Liquidity Provision in the Secondary Markets for Equity Securities

Final Report

OICU-IOSCO

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Chapter 1 - Executive Summary

Over many years, global financial markets have experienced significant change, very often enabled by the introduction of new technology or the enhanced application of existing technology. These technological changes have had wide reaching impacts, including on price discovery, and specifically, on changes in the manner in which liquidity is provided and the participants who undertake this role in financial markets.

In the past, formal exchange specialists or market makers provided liquidity, but recently in many jurisdictions new participants are also assuming this role. This may present both benefits and challenges, in particular, because these new liquidity providers may be subject to fewer or different obligations compared to traditional market makers.

Building on previous IOSCO work, IOSCO Committee 2 on Regulation of Secondary Markets has prepared this issues review that considers how liquidity provision has evolved in equity security markets. The information in this Report draws on responses to a survey of regulatory authorities, trading venues and market intermediaries. While the identified changes may have similarly impacted a variety of asset classes, the Report focuses only on liquidity provision in equity securities and does not extend to other asset classes such as ETFs or derivatives.

This Report presents a summary of the survey responses, including about obligations and incentives, and identifies some common themes with respect to the approaches taken to market making and liquidity provision. It also highlights those themes that regulators could consider as key elements of market making programs that may promote the provision of liquidity, strengthen investor confidence and foster fair and efficient markets:

- Registration or the formal role given to market makers and the obligations imposed on them.
- Balancing obligations and benefits.
- Monitoring for compliance.
- Public disclosure about market making programs.

The information gathered to inform the Report preceded the COVID-19 pandemic and the market turmoil. While this Report does not specifically address the impacts of these events, IOSCO will consider additional work in due course that examines the effects of COVID-19 on various aspects of market structure.

Chapter 2 – Background

Liquidity is one of the critical factors of a fair and efficient market. Different types of entities with differing economic incentives and trading strategies participating in a market facilitate the execution of trades for market participants, which in turn enhances market quality. Liquid and well-functioning secondary markets allow investors to buy and sell their assets quickly and efficiently, which can also encourage activity in primary markets. When markets are illiquid, prices may be more volatile and less informative.

Because mechanisms or incentives that promote the provision of liquidity strengthen investor confidence and fair and efficient markets, they are often subject to regulatory frameworks or exchange rules, policies or procedures.

On exchanges, in the past, liquidity was primarily provided by exchange specialists and market makers. These market makers and specialists were subject to both affirmative and negative obligations intended to promote and maintain fair and orderly markets. In general, specialists and market makers supported liquidity by providing quotes to buy and sell a particular security on a regular and continuous basis and typically received certain benefits in return.[1]

In the last two decades, financial markets have experienced important changes in technology, trading strategies, market models and through regulatory reforms. In many jurisdictions, centralized securities markets with primarily manual trading have evolved into fragmented markets with primarily automated trading.

In most jurisdictions, these changes have led to an evolution of market making.

In particular, the providers of market liquidity in some jurisdictions have evolved from formal exchange specialists or market makers to automated electronic trading firms (or proprietary trading firms) that use low-latency algorithmic trading models. These automated electronic trading firms generally access the market either directly or as clients of licensed brokers and may participate on multiple trading venues trading a variety of products. In addition, in some jurisdictions, market making has evolved further, as advancements in artificial intelligence and machine learning enable participants to enhance liquidity in a greater number of securities.

While many trading venues continue to utilize formal specialists or market makers, technological and regulatory changes have enabled other market participants trading in a manner similar to market makers to provide significant amounts of liquidity in secondary securities markets (generally referred to as “liquidity providers”). In some cases, these liquidity providers may enjoy some of the benefits provided to market makers even though they participate in the market without formal market making obligations. Sometimes benefits are only conferred when certain objectives or thresholds of liquidity provision defined by the market operator are met. However, in many cases, liquidity providers receive benefits, such as rebates, for providing liquidity.

These developments have led some jurisdictions to evaluate issues, including:

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[1] See, e.g., *The Influence of Market Makers in the Creation of Liquidity*, Report by the Emerging Markets Committee of IOSCO (May 1999), available at: http://www.iosco.org/library/pubdocs/pdf/ioscopd94.pdf.

a) *Liquidity provision in times of stress*. During volatile periods, the participation of entities with no obligation to maintain a fair and orderly market has resulted, in some instances, in a lack of liquidity or an abrupt withdrawal of liquidity in a crisis scenario. Market makers may also reduce participation in times of stress. In response, many jurisdictions have implemented volatility control mechanisms;[2]

b) *The balance between benefits and incentives and the fair treatment of market participants*. Competition for liquidity between trading venues may have resulted in the development of programs with unbalanced benefits and/or programs that offer prioritized faster access to certain market participants;

c) *Liquidity provision for thinly traded securities.* Liquidity providers may focus more on markets that are already liquid. Encouraging liquidity provision in less liquid or thinly traded securities is challenging, and some jurisdictions have been exploring ways to support liquidity provision in this segment of the market.

IOSCO has previously published reports that identify concerns about the potential impact of technological and regulatory developments on liquidity provision.[3] Building on these reports, IOSCO Committee 2[4] has examined the role of market makers and other liquidity providers. This work focused on how traditional market making has evolved, the role of non-traditional liquidity providers in secondary markets, the regulatory approaches of member jurisdictions to market making, the related practices or rules adopted by trading venues and the commonalities in approaches across jurisdictions.

This Report focuses on market making and liquidity provision in equity securities and does not include derivatives, ETFs or other asset classes. It draws on the responses of regulators, trading venues, intermediaries and market makers to a survey seeking information on:

(a) the types of entities acting as market makers and liquidity providers;
(b) the applicable regulatory frameworks;
(c) any obligations (regulatory and/or contractual) imposed on market makers and liquidity providers, including market making agreements with trading venues or rules, policies and procedures of the trading venues;
(d) any benefits, incentives and/or privileges provided, including any incentives to provide liquidity specifically during volatile markets;
(e) any technical features such as order book functionalities, order types, access infrastructure etc. specifically designed to attract or to benefit market makers and/or liquidity providers;
(f) the supervisory frameworks, including the supervisory practices in relation to the conflicts of interest that may arise with trading venues and/or with issuers of securities

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2 https://www.iosco.org/library/pubdocs/pdf/IOSCOPD607.pdf

3 See, e.g., FR 13/13, *Regulatory Issues Raised by Changes in Market Structure*, IOSCO Final Report (December 2013), available at: http://www.iosco.org/library/pubdocs/pdf/IOSCOPD431.pdf (recommending, in part that "[*r]egulators should regularly monitor the impact of [market] fragmentation on liquidity across trading spaces*").

4 C2 members include representatives of regulatory authorities from: Abu Dhabi, Australia, Brazil, Canada (OSC, AMF Quebec, IIROC), China, Dubai, France, Germany, Hong Kong, India, Ireland, Italy, Japan, Republic of Korea, Kuwait, Malaysia, Mexico, The Netherlands, Nigeria, Romania, Russia, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Turkey, United Kingdom, United States of America (CFTC, SEC).

where they engage market participants to act as market makers under incentivized contracts, and information regarding any related enforcement activity.

This Report presents a summary of the information received in responses to the survey and identifies some common themes regarding the approaches taken to market making and liquidity provision. It also highlights the key elements that IOSCO believes could be important for regulators to consider in promoting the provision of liquidity, strengthening investor confidence and ensuring fair and efficient markets.

Chapter 3 - Definitions

1. Market Makers

Based on the survey, the legal frameworks in member jurisdictions generally set out a definition of a market maker which is consistent across jurisdictions. Where a definition is not specifically included in the legal framework, it is often provided in the trading venues' rules.

Typically, a market maker is defined as a firm which deals on its own account, posting two-way quotes on a trading venue on a regular and continuous basis. Market makers are typically registered as such and are subject to specific rules or contractual requirements.[5]

In most jurisdictions, the relevant competent authority is required to authorize market makers as registered intermediaries. This may be a legislative requirement, or a requirement of the trading venue's rules. In some jurisdictions where there is no specific requirement to be a registered intermediary, legislation or the trading venue's rules may require extensive due diligence on the good standing of a trading venue member that wishes to participate as a market maker. Market making programs in many jurisdictions restrict participation to direct members of the trading venue while other jurisdictions indicate that sponsored access clients can participate as market makers. In jurisdictions where clients with sponsored access to the market are permitted to act as market makers, there are requirements related to this participation that typically require authorization of these clients acting as market makers by the trading venue.

2. Liquidity Providers

Based on the survey, some jurisdictions distinguish market makers from liquidity providers. However, in most jurisdictions, there is no consistent definition or formal use of the term "liquidity provider". A few jurisdictions reported that their legal framework specifically identifies liquidity providers (e.g., as investment firms that provide liquidity as part of their normal business activity, but are not bound to enter into an agreement to do so). Several trading venues indicated that liquidity provider is not a recognized role and that they do not have liquidity provision programs for participants other than the formal market makers. In some jurisdictions, the definition of liquidity provider is expansive. For example, several U.S. trading venues noted that a liquidity provider can be any member of the exchange that enters non-marketable orders into the trading system for execution. Some trading venues stated that they have liquidity provider schemes, where incentives are provided once certain thresholds that measure liquidity provision are reached.

Based on the survey, the main differences between the definitions of liquidity providers and market makers relate to the types of obligations that apply. Market makers are typically required to satisfy specific obligations, such as providing liquidity on both sides of the order book on a regular basis or guaranteeing a minimum size of execution for certain orders. Traditionally, market makers have been responsible for providing liquidity in certain securities and, in some markets, for monitoring trading in these securities. In contrast, liquidity providers

5 In the EU and in the UK, MiFID II/MiFIR also defines a "market making strategy". If an entity engages in a market making strategy (i.e., algorithmic trading techniques that exceed specific thresholds of activity), then the entity would be qualified as a MiFID II market maker and, as a consequence, it is obliged to enter into a market maker agreement with the trading venue and to fulfil the specific quoting obligations prescribed in the legislation.

do not have to satisfy specific obligations and thus are not required to participate in the market (e.g., are not expected to continue to trade in exceptional or stressed market conditions). Their decisions regarding trading activity on a particular trading venue may be influenced by incentives rather than obligations and are often based on fee and total cost structures, technical access conditions, liquidity and arbitrage opportunities.

Chapter 4 – Market Maker and Liquidity Provision Programs

Based on the survey, as noted above, in some jurisdictions market makers have to satisfy certain obligations, while liquidity providers may not. However, many responses indicate that the underlying rationales for market maker and liquidity provision programs are similar, such as increased liquidity, enhanced price discovery and better execution quality.

Nonetheless, while the rationales may be similar, some respondents suggested that market makers have a broader role than liquidity providers, such as addressing order imbalances, reporting trading irregularities to help to ensure orderly trading and servicing issuers.

1. Structure of Programs

(a) Market Making Programs

Almost all trading venues reported that they have market making programs. A small number of trading venues reported that they have a category of market maker that is subject to an agreement with the issuer of the security.

Trading venues reported various types of market making programs and some have multiple programs. Programs identified included single versus multiple market makers for each security, market makers that provide liquidity exclusively to retail orders, and those that have specific obligations in relation to less liquid securities or the execution of odd lots.

(b) Liquidity Provision Programs

Liquidity provider programs are less common than market making programs, which is why the term itself is not often defined. Where liquidity provider programs exist, their objectives are similar to those of market making programs, but differ notably in their structure as they typically only provide fee-based incentives for participation rather than specific obligations/requirements.

2. Obligations

In some jurisdictions, the regulatory frameworks, whether in legislation or the rules of the trading venue, set forth specific market maker obligations. In general, these rules or agreements require market makers to have in place sufficient capital to fulfil their roles, provide firm two-sided quotes, maintain a presence in the order book, ensure certain bid/ask spreads and size/value of orders, and have in place specific systems and controls. In a few cases, market makers are expected to prevent extreme price movements that may occur as a result of short-term supply-demand imbalances in securities that have insufficient depth for continuous trading and whose free-floating market capitalization is low.

The intermediaries that responded to the survey expressed different views as to which obligations are the most challenging to meet. Some intermediaries emphasized that a given obligation can be more challenging on one trading venue, but less so on another. For example, some challenges identified include where:

- The requirements differ based on market conditions.
- Adverse competitive pressures affect market makers compared to other liquidity providers that may employ more sophisticated technology that leverages low latency trading strategies.

With respect to obligations for liquidity providers, some trading venues offer market quality incentive programs or fee refunds in exchange for the liquidity provider meeting minimum performance levels. However, most trading venues do not impose specific obligations on liquidity providers in exchange for benefits.

3. Incentives

Based on the survey, to encourage market maker participation, trading venues design market making programs that offer incentives or benefits, but which are balanced by obligations to ensure fairness in the market. Some jurisdictions have specific provisions relating to benefits and incentives for market makers and liquidity providers set forth in their legislation. In other jurisdictions, these provisions are included in the rules or policies of trading venues.

Trading venues design or calibrate incentive schemes in several ways, usually with the goal of improving market quality and volumes traded. A few trading venues indicate that market making programs have been designed to provide liquidity in small and medium cap stocks. Some trading venues expressly state that they create such schemes to meet business and strategic objectives. For market making programs paid for by issuers, trading venues consider issuers' needs. Further, some trading venues have benefits that are designed to protect the orders of market makers against arbitrage by participants that use faster connections and/or faster market data or analysis.

The types of benefits and incentives that are used in market maker programs include rebates, waivers of membership or transaction fees and other financial incentives, including payments for routing order flows, exemptions from penalties on excessive messaging and an increase in message throttling parameters. Rebates and lower fees appear to be a common practice. A minority of trading venues give priority in the order book to market makers' quotes. A limited number of trading venues provide other types of advantages, such as a dedicated interface capacity, additional capacity in terms of connectivity, or preferential access to certain types of orders.

Some trading venues only offer incentives for illiquid instruments, whereas others offer one or more increased messaging allowances, order-to-trade ratio allowances or reduced trading fees.

Some trading venues also offer non-direct economic incentives as well, such as regulatory relief from transaction taxes, short sale restrictions and, for U.S. markets, SRO trading activity fees and regulatory advantages such as favorable capital considerations. However, intermediaries note that the relative importance of these factors is dependent on the nature of the trading opportunity. A firm may commence and terminate its market making activity on venues by weighing the benefits against each of the requirements set out by the trading venue (such as quoting at a tighter spread, for greater size and for longer periods during the day) on a stock/segment specific basis.

Benefits and/or incentives for liquidity provision programs are generally trading fee rebates or discounts. In a few cases, trading venues offer fee incentives to both market makers and liquidity providers but offer additional incentives to market makers. In some cases, market makers receive financial and trading incentives while liquidity providers only receive a preferential fee when they reach targets.

4. Obligations and Incentives Under Exceptional / Stressed Market Conditions

Several jurisdictions indicated that they consider market making incentives and obligations when there are exceptional circumstances or volatile or stressed markets. In these conditions, trading venues may relax or suspend obligations such as spread requirements or quoting requirements. Some trading venues offer fee incentives for market makers in the form of a 100% fee reimbursement for market makers that provide liquidity in stressed conditions or a monthly premium based on the number of instruments in which the market maker complied with obligations during stressed conditions.

In some jurisdictions, liquidity providers do not have these types of obligations during exceptional circumstances or volatile or stressed markets. In practice, some jurisdictions reported in the survey that liquidity providers have withdrawn liquidity from the market during volatile markets, while others have seen opportunities and have continued to participate.

As part of the work to be done in examining the impact of COVID-19 on market structure, IOSCO may examine how these mechanisms operated.

5. Authorization of Programs

Based on the survey, in most jurisdictions, where a trading venue offers a market making program or liquidity provision programs, the program is established by the trading venue.

In some cases, regulators review and/or approve market making programs and liquidity provision programs in the context of their review and/or approval of trading venue rules, policies or procedures or the related fee structures. In other jurisdictions, market making programs are reviewed by regulators for compliance with legislation or more broadly in the context of regulatory supervision to ensure that the programs (and the corresponding benefits and obligations) do not impact fair and orderly trading and investor protection.

6. Performance Monitoring

Based on the survey, almost all trading venues monitor the performance of market makers on their markets regarding the obligations and benefits received and their compliance with regulatory and/or other contractual requirements. In some jurisdictions, the trading venue specifically monitors the activities of market makers to ensure and enforce their compliance with the applicable obligations; in other jurisdictions, the monitoring performed by trading venue falls under the general obligations to monitor market activities.

The purpose of the monitoring is to establish whether the market maker is meeting its regulatory or contractual obligations and is entitled to the benefits provided under the market making program. If the obligations are not fulfilled, there is a risk of unfairness or undue advantage given to market makers because of the benefits they receive.

Similarly, trading venues monitor whether liquidity providers fulfil the requirements of their incentive schemes (and thus are entitled to any benefits provided).

Monitoring is performed electronically throughout the trading day or at least daily for most programs and incentive schemes. The frequency that a trading venue reports the status back to the market maker or liquidity provider varies from end of day to monthly performance reports. These status reports may include end of day reporting through automated market making fulfilment reports or ad-hoc analysis.

Trading venues identified the measures that are used to address non-performance or non-compliance by market makers. The actions trading venues may take typically include:

- Warning letters;
- Revocation or reduction of benefits;
- For repeated failures to meet obligations, possible removal from the program or scheme completely;
- Internal referrals for investigation, where the trading venue may consider the nature and scope of non-performance or non-compliance, the market impact, the length of non-compliance and prior disciplinary history;
- Imposing a fee penalty; and
- Disciplinary action, including censures, bars and suspensions, undertakings and fines, issuance of a published notice, or removal of a license

For liquidity providers that are part of a liquidity provision program, non-compliance with the terms of the program typically means that the participant does not qualify for the available incentives for the period of non-compliance. Generally, no other actions or penalties are applied.

In addition to monitoring performance relative to the specific obligations, some trading venues also consider metrics designed to measure the quality of liquidity provided by market makers or liquidity providers (i.e., market quality impacts). Common metrics considered include:

- Market depth - some trading venues monitor the volume of quotes in a security at each price level;
- Spreads - some trading venues monitor metrics such as effective, realized and/or time weighted spreads as a gauge of the quality of liquidity provided through market making or liquidity provision programs;
- Turnover - some trading venues indicated that they monitor either turnover velocity[6] or share turnover of securities traded; and

[6] While not defined in responses by trading venues, the World Federation of Exchanges defines turnover velocity to mean the ratio between the value traded and the market capitalization of a security. See: https://www.world-exchanges.org/storage/app/media/statistics/WFE%20Statistics%20Definitions%20Manual%202019%20September%202019.pdf

- Share of trading by market makers - trading venues that apply this parameter typically apply a measure of the volume traded by the market makers/liquidity providers in a specific stock, relative to the total volume traded in that security.

7. Evaluation of Programs

Although a large number of trading venues review market maker and/or liquidity provider programs on a periodic basis (monthly, semi-annually or at least annually), an equal number of trading venues have not defined a period after which they evaluate and/or recalibrate the incentive schemes. Criteria that drive whether an evaluation of an existing program occurs include:

- competitive positioning;
- IT capacity and latency;
- stressed conditions;
- competition between market participants within the same program;
- the needs of liquidity takers and issuers;
- effectiveness of the scheme;
- order book quality; and
- changing market environment and on request, through market feedback and consultation.

Chapter 5 - Disclosure

1. Disclosure of Market Making and Liquidity Provision Programs

Generally, information about market making programs is publicly available. This may be a specific legislative requirement or achieved through the general requirement or practice that all the rules or policies of trading venues should be made public. In many cases, the public information does not include specific obligations or thresholds but rather describes the model of the scheme and the main characteristics. This transparency informs market makers (and other market participants) of the obligations and benefits or incentives available to other participants in the program or scheme.[7]

Other respondents indicated that their jurisdictions have no disclosure obligations.

2. Disclosure of Measurement Metrics and Market Maker Performance

Only two jurisdictions reported that their legislation requires data on the performance of market makers to be published (although the legislation does not specifically refer to market makers' "performance"). In practice in some jurisdictions, trading venues independently publish information on the performance of their market makers, even though no regulatory obligation exists. A minority of the trading venues indicated they publicly communicate aggregated performance metrics on their market makers and/or liquidity providers and provide a ranking based on market share. Or they publish a quarterly rating based on market quality parameters (such as average quoting time, the average spread and the trading volume in the liquidity supported instruments). Some trading venues indicated they might publish general performance metrics on an exceptional basis; for instance, where a market maker and/or liquidity provider is not in compliance or has been suspended. In these cases, they would publish notice on their website.

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[7] In the EU and in the UK trading venues must also publish the names of the firms that have signed market making agreements and the financial instruments covered by those agreements. This disclosure aims to ensure fair and non-discriminatory access to market making schemes.

Chapter 6 – Rationale for Participation

1. Market Maker or Liquidity Provider

When participating in markets, intermediaries can choose to become a market maker for particular securities or to act as a liquidity provider and, generally, they are not compelled to be either one or the other unless their activities trigger specific legislative or trading venue requirements (e.g., under EU and UK legislation).

The main factor considered by an intermediary in deciding whether to choose to be a market maker or a liquidity provider is the costs versus the benefits of its participation and/or the benefits versus the obligations of the trading venue´s programs. For example, a program may not impose the same obligations on a liquidity provider as a market maker, while the benefits it affords a liquidity provider may not be as material as those for a market maker. Intermediaries have identified a reduction in trading expenses as the most important incentive that trading venues offer because, in their view, it enables them to maintain tighter bid-ask spreads.

Another rationale for being a market maker was the desire to improve the quality of the market. Some survey respondents noted this as a general incentive, while others linked it to supporting and servicing the needs of their clients.

For some trading firms, the rationale for choosing to be a market maker or a liquidity provider is related to the issuer of the security. Some noted that acting as a market maker raises the expectation that market makers will provide services to issuers. Other trading firms expressed the view that acting as a market maker or liquidity provider either supports or improves their relationship with issuers.

2. Choice of Trading Venues on Which to Participate

Survey respondents cited the costs of trading, including connectivity costs, fee/rebate structures, membership costs, trading costs and commissions as one of the most important factors in choosing a trading venue on which to participate. Liquidity and the opportunity to access liquidity was also frequently mentioned in the responses.

Chapter 7 – Key Elements for Market Making Programs

The Survey has identified some common themes, which regulators could consider as key elements in relation to market making programs:

1. *Registration or the formal role given to market makers and the obligations imposed on them*. Having parameters around who can act as a market maker is important because entities performing market making activities are required to satisfy specific quoting obligations that contribute to liquid and efficient markets, in a manner that complies with all applicable requirements including ensuring that trading is fair and orderly;

2. *Balancing obligations and benefits*. A decision to participate in market making programs is largely driven by costs and economic incentives. In addition, to incentivize market makers to participate, trading venues design programs that offer benefits in exchange for fulfilling obligations. Concerns regarding fairness with respect to advantages and access may arise where market makers' benefits are not in-line with the obligations that they must fulfil. In addition, as markets, trading strategies and trading venue products or services change over time, market making programs also need to adapt to ensure the balance and fairness is maintained.

3. *Monitoring for compliance*. Monitoring compliance with the terms of the program or the agreement by the trading venue establishes whether the market maker is meeting its obligations and is entitled to the benefits of the program. If the market makers do not fulfil their obligations, there is a risk of unfairness or undue advantage with respect to the fees paid or access to liquidity granted to market makers.

4. *Public disclosure about market making programs*. Transparency of the market making program and its main characteristics allows market makers and other market participants to understand the obligations and benefits or incentives available to participants in the program. Transparency also permits all market participants to understand the potential impact of the programs on fair and orderly markets and incentivizes trading venues to design them in a balanced way.

Chapter 8 - Conclusion

Liquidity provision plays a vital role in price discovery and is a crucial element of fair and efficient markets. Like most aspects of financial markets, liquidity provision and the various market participants undertaking this role have evolved. While equities markets have historically relied on formal exchange market makers to ensure effective price discovery, in many jurisdictions a transition away from this reliance has been unfolding for many years. This change may present both benefits and challenges, especially where the efficient functioning of equity markets relies on the participation of entities that have no obligation to provide liquidity. However, even though new participants may have emerged, the role of market makers in many markets is still of great importance.

The incentive programs employed by trading venues are crucial to attracting the necessary liquidity to ensure market efficiency, and the corresponding oversight role of regulators may require a consideration of new elements to ensure that evolving markets continue to function effectively.

The information gathered from the survey for this Report may provide useful ideas for regulators to consider when they evaluate market making programs and/or other liquidity provision incentive arrangements.