



The Hong Kong University of Science and Technology

Department of Mathematics

Seminar on Financial Mathematics

**CVA Wrong Way Risk: Calibration using
a Quanto CDS Basis**

Joint work with Jon Gregory

by

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ABSTRACT: In this article, we discuss the calibration of wrong way risk (WWR) model by using information from the credit default swap (CDS) market. A quanto CDS provides credit protection against the default of a reference entity but is denominated in a non-domestic currency. The payoff of a quanto CDS contract therefore reflects the market-implied interaction of FX risk and a credit event. This in turn, defines the cost of hedging WWR for a FX-sensitive portfolio. Our empirical evidence shows that the implied FX jump sizes are significant for a wide range of corporates. For systemic counterparties, the CVA WWR add-on could be 40% higher than the standard case, and choosing a proper jump-at-default WWR model is critical to capture the impact. In contrast, historical correlation gives the incorrect relationship (right-way risk) and cannot calibrate to the market prices in many cases, leading to the mispricing of CVA WWR.

Bill Chung is a quantitative analyst at IHS Markit based in Tokyo and is primarily responsible for Financial Risk Analytics' xVA and counterparty risk management solution. Prior to joining IHS Markit, Bill worked as a researcher/quantitative analyst in a number of financial institutions, including the Mitsubishi UFJ Trust Investment Technology Institute (Tokyo); Value Partners Limited (Hong Kong) and the Hong Kong Monetary Authority. Bill holds a PhD in Financial Engineering and has published widely in academic journals, such as Journal of Banking and Finance and Quantitative Finance.

Date: Wednesday, 14 August 2019

Time: 6:00pm – 7:30pm

***Venue: LT E, Academic Building
(near Lift 22), HKUST***

All are welcome!