its stated objective of "reducing diversity of practice" the IVSC will need to provide more specific best practices, models, approaches, etc. However, we understand that it will be difficult for any single publication to reduce the diversity of practice for equity derivative valuations, as the practice will depend on a number of variables including the complexity of the structure, availability of market data and industry standard (versus proprietary) models, and the ultimate use of the valuation.

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Markit appreciates the opportunity to comment on IVSC's Exposure Draft on the *Valuation of Equity Derivatives.* We would be happy to elaborate or further discuss any of the points addressed above. In the event you may have any questions, please do not hesitate to contact the undersigned.

Yours sincerely,

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