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Contingent Liquidity Swap: A Prearranged Source of Liquidity

By Kailan Shang and Jingjing Shang

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--- Paper Abstract

Kailan Shang FSA, CFA, PRM, SCJP
Jingjing Shang CFA

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Outline

This paper proposes a new type of financial derivative named contingent liquidity swap (CLS) to address the liquidity issue.

In the financial crisis starting from 2008, many companies encountered difficulties of raising money or liquidating their assets to meet funding requirements. After 2008, regulators have been setting stringent rules on capital requirements and liquidity requirements for financial institutions. Those are necessary to reduce the systemic risk in the financial industry but at the same time the cost of capital has increased significantly.

Many efforts have been made by the academic community, the industry, and the regulators to seek a solution for the increasing cost of capital. Some automatic bail-in hybrid securities such as contingent convertible bond (CoCo bond) were suggested and used. They provide prearranged contingent capital given a specified bad event happens, such as the regulatory capital ratio drops below a certain level. However, most of them do not deal with liquidity risk directly. This may be partly caused by the difficulty of distinguish illiquidity and insolvency in an objective way. In addition, the conversion from debt to equity may reduce the liquidity requirement but not providing additional funding. Therefore, other innovative ways are needed to provide liquidity when required at an affordable price.

Contingent liquidity swap proposed in this paper is a swap agreement that the buyer of the swap will pay cash in exchange of less liquid assets in a liquidity event. Those less liquid assets may include stocks or high-yield bonds. The seller of the CLS makes a series of payments for the contingent liquidity. There are some unique features of the proposed CLS.

1. The term of CLS is uncertain but limited up to the maturity of the agreement.
2. If no liquidity events happen, there will be no swap.
3. To reduce counterparty risk, buyers are required to back up the potential cash payment with very liquid assets such as government bonds.
4. The triggering of a swap can be based on a credit downgrade, a large amount of fine due to a financial scandal, mass lapses of insurance policies, margin requirements for financial derivatives, run on the bank, or any combination of the above. Or it can be at the full discretion of the seller, as long as the price is reasonable.

This paper discusses the features of the proposed CLS and its potential impact on systemic risk and the liquidity risk profile of financial institutions. It also touches on the challenges it may face in implementation and the pricing considerations.

Contents

This paper will cover the following main sections.

1. Liquidity risk Management

   This section discusses the landscape of liquidity risk management, regulatory requirements, and approaches to enhance the liquidity risk profile.

2. Contingent Liquidity Swap

   This section discusses the proposed financial tool - contingent liquidity swap. It touches on its features, selection of trigger events, impacts on the systemic risk, its effectiveness and challenges that may be faced during implementation.

3. Pricing and Risk Analysis

   This section discusses the pricing models and the risk for buyers and sellers.

4. Conclusion

   This section summarizes the key points of this paper and concludes the main body of the report.

Type

The paper should be considered both applied and theoretical. It addresses on the practical issues of liquidity risk by proposing a new type of financial derivative. Complex quantitative models are used for pricing and risk analysis.

Resumes

There will be two researchers involved in this project if the proposal is approved: Kailan Shang and. Jingjing Shang.

Kailan Shang FSA, CFA, PRM, MA, SCJP, is Managing Director, Head of Research at Swin Solutions Inc. He can be reached at klshang81@gmail.com.

Professional Background

Years of actuarial and risk management experience has given him a very broad background, including day to day risk management, complex financial derivatives and structured notes valuation and risk analysis, risk appetite and risk limit setting, stress testing, risk quantification, asset liability management, variable annuity pricing, economic scenario generation, economic capital modeling, market consistent embedded value, strategic capital management, dynamic management option and policyholder behavior.

Publications and Presentation

- Author of the paper "Loss Simulation Model Testing and Enhancement" (2011) and was awarded the Emerging Issues Prize from the CAS. It was presented at 2011 Casualty Loss Reserve Seminar.
- Co-author of the paper "Risk Appetite: Linkage with Strategic Planning" (2012) sponsored by the JRMS of the CAS, CIA, and the SOA. It was presented at 2012 ERM Symposium.
- Author of the paper "Understanding Contingent Capital" (2013) sponsored by the CAS. It was presented at 2013 CAS Spring Meeting.
- Co-author of the paper "Pension Plan Embedded Option Valuation" (2013) sponsored by the Pension Section of the SOA.
- Co-author of the paper "Applying Fuzzy Logic to Risk Assessment and Decision-Making" (2013) sponsored by the JRMS of the CAS, CIA, and the SOA.
- Author of the prize winning paper titled "Inconsistent Inference in Qualitative Risk Assessment" (f*orthcoming*) sponsored by the North American CRO Council.

Volunteer Experience

- From 2006 to 2010, he participated in the Loss Simulation Model Working Party sponsored by the CAS to develop a loss simulation model for reserve valuation method comparison.
- From 2009 and 2010, he volunteered in the IAA Comprehensive Actuarial Risk Evaluation (CARE) working group.
- Since 2012, he has been serving on the Loss Simulation Model subcommittee of the CAS Dynamic Risk Modeling Committee.
- Since 2013, he has been serving on the Subject Matter Expert Quantitative Group of the Professional Risk Managers' International Association (PRMIA).
- He was also invited to present at several actuarial and risk management seminars.

Education Background

- **M.A.** in Economics, ***York University***, Toronto
- **B.A.** in World Economics, ***Fudan University***, Shanghai

Jingjing Shang CFA, is Managing Director at Swin Solutions Inc. She can be reached at joanna.shang@gmail.com.

Work Experience

- Vice President, ***Beijing Lapam Capital*** *(PE firm)* *2011.6-Present*
- Principal, ***DIBC Investment Management Co., Ltd.*** *(Financial Advisory Firm)* *2009.12 -2011.2*
- Associate, ***JCD Co., Ltd.*** *(Financial Advisory Firm)* *2009.4-2009.12*
- Principal, ***Eximious Investment Services Co., Ltd.*** *(Financial Advisory Firm)* *2008.6-2009.3*
- Investment manager, ***JAIC International (Hong Kong) Co., Ltd.*** *(VC firm)* *2006.2-2008.5*
- Analyst, ***CITIC Capital Partners*** *(PE firm)* *2005.1-2006.1*
- Relationship manager, ***The Bank of Tokyo-Mitsubishi, Ltd, Shanghai Branch****(Bank)* *2000.8-2004.12*

She has years of financial and investment experience including performing credit analysis, selling complex financial derivatives, conducting in-depth industry and company research, sourcing investment targets, conducting investment execution (over 15 deals in total) and providing financial advice to corporate clients.

Education Background

- **B.A.** in Japanese Language & Literature, ***Fudan University***, Shanghai