

CAMRI-CAIA LUNCH ROUNDTABLE DISCUSSION
Liquidity and the Development of Robust Corporate Bond Markets

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Financial markets play a critical role in economic development through the efficient allocation of domestic and international savings into productive investments across space and time. Markets also play the role of risk sharing and risk mitigation. However, in many emerging economies, capital markets and in particular, capital bond markets, remain underdeveloped. And yet, the ADV estimates that close to 8 trillion dollars of long-term project finance bonds are needed in the next 5 to 7 years to finance the infrastructure development in Asia, especially in Southeast Asia. It is therefore thought that this will lead to the development of various type of bond markets in this region. However, that is far from the case. At this CAMRI/CAIA Lunch Discussion, Professor Subrahmanyam shared his ideas on how some of the markets' innovations of the architecture and infrastructure in U.S. bond markets can perhaps be transported to Asian contexts based on his research in the bond markets.

1. Importance of liquidity in fixed income markets

It has been a puzzle for the academics of financial economics for a long time that, in fixed income markets, assets with similar risk characteristics trade with very different expected returns. As identified by Professor Yakov Amihud of NYU-Stern several years ago, liquidity is a key explanatory factor. Many academic papers try to quantify liquidity in both equity markets and fixed income markets. Liquidity raises trading volume and reduces the cost of capital – even small improvements can reduce the cost of capital substantially. Illiquidity has a negative consequence because it causes small investors and investors with short time horizons to withdraw from the market, which also creates a vicious cycle in which liquidity dries up. Without the presence of a fixed income market, investors, especially in the developing world, face limited choices for investments and have no alternatives other than real estate, gold or bank deposits.

2. Theory and evidence about liquidity in fixed income markets

I. Reasons for or costs of illiquidity:

- a. Illiquidity is assessed through adjustment for the present value of future transaction costs, including bid-ask spreads, trading costs, market impact and asymmetric information.

- b. The required rate of return adjusts to compensate investors for the level of illiquidity and the risk of illiquidity.
- c. Liquidity has an option value due to the possibility of selling assets when necessary.

The level and risk of illiquidity are two distinct concepts. The price effect of illiquidity is illustrated as follows. Assuming the marginal trader has a long position in the asset, he will pay a lower price based on a higher expected return due to bearing illiquidity. On the other hand, if the marginal trader has a short position, especially in derivatives and options, instead of a liquidity premium, investors will expect a liquidity discount, which is documented in the academic literature.

II. Empirical evidence on liquidity effects in fixed income markets

The following empirical evidence is observed from Professor Subrahmanyam and his co-authors' research:

- a. A one standard deviation change in liquidity changes yields and the basis by 10 bps *in the U.S. corporate bond market*.
- b. A one standard deviation move in the direction of greater illiquidity increases the yield spread by 19.2 bps, *in the U.S. corporate bond market*.
- c. A one standard deviation increase in the illiquidity measure increases the yield spread by 46 bps, *in the U.S. fixed income structured product market*.

3. Benefits and challenges of corporate bond markets

I. Benefits of corporate bond markets

The existence of corporate bond markets can reduce reliance on bank finance, which is prevalent in many countries, with the exception of U.S. and UK. This will lessen strains on bank capital adequacy and liquidity.

The corporate bond markets can also provide avenues for long term investment for emerging middle class segment, which is an important capital source for economic growth especially in emerging economies such as Brazil, China and India. The development of the corporate bond market will provide middle class investors with alternative investment options other than real estate, gold and equities.

The other benefit of corporate bond markets is reducing macro-risks of an over-leveraged banking system, by creating wider dispersion of risk amongst a large number of investors.

Information about bond issuing corporations are usually confined at the lending bank level and not disseminated to the public. Therefore, sometimes the public is not aware of the issues related to the company. In this situation, corporate bond markets can provide better opportunities for information revelation and price discovery. The quality of debt will thus be reflected in the price of the bonds.

II. Challenges for corporate bond markets

- a. Improve liquidity and transparency in bond markets.
- b. Concentrate on a smaller number of issuers/issues.
- c. Disperse liquidity beyond a few issuers/issues.
- d. Provide access to capital for market makers and other liquidity providers.
- e. Reduce regulatory and listing requirements for quality issues.
- f. Provide incentives for retail investors to participate in fixed income markets, e.g. tax, regulatory concessions for bond mutual funds, etc.
- g. Improve the transparency of the credit rating process.

4. Special features of over-the-counter markets

Over-the-counter (OTC) markets including real estate, bond (treasury and corporate) and most new derivative markets, are fundamentally different from exchange-traded markets in terms of microstructure:

- I. OTC markets lack a centralized trading platform: Trades are result of bilateral negotiations and take place at different prices at the same time.
- II. Search costs for investors and inventory costs for broker-dealers are significant due to information asymmetry.
- III. It is a challenge to assemble market-wide data in academic research of OTC markets, which also creates difficulty in measuring illiquidity.
- IV. The issues of illiquidity become important in crises such as the global financial crisis.

5. Characteristics of the U.S. fixed income markets

The U.S. fixed income market has a large number of corporate bonds. Out of more than one million different fixed income instruments, only 40,000 are traded less frequently.

Most are completely illiquid, with less than a couple of hundred instruments traded regularly.

Transaction data (TRACE) is available from the Financial Industry Regulatory Authority (FINRA) from 2004 onwards with good coverage. Other data source includes Markit, S&P, Moody's and Bloomberg. Beginning in 2011, new databases on structured products such as asset-backed securities and mortgage-backed securities were made available from TRACE. With these efforts, the U.S. fixed income market has much better data than most other international bond and derivative markets.

6. Liquidity effects during financial crises: The new regulatory regime – Dodd-Frank, European Market Infrastructure Regulation (EMIR) and Basel III

I. Liquidity during financial crises: Main insights

During financial crises, liquidity becomes an important issue. Liquidity effects explain about 14% of the market-wide corporate yield spread variation. During periods of crises, the economic impact of the liquidity measures increases significantly (more than doubled in the sub-prime crisis). More pronounced liquidity effects are seen in the speculative grade segment, particularly in the sub-prime crisis. These results are relevant for pricing, risk management and regulatory policy. There is need to address liquidity provision to market makers during period of crisis.

II. Fixed Income Markets in the New Regulatory Regime

There are several key features of Dodd-Frank/ Basel III/ Vickers/ EMIR etc. affecting fixed income markets:

- Restrictions on proprietary trading (Volcker rule)
- Capital adequacy for banks
- Centralized clearing for derivatives
- Data repositories
- Supervision of hedge funds and private equity funds through prime brokers

There are some concerns including withdrawal of banks from market making and carrying inventories. For example, 90% of credit default swaps (CDS) trading is concentrated in several large banks. If any of them had left tail risk activities, there will be a huge change in the market liquidity. Another concern is, although there will be improvement in transparency and systematic risk from centralized clearing, this may be at the loss of liquidity. Due to data repositories, there will also be improvement in price discovery.

7. Lessons for Asian bond markets

In the Asian context, there is a need to strengthen and deepen fixed income cash and derivatives markets. It is also crucial to improve the transparency, introduce TRACE-like data platforms, and encourage trading platforms such as MarketAccess, Tradeweb, BondPool and GSessions.

Securitization of bank loans is particularly important in the Asia. Given that a large amount of credit resides on banks' balance sheets, which may become distressed, there is a need to find a method to transform this debt into marketable securities.

Another lesson is to encourage the creation of bond indices for cash and derivatives trading. As it is very costly for individual investors to buy and sell a bond, the formation of bond mutual funds is also encouraged.

8. Conclusions and issues for discussion

Liquidity and liquidity risk are important aspects of asset pricing and provides a premium for asset in positive net supply. Corporate bond markets are highly illiquid, hence the liquidity premium could be quite large. The way to improve liquidity is through improving transparency and developing metrics for liquidity such as liquidity ratings. More efficient trading platforms and dissemination of price data can reduce the cost of illiquidity. Finally, the creation of bond market indices will play a role for trading in cash and derivatives markets.

9. Other issues discussed in the talk

- I. The two important issues with corporate bond markets are the over-leveraging of the banks' balance sheets and the liquidity in the bond market. For example, corporate bonds are usually guaranteed by the bank. Investors are actually taking risk from the guarantor bank rather than the issuing corporation. Instead of relying on banks, investors should make an assessment about the bond issuing company. Through the process, eventually the market will reveal the true circumstances of the company.
- II. The issue of independent credit rating. There is conflict of interest because the fees paid to credit agencies are usually from the bond issuers.