ICSA

INTERNATIONAL COUNCIL of SECURITIES ASSOCIATIONS

BOND MARKET LIQUIDITY

KEY ISSUES

November 2015

BOND MARKET LIQUIDITY

Following the Global Financial Markets Crisis, market liquidity has become a leading issue. Many of the most prominent figures in finance – from the ranks of the buy-side, sell-side, regulators, government, and academia - have expressed concern and are monitoring developments closely. This sensitivity has been prompted by several market disturbances in recent months during which market liquidity has abruptly diminished or temporarily dissipated. Examples include the mini flash crash in US Treasuries on 15 October 2014, the turmoil after the Swiss central bank unexpectedly removed the euro peg on 15 January 2015, and the market shocks on 24 August 2015 sparked by concerns over the Chinese economy.

While market participants and authorities may debate the degree to which change in market liquidity is a problem, almost none dispute that it is diminished in some forms compared to pre-crisis levels.

ICSA member associations have recognised the importance of the issue and worked closely with the market to gather observations and information. Starting with ICMA in 2014, eleven members associations have published or contributed to ten publications on liquidity. This paper provides summaries and highlights common themes.

ICSA member publications have stimulated a great deal of global discussion and debate. Some of the commentary has overstated the industry position and played down the importance of liquidity. This paper uses previously stated arguments to address these sentiments in an attempt to maintain balance and perspective. It assesses the state of the debates and aims to propose possible solutions to be discussed with policy makers and authorities.

THE IMPORTANCE OF BOND MARKETS AND LIQUIDITY

Liquidity is an essential element of well-functioning markets, being key to price discovery; execution; cost of capital; cost of dealing; investor confidence and risk appetite; risk management; and market stability and resilience.

A REDUCTION OF LIQUIDITY

Different signals. In recent months, several sharp corrections - including repeated flash crashes - have revealed contrasting liquidity in at least several markets, with periodic surges in volatility signalling reduced liquidity. More generally, market participants are worried about problems in executing large orders without a significant price impact and degraded immediacy on several markets.

In general terms, liquidity is difficult to both define and measure. A simple interpretation is the ability of investors to transact on a timely basis in good size without significantly impacting price. In assessing liquidity, it is important to gauge its resilience as conditions change. Academic research has identified four dimensions that may be used to measure market liquidity:

- depth (ability to execute large trades)
- tightness (spread between bid and offer prices)
- immediacy (speed of execution)
- resilience (price reversion following disturbances).

For instance, the ratios of trading volumes to the size of markets (turnover ratios) for both government and corporate bonds have declined as trading volumes have not kept pace with increased issuance.

European corporate bond trading volumes have declined by up to 45% between 2010 and 2015. Evidence suggests that block trades are becoming more difficult to execute without affecting prices. Corporate bond turnover ratios in Japan and China have declined by roughly one-third since the outset of the crisis.

The state of corporate bond liquidity is less clear in the U.S. The Federal Reserve notes that bid-ask spreads have remained low and measures of price impact of trades have been fairly stable. However, investment grade turnover has declined by roughly 50% since 2009 and trade sizes have declined. Some analysts view the narrow bid-ask spreads as having been influenced by greater agency trading (with market makers acting less as a principal), thus signalling less liquid markets.

What is universally agreed is that dealer inventories are down substantially. A decline of as much as 75% in U.S. dealer holdings of corporate bonds has been cited. While some challenge that figure given the inclusion of asset backed holdings and suggest closer to 40%, the fact remains that dealer participation is greatly diminished.
The general state of the markets is such that the BIS is now concerned about a potential complacency that masks underlying weaknesses.

Statistics aside, many professionals are voicing concerns about the state of liquidity when interviewed as part of market making and liquidity studies (e.g. the Committee on the Global Financial System's report on market making, the ICMA's report on corporate bond secondary markets, and the PwC report on liquidity commissioned by the GFMA and IIF).

Recently, the IMF (in its Global Financial Stability Report) called for policymakers to adopt pre-emptive strategies to guard against the risk of liquidity evaporating.

A SQUEEZE EFFECT RESULTING FROM THE CONTINUAL INCREASE IN DEMAND FOR LIQUIDITY COMBINED WITH A SUBSTANTIAL DECREASE IN THE LIQUIDITY SUPPLY

Increased demand for liquidity. Bond markets have grown dramatically as borrowers need new financing sources beyond banks. Collateral requirements have also grown sharply.

Decrease in the supply. Enhanced regulation has ensured that banks and securities firms have greater capital and liquidity and less leverage and risk. Capital requirements have increased by ten times and liquid assets holdings have quadrupled. Bank derivatives trading is more tightly regulated, proprietary trading is largely eliminated, and securities financing trades are subject to stricter leverage and capital rules. However, this makes for less ability to hold and hedge inventories and maintain a team of experienced trading and sales staff. Some large banks have exited segments of the fixed income market.

What this means, in the words of Financial Stability Board Chairman Mark Carney, is that "the combination of new prudential requirements on dealers and structural changes in markets has reduced market depth and increased potential volatility."

TWO CASES IN POINT IN THIS NEW LIQUIDITY CONTEXT: MARKET MAKING AND BUY-SIDE

MARKET MAKING - AN EVOLVING ENVIRONMENT FUNCTION

There is broad acceptance that market making is vital to functioning of efficient markets, as it promotes investor confidence, moderates volatility, and strengthens resilience to shocks. According to the BIS: "Market-makers are important providers of liquidity services. By committing their own balance sheets, they stand ready to act as buyers or sellers to complete client-initiated trades in the presence of transitory supply-demand imbalances."

A challenge for policy makers, regulators, and market participants is to balance the imperatives of minimising risk and maximising transparency with maintaining the market marking function.

Transparency

Transparency is important for price discovery and evaluating value, but is not an end in itself. Overly granular transparency can alert competitors of positions so market makers are vulnerable and less able to hold larger positions. This is particularly true in the case of infrequently traded bonds. Also, the costs in terms of resources and technology must be considered in evaluating enhanced transparency initiatives.

Given differences in trading volumes, sizes, numbers of issues, features, transparency practices in equities markets cannot be simply transferred to bond markets.

Electronic Trading

As secondary markets transform, centralised, multi-dealer electronic platforms are contributing to increased transparency and in some cases, allowing non-dealers or non-primary dealers to provide liquidity in the market. As with full transparency, greater use of "all-to-all" trading venues including exchanges can limit market maker ability to position bonds.

Electronic trading platforms would need critical mass to achieve their full potential and enhance liquidity. Too many platforms fragment markets.

Pullbacks by market-makers provide opportunities for other market participants, including high-frequency traders, to step in as liquidity providers. However, new providers will have fewer incentives to support market liquidity because they are not building client relationships driven by ancillary revenue opportunities. There has always been a strong expectation on the part of investors that underwriters of bonds make a commitment to secondary market making in their issues. Newer providers are characterised as having far less capital for holding positions than that of banks and securities firms.

There are over 150,000 corporate bond issues in the European market, each with different credit risks, maturities, coupon, optionality, and terms. It is unrealistic to think that investors and day traders – with different skill-sets and priorities - could fulfil the function provided by dedicated market makers.

Volatility

Critics have claimed that the industry has overstated the role of the market maker when commenting on liquidity. Some have pointed out that dealer inventories are a small percentage of the overall market, or that dealers had the capacity to step in more during recent stress periods. But the role of bond dealers was never to buy all the bonds all the way down. Investors are responsible for their positions, and absolute liquidity can only come from other long-term fundamental investors who are intermediated by dealers. Dealers are "buyers of first resort" and "in the business of moving, not storage".

Risk is increasingly being transferred from bank balance sheets to the market, reducing the threat of "too big to fail" and losses to the taxpayer.

In the words of Mark Carney: "More expensive liquidity is a price well worth paying for making the core of the system more robust. Removing public subsidies is absolutely necessary for real markets to exist. Volatility characterises such real markets and much of the pre-crisis market making capacity among dealers was ephemeral."

However, he goes on emphasise the need for sound market structure: "The possibility of sharp, unpredictable changes in market liquidity poses a clear risk to financial stability, particularly when some market participants take liquidity for granted and crowd into trades in anticipation of central bank action.

"***BUY-SIDE: CHALLENGES AHEAD***

When investors are not leveraged, the risk of loss is simply borne by them. Asset managers themselves are not deemed Systemically Important Financial Institutions, although their activities are relevant to market stability. Many funds offer daily liquidity while some of the assets within the fund may be less liquid. In responding to the new market dynamic, asset managers have focused on redemption and liquidity risk management. Extensive research into redemption behaviour under stressed scenarios has been performed. Tools such as redemptions-in-kind, temporary borrowing, and out-of-the-money gates can be effective in market stress scenarios.

As one market participant has noted: "The sell-side cannot act as the asset-liability manager for the buy-side."

It is important to note that funds are not the not the largest holder of corporate bonds, with asset managers, insurance companies, pension funds, governments, hedge funds, and individuals all important players.

ETFs provide another tool for asset managers to manage liquidity but are not a guarantee of liquidity.

Many asset managers are focusing more than ever on longer term investment strategies, where the need for liquidity is reduced. Asset managers are also working to mitigate liquidity risk through greater use of derivatives.

GOING FORWARD

What brings the liquidity issue into full focus is the potential for less benign market conditions – including interest rates increases from near zero, widening credit spreads, and an easing of special monetary policy measures – which would mean increased selling pressure in a market that has grown to record size. Notably,

- Corporate bonds markets (and thus investor holdings) have almost tripled since 2000
- Market depth (outstandings as a percentage of GDP) exceeds 170% in developed economies
- Since the beginning of the millennium, emerging markets have increased from 5% to 30% of global issuances
- Mutual fund assets have increased by almost five times
  "Risk parity" strategies in equity/fixed income portfolios involving leveraging the fixed income component (assuming lower volatility) have grown sharply

Some have argued, therefore, that temporary factors are creating the perception of liquidity beyond market fundamentals, masking potential risks. Following the unwinding of QE or in a stressed environment, liquidity risks and market fragilities are likely to be revealed, potentially resulting in higher volatility. However, a range of market participants and commentators do not embrace such a hypothesis.

INDUSTRY "ASK"

The industry has taken a measured approach to working with policy makers and authorities in addressing liquidity challenges.

It is wholly appropriate to

- Consider the aggregate impact of current regulation and its calibration, and weigh the incremental financial stability benefits of new rules against the incremental costs of diminishing market liquidity
- Consider elements which may have an impact on liquidity such as accounting rules, provisions of services to issuers.
- Gather, improve quality and availability, and analyse broad market data across sectors for a better understanding of liquidity conditions and the link between regulation and liquidity
- Review the regulatory landscape for consistency and coherence across international borders to avoid unnecessary liquidity fragmentation

Examples of ongoing reform areas which need scrutiny for liquidity impacts include the Fundamental Review of the Trading Book, EU Bank Structural Reforms, and Financial Transaction Taxes. Some believe the FRTB could result in incentives for banks to shun tradeable assets in favour of more risky ones, and lessen the link between credit quality and capital requirements.

Banks and securities firms fully recognise that the "status quo" of the pre-2007 financial system is not appropriate, but do not believe that striking the right balance between solidifying the banking sector and financial markets stability in any way constitutes "rolling back the clock."

MEMBER ASSOCIATION PUBLICATIONS:

SUMMARIES

SWEDISH
SECURITIES DEALERS
ASSOCIATION

Market Making: Key for Efficient Markets That Finance Economic Activity

April 2015

Market making is too often misunderstood owing to its technical nature. But it is a key issue for both primary and secondary markets in three major asset classes: equities, bonds and derivatives, both on organised platforms and over the counter.

- Market making is a crucial tool for financing governments and corporates.

  One outcome of the capital adequacy standards adopted in the aftermath of the financial crisis is that the funding model for the European economy is increasingly slanted towards market financing instead of bank credit. That companies are now turning increasingly to bond markets is enlightening in this respect.

  True, fund raising takes place on the primary market, but the related pricing conditions (i.e. the cost of capital) depend heavily on the efficiency of the secondary market. When investors calculate the risk premium they demand for investing in a bond, they pay particularly close attention to the liquidity of the secondary market. It is this factor that determines whether they can sell their holding quickly, when they choose and at a price that adequately reflects market fundamentals. Investors buying assets in the secondary market make the same calculation.

  As such, market making is key to ensuring a liquid secondary market in equity and debt. Contrary to common belief, liquidity, meaning when buying and selling interests meet, does not occur spontaneously. In consequence, the market maker's role is to create a liquidity bridge between the investors by using its balance sheet to execute transactions on its own account.

  - The secondary sovereign and corporate bond markets operate almost entirely as a result of market makers. Accordingly, many governments have appointed market makers as primary dealers to improve the management of their sovereign debt.
  - The secondary equity market is naturally more liquid and organised around a model based on matching buyer and seller interests. But this market, too, needs market makers to function efficiently. Not only do market makers ensure that trading platforms operate smoothly, they are the only ones capable of handling trades that are too big to be absorbed naturally.
- Market making is also essential part of a risk hedging service, both for economic agents (currency risk, interest rate risk, commodity price risk, etc.) and for investors (interest rate

> and portfolio risk). As with equity and bond markets, this is done by supplying liquidity to those wanting to buy or sell. But it is also made possible by market makers' ability to tailor their products to the specific risk management needs of these market participants.

Market making involves proprietary activity by financial institutions and thus is often grouped with purely speculative activities, which have become highly controversial. And yet, when done for the benefit of clients or the market itself, it is unarguably legitimate.

Furthermore, in recent financial reforms (a large number of countries recognise the importance of market making with respect to the service it provides to issuers and investors, such as in the French financial transaction tax.

As these same issues come under discussion at European level, it is vital that market making be recognised as useful, both for clients and for markets, in order to ensure that an activity which serves the interests of issuers and investors does not disappear. As such, it is important for these discussions to be based on a clear vision of market making and all of its various aspects, from the inventory building stage to risk management using hedging transactions, on trading platforms as well as over the counter.

EUROPE MUST FOLLOW SUIT

While wholly endorsing the view that the definition of market making ought not to include unduly "speculative" activities, at the same time it is vital that the activity not be defined too narrowly. Overly limiting the scope of market making as a precaution (considering that only activities carried out on a multilateral platform are legitimate) would jeopardise this activity's business model. It is also vital to make sure that counter trades, hedging transactions (using derivatives, notably) and transactions made for inventory purposes are treated the same as market making transactions (whether they are made with clients or on platforms). If these two conditions are not met, Europe will destroy the business model of an activity whose costs in terms of capital requirements have already been raised significantly by prudential reforms. The immediate consequence of such a decision would be to restrict the services that market participants can provide to their clients and, beyond that, the market, which would be detrimental to the interests of all involved, and particularly detrimental to the market's ability to play its role in financing firms and hedging their risks.

Considering that the current debate is based on an inadequate European definition of market making adopted in the highly specific – and highly sensitive at the time – context of enacting regulations governing short selling, it is of the utmost importance to ensure that:
The structural reform of the European banking sector does not lead to the spinning off of market making activities that serve clients.

These activities are exempt from the financial transactions tax, regardless of the scope or shape that the reform ultimately takes.

Furthermore, it is vital that the European version of the capital adequacy rules laid out by the Basel Committee does not lead to greater restrictions on market making activity. This point is particularly important with respect to the implementation in Europe of rules related to the Net Stable Funding Ratio.

Amafi > Association française des marchés financiers
LES PROFESSIONNELS DE LA BOURSE ET DE LA FINANCE

The Question of Market Liquidity

October 2015

Vanishing liquidity. Recently published reports, papers and opinions reveal that market liquidity has become a key concern for many financial market participants and observers, including first and foremost market regulators, supervisors and central banks.

Their new sensitivity can be traced back to several market disturbances in the recent period during which market liquidity abruptly declined or even dried up temporarily. Examples include the mini flash crash in US Treasuries on 15 October 2014, the currency market turmoil caused by the run-up in the Swiss franc after the Swiss central bank unexpectedly removed the euro peg on 15 January 2015, and the market shocks on 24 August 2015 sparked by uncertainty about the situation and outlook of the Chinese economy. Other examples, though seemingly less significant, further underline the magnitude of the issue.

Avoid a repeat of the subprime crisis. Although thankfully these disturbances were short-lived, their intensity sends a warning, given the importance of liquidity to orderly markets.

No one is forgetting that while the particular nature of the products involved played a decisive role, the subprime crisis was triggered in mid-2007 by a realisation that these products, previously thought of as liquid, were in fact virtually illiquid, posing a major risk to the representativeness of the prices at which they were traded. This created considerable uncertainty about the balance sheet value of participants that had acquired the products, especially banks, which unleashed the ensuing systemic crisis.

Build a more resilient system by strengthening the resilience of financial institutions. Since that time, the goal has been to vigorously strengthen the resilience of the financial system in general and of banks in particular, notably by bolstering the prudential requirements placed on financial institutions.

But greater resilience will have limited effect if orderly markets, of which liquidity is a key indicator, are not also in place. Without fairly stable and sustainable market liquidity, the price discovery process is undermined. This in turn raises questions about the valuation of many assets and, more generally, about the ability of economic agents to raise financing and hedge their risks cost effectively. The danger is that this situation could trigger the same spiral that in autumn 2008 dragged Western economies into a crisis whose fall-out continues to this day. Accordingly, the weaknesses exposed by the recently observed disruptions in liquidity need our full attention.

Recognise the increased role of the market, as the CMU initiative seeks to do. This attention is naturally accentuated by the market's growing role in financing the economy, managing risk and allocating savings. In Europe especially, the business funding model is set to continue to evolve to rely less on bank credit and more on the market. This course looks even more unlikely to be changed as it is underpinned by a determination among businesses to diversify their funding sources and by the effect of new regulations introduced since 2008 that restrict the lending capacity of Europe's banking system.
Within this evolving environment, the ability to provide fairly stable market liquidity is critical to achieving success in the Capital Markets Union (CMU) initiative launched by the European Commission and, beyond that, to ensuring that the European economy is properly funded, without which a return to sustainable growth looks unlikely.

Heightened risk of a spiral of crises. Yet the liquidity disruptions currently experienced by the market point to a situation whose consequences must not be underestimated. If nothing is done to restrain or repel the forces currently at work, it seems probable that liquidity crises that once had temporary effects could now escalate more easily and quickly into major crises owing to a lack of liquidity providers to respond adequately to demand from investors, whose behaviour is increasingly aligned.

Market liquidity thus appears to be a potential source of increased systemic risk as compared with the pre-crisis period, which is ironic given that this situation is partly due to the many substantive regulatory measures taken in response to the crisis.

Provide input from market professionals. The question of market liquidity and its management in times of crisis is a central issue for the market participants represented by AMAFI, obviously because their core business is at stake, but also, and more fundamentally, because the importance taken on by the markets means that ways must be found of making them function more effectively.

AMAFI believes that the value of its input lies not only in the objective data provided, but also in the fact that AMAFI speaks for practitioners whose closeness to the market naturally positions them to see clearly the profound changes underway and emerging trends.

Increasingly broad consensus about the situation, but uncertainty over the solutions. AMAFI's work in recent months points to a growing consensus about the current situation. Accordingly, this paper draws extensively on the different discussions on this topic and begins by recapping the issues raised by market liquidity and reviewing the recent upsurge in instances of liquidity stress, before exploring the squeeze effect resulting from the continual increase in demand for liquidity combined with a substantial decrease in the liquidity supply.

The third section seeks to identify a number of factors that, in AMAFI's view, deserve to be examined in greater depth. The possible solutions are naturally very diverse and involve a wide range of stakeholders with whom discussions should be continued. In any event, AMAFI believes that there is no single answer but rather that multiple solutions need to be deployed in a coordinated manner.

Global financial markets liquidity study

August 2015

Market liquidity is critical to effective market functioning. Liquidity in financial markets facilitates the efficient allocation of economic resources through the productive allocation of capital and risk, the accurate generation and dissemination of issuer-specific information, and the effectiveness of monetary policy and financial stability. The current market evidence points to a measurable reduction in financial market liquidity. For instance, European corporate bond trading volumes have declined by up to 45% between 2010 and 2015. Evidence suggests that large trades are becoming more difficult to execute without affecting prices, with market participants breaking up larger trades into smaller tranches. There have been measurable reductions in banks' trading capacity: banks' holdings of trading assets have decreased by more than 40% between 2008 and 2015, and dealer inventories of corporate bonds in the US have declined by almost 60% over the same period. This has accompanied a decline in turnover ratios in corporate bond markets, where trading volumes have failed to keep pace with the increase in issuance.

The reduced liquidity observed is a product of multiple factors, including but not limited to banks de-risking in the wake of the crisis (selectively de-leveraging and unwinding large non-performing and capital-intensive credit books), following the introduction of new regulatory risk frameworks.

This report explains the important role and underlying economics of market-making. Post-crisis, banks have substantially strengthened their balance sheets (global banks' equity levels have increased by around 68% between 2006 and 2013); improved their ability to measure and price risk; and introduced business models that are more closely aligned to serving client investment needs. Unlike other market participants, bank dealers are uniquely designed to provide clients services that require principal risk taking. This function is a vital element of market resilience during volatile events. The report describes the positive transition that global markets are making in reaction to new market forces, including increased electronification and new entrants in providing core services to support the real economy. Such diversity is a necessary and welcome development, and complements the role banks and bank dealers will continue to play in effective market functioning.

In analysing the new market dynamics, including the effects that market-based and prudential regulations are having on market liquidity, this report provides an analysis of specific regulatory initiatives that are presenting challenges for banks' traditional role as market makers. These substantial challenges impact the ability of bank dealers to facilitate liquidity and the redistribution of risk in times of volatility, potentially introducing new and unforeseen risks to our markets and economy.

The report tries to weigh the costs and benefits of regulation, and identify those regulatory initiatives that in aggregate, could have greater adverse impacts on market liquidity than may have been was envisaged when designed individually, especially when the interactions of market-based and

prudential regulations on market participants are considered. Despite the reduction in dealer liquidity, markets have continued to trade. Corporate and sovereign bond issuance continues apace, particularly in the United States. Thus, the withdrawal of dealer liquidity to date has not caused measurable economic damage. This is due to two reasons. First, market participants have adjusted to this reality by trading less frequently and in smaller batches. Second, current market conditions (quantitative easing and extraordinary monetary policy) are reducing liquidity pressures.

A key question raised by this report is how sanguine market participants, policymakers and economists should be about this current state of affairs. Even if one assumes that markets would adjust to a world with limited dealer liquidity, and where new entrants and trading technology bring together borrowers and savers, the role of principal risk takers will continue to serve a unique and important role in financial markets. End-users have raised concerns about whether liquidity from other market sources will fully compensate for the loss of dealers' market-making capacity, and whether such an adjustment could have substantial costs for issuers and investors and economic growth and jobs more broadly.

Thus, the study concludes that current and future market liquidity is a subject of concern for market participants. It further finds that there are grounds for a review of the calibration of the reforms to date and the ongoing regulatory agenda, in order to properly understand and consider the effects of regulatory initiatives on market liquidity by asset class, and to consider whether upcoming regulatory initiatives could likely exacerbate the trends in liquidity.

POLICY CONSIDERATIONS

Consideration 1: Gather and analyse market data and insight for a better understanding of liquidity conditions and the link between regulation and market liquidity.
Having implemented a broad reform agenda, some data is already accumulating on the impact of different rules.

Recognising that some rules might be more effective and less harmful to liquidity than others, ideally policymakers and regulators would analyse each rule's benefits and costs and thus distinguish the rules that have a demonstrable impact on financial stability and minimal impact on liquidity, from those with negative impacts on market liquidity and less clear stability benefits.

Regulators might consider a number of additional analyses that would be complementary to this process. Firstly, there is a need to improve data quality and availability.

During the course of our work, we have found an incomplete patchwork of data on financial markets liquidity, which is not surprising given its multi-faceted nature. Regulators could gain a better alignment of understanding around liquidity, e.g. by enhancing monitoring of market liquidity conditions, and could take the lead in collating and publishing these datasets, particularly in dealer-led markets. This data collection should go beyond transaction level data and examine and monitor liquidity conditions on both sides of markets, for example buy and sell quotes and their associated durability. It should also focus on those areas of traditionally weaker liquidity (such as high yield and emerging market debt) which should be particularly good indicators of liquidity conditions.

Secondly, regulators, such as the Financial Stability Board and BCBS, could carefully review the causes and impacts of recent mini-stress events (such as the European sovereign bond movements in May and June 2015) for potential indicators of market performance in times of greater stress. A review of the effectiveness of existing regulations, their impacts on market liquidity as well as any unintended consequences would be beneficial. To this end, the Federal Reserve recently stated its

intention to conduct a data-based analysis of changes in the resilience of market liquidity, as well as to understand how different participants contribute to market liquidity and how they are adapting to changes in the liquidity environment.

Lastly, we also suggest a more systematic approach to the assessment of the cumulative impact of both market-based and prudential regulations on individual asset classes. This could be done by reviewing all the regulations that impact the economics of acquiring, holding and selling each type of asset. This will make it easier to detect whether the cumulative impact of individually appropriate reforms is unduly detrimental to an individual asset class. We believe that the most effective way to conduct such an analysis is by asset class or activity. Thus, for a given asset – say, an investment grade corporate bond, or an interest-rate swap - it would be beneficial for all stakeholders if there were an inventory of all the rules – capital, liquidity, clearing, margin – that affect the cost of holding and financing that asset, and then examine whether the integrated regulatory requirements accurately reflect, overstate, or understate its risk.

Consideration 2: Assess existing and future regulatory decisions to strike the right balance between solidifying banking sector stability and maintaining financial markets liquidity.
There are multiple reforms in the process of final calibration and a number of reforms at earlier stages of policy development. Examples of the former include the finalisation of the NSFR, G-SIB capital surcharges, MiFID II, BCBS-IOSCO margin requirements, and CCP counterparty rules, and examples of the latter include FRTB and EU bank structural reforms (as set out in Chapter 5). For example, the fact that securities borrowed to support secondary market making attract the same RSF factor as other loans to non-banks, regardless of the underlying asset and maturity of transaction, is likely to further reduce bank activity in repo markets. In all these cases, we conclude there are clear links from these reforms to reduced financial markets liquidity.

This suggests there is a need for careful assessment of future reforms – both their stability benefits and financial markets liquidity effects.

Consideration 3: Review the global regulatory landscape, across different rule areas (market infrastructure, capital and liquidity requirements and structural reforms) to ensure coherence and to avoid detrimental financial markets liquidity effects.
There are inherent tensions between different reforms which can stifle the effectiveness of individual reforms and add complexity and unintended consequences. The way in which reforms interact with one another may result in unintended negative impacts on financial markets liquidity. Further, there are some reforms which may not add significantly to financial stability, but are detrimental to financial markets liquidity. We provide a few examples below:

- Unlike the risk-weighted capital requirements, the leverage ratio requirement does not allow for the netting of repo exposures in interbank/inter-dealer repo transactions as it does not take into account received collateral (equities or bonds) or the creditworthiness of the counterparty. As a result of these differences, the leverage ratio imposes a higher capital requirement than is required by the risk-weighted capital requirements, especially in low-risk products.

-The leverage ratio framework does not recognise the exposure-reducing effects of the segregated initial margin in cleared derivatives exposures, which has the effect of overstating the exposures of cleared transactions. This imposes high capital requirements on cleared transactions and runs counter to the regulatory push under EMIR and Dodd-Frank towards central clearing for derivatives transactions.

-Within the G-SIB framework, banks do not get reduced capital requirements following the implementation of NSFR, LCR and TLAC which contribute to lower bank risk. Such a layering of capital and liquidity requirements, each individually sensible, can be excessive in aggregate.

Although MiFID II aims to increase the efficiency and resilience of capital markets by introducing pre- and post-trade transparency, the way in which liquidity is defined could have a detrimental impact on liquidity for certain instruments: market makers may be discouraged from committing capital to facilitate trades in illiquid instruments that are classified as liquid and are therefore subject to transparency requirements. This, combined with the trading obligation and mandatory clearing requirements, are likely to affect relatively illiquid instruments such as corporate bonds.

-MiFID II also has significant extra-territorial impacts as the equivalence and reciprocity requirements and the need to establish branches for services into the EU will reduce the ability of non-EU market participants to gain access to EU markets.267 This could lead to further market and liquidity fragmentation.
-The lack of exemptions for inventory held for market-making and underwriting creates a disincentive for dealers to underwrite or make markets, which would decrease the liquidity of dealer-driven markets.
-Standardised approaches for assessing credit and market risk, or indeed others, combined with a floor requirement could become a binding constraint for all participants and undermine risk sensitivity, which reduces the incentive to use and develop improved and advanced models-based approaches for risk management. It would also create many of the same problems as a binding leverage ratio requirement. It would force a misallocation of capital, drive uniformity in business models and reduce market diversity. This is typically unhelpful because it encourages similar market behaviours, particularly in times of stress.

Such examples are difficult to anticipate in the rule making process. We suggest that now is a good time to review and evaluate existing reforms. Such reviews should consider whether the reforms are performing as expected (in terms of firm behaviour, risk taking, pricing effects etc.), as well as whether there are avoidable detrimental impacts on financial markets liquidity.

Where there are cases of detrimental impacts on financial markets liquidity and rule revisions would not reduce stability benefits, then we consider there is a clear case for change. At the margin there may be cases where rule changes have a negligible impact on financial stability benefits, but significant improvement in financial markets liquidity. Such cases are likely in specific asset classes (e.g. repos, longer dated forwards, single name CDSs), where reduced financial markets stability is likely to be small in relation to significant liquidity improvements in individual markets.

Consideration 4: Review the regulatory landscape for consistency across international borders, to avoid unnecessary liquidity fragmentation.
A finding of our study is the fragmentation of liquidity across multiple trading venues and geographies, resulting in additional complexity and transaction costs for investors. This has been partly driven by banks retrenching to domestic or regional markets, and partly due to an increase in the number of trading venues, but also by regulatory rules which differ across territories and across markets. The uneven application of regulations on different market participants has contributed to the fragmentation of liquidity.

Such regulations reduce incentives for banks to provide liquidity across both territories and markets. This results in a more difficult trading environment, smaller trade sizes and longer timeframes to execute trades. The requirements for third country equivalence and reciprocity in current regulations such as MiFID II and MiFIR also create a further barrier to entry for non-EU firms. This

means that for a jurisdiction to be equivalent, it must subject firms that it authorises to legally-binding requirements of equivalent effect to MiFID II and MiFIR. Absent equivalence, a non-EU firm cannot provide services to the EU, and would be require to provide services through a properly licenced (and passported) subsidiary within the EU.

Regulations differ both by type and by method of implementation. Examples include the different approaches to structural reform across the US, UK and Europe and different pre and post-trade reporting requirements. This could result in established cross-border trading relationships becoming broken as smaller sources of regional liquidity emerge (ISDA, 2015). Not only does this lack of coherence add operational cost, but it also forces market participants to be more selective across geographic markets. Further examples of a lack of international consistency in the regulatory rules include:

-MFIR requires certain derivatives contracts – those that are both cleared through a central counterparty (CCP) and deemed sufficiently liquid – to trade on a trading venue. The co-existence of different regulatory regimes could increase the costs of hedging for firms where trades are subject to overlapping EU and non-EU regulatory regimes.
-SEF rules require ETPs to register with the CFTC if they provide market access to US market participants. However, similar rules are not in place elsewhere, i.e. these requirements do not exist for non-US market participants. Since the SEF rules came into force, European dealers have become reluctant to trade with US counterparties. This has led to European dealers trading Euro IRS with other European dealers rather than trading in the U.S.

Further work by key stakeholders, including market participants and policymakers, to review the coherence and any overlaps of current regulatory reforms, and identify areas of divergence, would be helpful.

We acknowledge that international coordination of regulations is not simple and different national regulators will have different priorities, but the fragmented approach results in undesirable market fragmentation and there are likely to be instances where a more common approach will be more beneficial.

All of these considerations suggest increasing the emphasis on market liquidity in the next wave of banking and financial markets regulation. While it will continue to be important to focus on enhancing the resilience of banks through the regulatory process, it will be equally important to consider the regulatory effects on market liquidity, as more liquid, diverse, and effective financial markets will have long-term benefits on the global economy.

http://www.pwc.com/gx/en/financial-services/publications/financial-markets-liquidity-study.jhtml

The current state and future evolution of the European investment grade corporate bond secondary market: perspectives from the market

November 2014

The study is in response to increasing concern that the secondary markets for European credit bonds have become critically impaired and are no longer able to function effectively or efficiently. This impairment is largely attributed to the unintended consequences of banking regulation and extraordinary monetary policy, and raises further concerns about increased market volatility, frozen capital markets, risks to economic growth, and the prospect of another financial crisis. The study focuses primarily on the European investment grade non-financial and financial corporate bond secondary market.

- While liquidity has clearly eroded post-crisis, mainly as a result of stricter capital requirements for market-makers and unusually benign market conditions, the story is more nuanced than simply the end of liquidity. There are arguments to suggest that the levels of market depth and liquidity experienced between 2002 and 2007 were largely the result of banks mispricing balance sheet and risk, and overtrading in cash bonds being driven by the Credit Default Swap (CDS) and structured product markets.

- Bank broker-dealers are responding to the impacts of regulation by changing their models. As a result of more discerning capital allocation within the banks, there is a shift to running smaller inventory, but increasing turnover. Firms are attempting to become more client-focused, particularly through the use of technology, while working client orders on an agency basis rather than making markets. Smaller players are becoming more involved in the space, focusing on niche sectors, and again leveraging technology to reach a broader client base.

- The electronification of the credit market is making an impact in Europe, and most, if not all, expect this trend to continue. However, while the general view is that technology has an important role to play, not least in enhancing data management in terms of identifying potential holders or buyers of bonds, as well as improving connectivity across the market, this is still not a substitute for liquidity.

- Corporate issuers are aware of the decrease in liquidity in secondary corporate bond markets, not least since this is key in pricing primary issuance. But the degree of concern is varied as to the likely impact this could have on their future issuance and capital structure, or their potential role in improving liquidity, and is largely dependent on their issuance profile.

- There is a high level of concern from both sell-side and buy-side regarding new regulation, not least MiFID II. While many see improved transparency as a good thing, there is a worry that too much transparency could cause market liquidity to deteriorate further. There is suspicion that regulation confuses transparency and liquidity, which is not the same thing.

- There is also concern about the regulatory process in Europe, which, compared to the US, is viewed as less consultative and less circumspect to the possibility of unintended consequences.

- A commonly held view is that a correction to the credit rally is inevitable and is likely to be severe. Some see the lack of liquidity in the secondary markets as exacerbating any correction, while others are more concerned about how a non-functional secondary market could impede any return to normality.

- A number of market-led solutions to the potential liquidity crisis are discussed as a result of the various interviews, including greater utilization of e-commerce and e-trading, more developed cross-market connectivity, and changes in issuance practice. However, it is widely accepted that these initiatives cannot replace the role of market-making nor compensate for inimical regulation.

- If the challenges facing the corporate bond secondary markets are to be addressed and solutions found, this will require the constructive and coordinated effort of all stakeholders: market-makers, investment managers, trading platforms and intermediaries, the issuers, and the various regulatory bodies and authorities.

Conclusion: the evolution of the European corporate bond market

The interviews for this study suggest that the European investment grade credit market is a dramatically changing landscape. Liquidity, by most definitions, is rapidly evaporating, primarily as a result of financial regulation and extraordinary monetary stimulus. To a large extent, it could be argued that credit markets are returning to their original illiquid and fragmented nature, and that the pre-crisis liquidity was effectively a bubble. However, the key difference seems to be that regulation, rather than reducing systemic risk, has simply transferred that risk from the banks to investors, and potentially to corporate capital raisers. Where banks could previously assign capital and resources to make markets, warehouse long and short positions, and manage risk, this is becoming increasingly unviable.

Banks and investors are adapting to the new environment, as are electronic intermediaries who are looking to provide possible solutions. While banks are changing their business models in different ways, there appears to be a shift towards more of a broking model, rather than providing a genuine market-making service. With this, there is the suggestion that they are also downsizing their trading and sales teams in terms of both size and experience. Meanwhile, the buy-side has to accept ever greater market and liquidity risk, compounded by the hunt for yield. Issuers, as yet, are relatively unaffected, but are becoming increasingly concerned.

While electronic trading platforms, in themselves, are not a source of liquidity, they offer the potential to improve market efficiency through better market intelligence and greater connectivity and reach. There is a general acceptance that the electronification of the European credit markets will continue apace, although this can only provide part of the solution. Meanwhile, as investors become ever larger and more concentrated, there is potential for these to provide liquidity, either externally through more all-to-all trading, or through more efficient internal netting and intra-fund transacting. Issuers, too, may have a role to play in improving liquidity, such as through the standardization of issuance, although for now this is not a priority.

At some stage, the impact of regulation on market liquidity and efficiency will need to be considered, not least as the role of capital markets in supporting economic growth comes ever more into focus. While the extent of banking and market regulation is largely viewed as inevitable

following the 2007 crisis and a loss of confidence by investors, there is growing concern about the divergence from the original regulatory priorities and the unintended consequences of cumulative initiatives. In many ways, each new strand of banking or market regulation slices off another layer of liquidity: a trend that looks set to continue. If capital markets union is to become a catalyst for investment, growth, and jobs in Europe, then regulation that impedes this, whether in isolation or cumulatively, warrants review. However, a number of respondents feel that this will not happen until after the next (inevitable) credit market crisis.

Ultimately, the various discussions collectively suggest that if the challenges facing the corporate bond secondary markets are to be addressed and solutions found, this will require the constructive and coordinated effort of all stakeholders: market-makers, investment managers, trading platforms and intermediaries, the issuers, and the various regulatory bodies and authorities. Functioning and efficient capital markets are a social good that support economic activity and growth. For those who provide, use, and oversee capital markets, this should be a collective responsibility.

http://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/Secondary-Markets/survey-report-liquidity-in-the-european-secondary-bond-market-perspectives-from-the-market/

ICMA Impact Study for CSDR Mandatory Buy-ins

February 2015

For many commentators, and possibly even some market users, the inclusion of a provision for mandatory buy-ins in the Central Securities Depositories Regulation (CSDR), passed into law in 2014, has gone largely unnoticed. Yet this piece of market regulation, buried among what is primarily meant to be settlement regulation, will have a profound and dramatic impact on liquidity and pricing for the European capital markets. While less talked about, the implications for the European capital markets resulting from mandatory buy-ins are comparable with those of more high profile regulatory initiatives such as Basel III, MiFID II, or the Financial Transaction Tax.

Essentially, the provision for mandatory buy-ins will supersede the current rights of a counterparty to a non-cleared financial transaction who, at their discretion, can force delivery of securities (or cash) in the event of a settlements fail. Rather than buy-ins being a contractual remedy available to a failed-to counterparty, under CSDR it will become a mandated obligation of the failed-to counterparty, the chosen place of settlement (the CSD), or even the trading venue on which the transaction was executed.

The automatic and inflexible nature of mandatory buy-in regulation presents an additional level of risk to market-makers who provide offer-side liquidity in securities that they may not necessarily hold in inventory. Given the impact of Basel III on the cost of banks' balance sheets, market-makers generally run very low levels of inventory, and so in most cases they will be offering securities that they do not hold. In the event that they are unable to cover these short-sales, either in the cash or financing markets, in a timely manner, they will be subject to a mandatory buy-in and so incur an unpredictable, and so largely unquantifiable, cost. According to a new study by the European Central Securities Depositories Association (ECSDA), a mandatory buy-in regime, if applied to today's markets, would result in over 1.8 million buy-ins being executed per annum, representing a total transaction value of €2.5 trillion. To adjust for this additional risk and potential cost to their service, market-makers will be forced to add a premium to their market offers, or may simply choose not to show offers in certain securities.

This study illustrates that if, or when, mandatory buy-in regulation is implemented (scheduled for early 2016), liquidity across secondary European bond and financing markets will reduce significantly, while bid-offer spreads will widen dramatically. The results suggest that even the most liquid sovereign bonds will see bid-offer spreads double, while secondary markets in less liquid corporate bonds may effectively close. The survey further suggests that for many less liquid bonds, including sovereign and public issues, market-makers will retrench from providing liquidity altogether.

The €5.5 trillion European repo market will also be radically re-shaped3, driving more reliance on very short-dated repo funding ('exempt' repo), while the more stable, fixed-term repo markets will

see dramatic widening of spreads for more liquid securities, and a total withdrawal of liquidity for less liquid securities, including some sovereign and public bonds, and most corporate bonds.

The study, as well as measuring the impact on bond and repo market spreads, also attempts to monetize this impact based on available market data and current market structure. The costs are significant, running into several billions of euros per annum, even allowing for the inevitable market contraction that mandatory buy-ins will cause. This does not include the significant investment that will be required by CSDs and market participants in order to support the proposed settlement discipline mechanisms.

The study provides a very real sense of how bond and repo market prices will need to adjust for a mandatory buy-in regime, as well as the possible scale of liquidity retrenchment. This is a cost to the users of the bond markets: investors, both institutional and retail, and, ultimately, the issuers themselves, both public and private, who will inevitably have to pay an increased 'illiquidity premium' through their primary issuance. In other words, this is a cost to the real economy.

Conclusion

This study clearly illustrates the likely impact of mandatory buy-ins for European bond and repo market liquidity and pricing. The inevitable increase in cost and decrease in liquidity that mandatory buy-ins will forge will be borne not by the banks and broker-dealers, but by investors. In turn, this is likely to have cost and risk implications for borrowers, both public and private, and will result in an additional 'illiquidity premium' to their cost of capital. Thus, the negative externalities of mandatory buy-ins impact not banks, but the real economy. Meanwhile, its ability to improve settlement efficiency remains unproven, and if anything, given the liquidity impacts highlighted by this study, it may very well result in the opposite.

While ICMA appreciates that mandatory buy-ins, as part of the CSDR package, is now cemented into European law, and therefore irreversible, analysis such as this clearly underlines the need for more rigorous and transparent independent impact and cost-benefit analyses of certain regulatory initiatives, particularly those that have no existing market-based precedence. While initiatives to improve the efficiency and safety of Europe's settlement systems should be supported, every indication suggests that mandatory buy-ins is an ill-conceived and poorly constructed piece of financial markets regulation with no obvious benefits or likely positive outcomes. Rather it will only serve further to reduce liquidity and stability in the European capital markets. Given the potential costs to the real economy, this study helps to underline the case that this regulation warrants far more public scrutiny and debate before it is eventually implemented.

http://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/Secondary-Markets/csdr-settlement-discipline/

IIACACCVM
INVESTMENT INDUSTRY ASSOCIATION OF CANADA
ASSOCIATION CANADIENNE DU COMMERCE DES VALEURS MOBILIÈRES

Representing Canada's Investment Dealer Firms

Global Credit Markets at a Crossroads

June 2015

Thinned-out credit market liquidity

The increased interest rate volatility and greater uncertainty about the outlook for markets and the global economy has put further pressure on liquidity in credit markets. Consistently available bid and offer prices for reasonable transactions are generally limited to large investment grade credits.

The direction of further planned reforms in credit markets will likely aggravate the liquidity problem in secondary markets. Even though much reform has taken place, most has been directed to improving the soundness and stability of the banking system, with tougher rules for capital, increased liquidity requirements and restrictions on leverage. The banking system is now more resilient to financial and economic shocks than six years ago. Reforms have also increased investor protection, with institutions directed to provide greater disclosure and transparency in products and fees charged, and implementation of rules governing the standard of conduct between advisors and their clients.

Regulatory initiatives: Will they further reduce liquidity?

Canadian regulators have moved in lockstep with the European and US regulators. The focus has been on implementing the Basel III requirements and extensive regulations related to the Client Relationship Model (CRM). Canadian regulators have also tightened rules governing registration and professional standards in the capital markets.

Canadian regulators and their global counterparts have also imposed a new rule framework for trading and clearing over-the-counter (OTC) derivatives, and have satisfied G20 commitments in respect to trade repositories to monitor derivatives trading activity. This reform effort has been notable for its lack of effective coordination in building a harmonized rulebook consistent with the global focus of OTC derivatives trading.

The regulatory community, however, has only now begun to tackle the institutional credit markets. These reforms run considerable risk of further debilitating already weak market liquidity, signalling that rule making should proceed with great care and in close consultation and responsiveness to suggestions from practitioners.

Transparency, that is providing more information on bond transactions to institutional and retail investors alike, will have priority in the reform agenda. In the EU, bond transparency is part of the ongoing consultations on Market in Financial Instruments Directive II (MiFID II), with Canadian regulators likely to follow the direction set by the EU and US regulators. The US regulators propose to expand the existing TRACE bond transparency system (which gives all investors access to trade data, including the price, yield and size of all bond transactions) to include transaction information on asset-backed securities, and consultations are underway on a proposal to begin disseminating information on transactions in securities backed by residential and commercial mortgages, as well as collateralized debt, bond and loan obligations.

The regulators clearly understand the trade-off between the need for greater transparency of pre-trade and post-trade information, and potential adverse consequences of exposing market-maker inventory positions. In recognizing the risks at stake, regulators will likely direct increased transparency requirements to liquid debt securities. While this approach may work in theory, the EU regulators have already found it difficult to settle on an effective definition of liquidity, and to design practical rules that rely on groupings of securities deemed as liquid for increased transparency purposes.

The second initiative is the Fair and Effective Markets Review which published its Final Report on June 10, 2015. It sets out 21 recommendations to help restore trust in the wholesale fixed income, currency and commodity (FICC) markets. The Review was established by the Chancellor of the Exchequer and Governor of the Bank of England in June 2014 to help to restore trust in those markets in the wake of a number of recent high profile abuses. The Review calls for the development of a set of globally endorsed common standards for trading practices in FICC markets, the extension of UK criminal sanctions for market abuse for individuals and firms to a wider range of FICC instruments, and the creation of a new FICC Market Standards Board with participation from a broad cross-section of global and domestic firms and end-users involving regular dialogue with the authorities. The Board will scan the horizon and report on emerging risks where market standards could be strengthened; address areas of uncertainty in specific trading practices; promote adherence to standards, including by sharing and promoting good practices on control and governance structures around FICC business lines; and contribute to international convergence of standards.

The third initiative is the unbundling of charges for services to clients, such as research advice, embedded in the traded bid-offer spreads. In the EU, this requirement will be part of the MiFID II obligations, while in Canada it is embedded in the CRM requirements. The unbundling of costs related to fixed-income dealing will entail significant compliance costs.

These forthcoming regulatory initiatives have the potential to reduce market-making and further erode already thin liquidity in traded debt markets. Weak secondary markets will likely amplify swings in bond yields once evidence points to either strengthening growth and rising inflation rates, or deteriorating growth and building deflationary pressures. Interest rate shocks could spread rapidly across asset classes, notably bond ETFs, and reinforce further downward rate adjustments as selling pressure builds. The consequences for credit markets could be severe.

Japan Securities Dealers Association
JSDA

Trading Price Transparency in Japanese Corporate Bond Market

June 2015

Introduction

- Government bonds are dominant in Japan
    - Primary market issuance
        - Japanese Government Bonds (JGBs) 85%
        - other public bonds 8%
        - corporate bonds 4%
    - Secondary market trading volume
        - JGBs 99%
        - corporate bonds 0.5%

Corporate Bond illiquidity factors

- Limited outstandings
- Investor buy-and-hold strategies
- Limited price information
    - mid-price quotations reported by major JSDA members disseminated same day by JSDA (since 1966)
    - however, currently no system to disseminate real trading prices
        - difficult for parties not transacting

New price and information dissemination system

- Launch date: 2 November 2015
- Transactions of double A or better rated corporate bonds exceeding 100 million yen (approximately $800,000) included
- Transaction information reported to JSDA through member firms or the Japan Securities Depository Center (Japan's central securities depository) within the transaction day
    - contract dates, bond identification codes, names of bond issues, maturity dates, coupon rates, trading volumes, and contract prices
- Information published on JSDA's public website at 9:00 a.m. next business day, excluding corporate bonds
    - redeemable by the end of the month
    - with rapidly increasing yields or other sharp changes
- Traditional reference prices will continue to be published

Effect and impact will be reviewed

- The new system is expect to contribute to stimulating corporate bond transactions
- JSDA will regularly assess its effect and impact

JSDA publishes about 8,000 publicly offered issues of the Reference Prices [Yields] for OTC Bond Transactions at around 5:30 p.m. on every business day.

- The major users are securities firms, stock exchanges, clearing organizations, institutional investors, asset managers, government related organizations, business corporations, information service providers, and individuals
- The Reference Prices [Yields] assist in trading and valuation for
    - financial accounting
    - corporate tax payment
    - performance related to investment trust and pension fund accounting
    - proper pricing in securities firms
    - collateral
        - stock exchanges
        - clearing organizations
        - daylight overdraft of BOJ
        - government bond operations of BOJ
        - inheritance property

Korea Financial Investment Association

Revitalization of the Corporate Bond Market

2014

The Korean corporate bond market grew steadily in the years following the Asian financial crisis, serving as a major source of corporate financing. The role of the corporate bond market became even more significant after the 2008 global financial crisis.

However, in 2013 issuance started to decline. Market conditions for corporate bonds deteriorated and the market became increasingly polarized:

- the aversion to investing in bonds with a BBB rating or lower expanded to bonds with a single-A rating
- redemption of corporate bonds in certain sectors surpassed issuance

The prospect of liquidity tightening in the U.S.; uncertainties in the economies and financial markets of China, the EU, and several emerging nations; and sharp outflows from global bond funds all served to heighten market concerns.

Corporate Bond Market Revitalization Plan

A tailored response was carried out for each sector, taking into account the causes and impacts of market trends. Efforts were made to systematically enhance market self-adjustment by reinforcing the "rule setting function," which included improved book-building and credit ratings.

Specific initiatives included:

I. Primary Collateralized Bond Obligations (P-CBO) Structure Revised
   a. Maximum issuance size eligible for guarantees from the Korea Credit Guarantee Fund (KODIT) increased
   b. Insolvent companies restructured on an accelerated basis, with liquidity provided

II. Corporate Bond Stabilisation Fund Established
   a. Bonds of companies i) suffering temporary liquidity problems due to a large number of maturities, ii) not insolvent, and iii) with positive prospects if supported are eligible
   b. Issuer retains 20% of the obligations of accepted bonds with the balance purchased by Korea Development Bank
   c. KDB sells the bonds: CBSF (10%), creditor banks (30%), investors (60%: restructured as P-CBOs guaranteed by KODIT)

III. Market Bi-polarization Alleviation Measures Enacted

   a. Tax Credits: High-Yield Funds (at least 30% of assets rated BBB or lower) now taxed at a dividend income rate of 14% for up to KRW 50 million of investment

b. Qualified Institutional Buyer (QIB) System: Disclosure requirements for bonds traded between QIBs eased further to apply to more investors and types of issuers and securities

c. Corporate Bond Fund Regulations: Corporate bonds which meet certain standards now eligible for purchase by asset managers affiliated with the securities underwriter, with no post-issuance seasoning period

d. ABS Ratings: Issuers rated BB or better now eligible(in discussion now)

TCMA | TURKISH CAPITAL MARKETS ASSOCIATION

Secondary bond market liquidity in Turkey deteriorated in the past two years. Total trading volume (OTC and the exchange) was around US$ 122 billion in 1H2015, down 24% and 65% compared to 1H2014 and 1H2013, respectively. Bid-offer spread has widened dramatically.

The Turkish Capital Markets Association (TCMA) conducted a liquidity survey which received 33 responses from mostly banks but also brokerage firms, asset managers, and others. The banks and brokerage firms represent 87% of 2014 bond trading volume.

The Turkish bond market is dominated by Treasury bonds and bills, with secondary market corporate bond trading representing only 5% of volume.

DOMESTIC FACTORS

CENTRAL BANK'S POLICIES

What is the effect of Central Bank policies on the bond market liquidity?

- 12 respondents agree that the tightened monetary policy reduces bond market liquidity, while 7 state it has no effect.
- 12 respondents cite that the higher Central Bank funding rate has a negative effect on liquidity, while 8 point to a loose relationship. 11 out of 33 participants state that the higher funding rates have no effect on the bond market

FINANCIAL MARKETS OUTLOOK

What is the effect of interest and exchange rate volatility on the bond market liquidity?

- Most agree that the volatility in interest and exchange rates have an effect on volume
- 15 of the 33 believe the volatility in exchange rates has a profound effect on bond liquidity

Do you think the declining risk appetite has an effect on the bond market liquidity?

- 12 consider that the domestic investors' declining risk appetite has a strong effect
- 4 respondents answered that the diminished risk appetite has no effect

PRIMARY MARKET DYNAMICS

The macroeconomic stability enjoyed in Turkey during the last decade provided a solid environment for government debt markets. The Treasury borrows below its debt service since 2011 with a rollover rate around 80-85%.

What are the effects of longer maturities and roll-over rates on the bond market liquidity?

- 21 believe that the declining rollover rate has a negative effect on trading volume, as there are fewer outstanding tradeable bonds
- Most believe increasing maturities have little or no influence on the secondary bond market

REGULATIONS IN FINANCIAL MARKETS

Do restrictions on banks and bond trading have an effect on the bond market liquidity?

- 14 respondents (7 strongly) think that macroprudential regulations on the banking industry have an impact on bank bond trading activities
- 5 see no effect of regulation on liquidity, while 19 state that other regulatory limitations have a slight or more effect on bond trading

DOMESTIC POLITICAL AND ECONOMIC OUTLOOK

What are the effects of political and macroeconomic uncertainty on the bond market liquidity?

The growth rate of the Turkish economy has been decelerating in recent years.

- 40% of surveyed firms think this deterioration has an negative effect on bond liquidity
- 11 indicate that there is a weak relationship between the economy/secondary bond market
- 12 strongly believe that the political uncertainty reduces bond liquidity

INVESTOR BEHAVIOUR

Do larger bond holdings of banks and institutional investors have an effect on bond liquidity?
In Turkey, almost all outstanding bonds are held by banks and institutional investors. Most investors, especially banks, are inclined to hold until maturity. Meanwhile, bond holdings of institutional investors are increasing with the growing corporate bond market.

- 25 out of 33 state that bank hold to maturity trends tend to reduce the trading activity
- 22 state that the rise of bond holdings of institutional investors affect liquidity

The pension funds market has grown remarkably since 2013 as a result of the government's policy of subsidising contributions (25% of contributions matched subject to an upper limit of 25% of gross minimum wage). Pension funds have a longer term investment horizon which leads to holding bonds until maturity, leading to reduced trading.

INTERNATIONAL FACTORS

CENTRAL BANKS' MONETARY POLICIES

Developed market central banks drive the global financial markets in the aftermath of the crisis. The extraordinary/unusual monetary policies have been recognized as one of the primary reasons behind the illiquidity problem in the bond markets.

Do international central banks' have an effect on the bond market liquidity?
- 5 strongly agree that the Fed's tighter monetary policy expectations reduce liquidity
- 20 state that those expectations have slightly or more impact on domestic bond trading
- 17 state that loose ECB monetary policy has no impact on domestic bond market trading

Do international central banks' monetary policies have an effect on the bond market liquidity?
- 10 state that other central banks' monetary policies affect the domestic bond market. On the other hand, 11 report no impact

POST-FINANCIAL CRISIS REGULATIONS

Do international restrictions have an effect on the bond market liquidity?
It is argued that regulatory changes have reduced global financial institutions' ability and willingness to make markets after raising costs.

- 19 (4 strongly) agree that macroprudential regulations reduced bond market liquidity
- 10 state that these rules played a negligible role
- Other regulations designed to limit proprietary trading (e.g. Volcker rule) increase the amount of reserves required
    - 5 strongly believe that those limitations reduced the trading activity
    - 12 participants stated that the restrictions smother liquidity
    - 6 respondents do not agree that the rules have an impact

LOW RISK APPETITE

Does risk appetite have an effect on the bond market liquidity?
Investors became more risk-averse with the uncertainty in the aftermath of the financial crisis.
- 24 state that the low risk appetite towards Turkey considerably impacts domestic liquidity

INTERNATIONAL BOND MARKETS

Does the illiquidity have an effect on the domestic bond market liquidity?
19 think that illiquidity in the international markets has considerable impact on the domestic market.