

Minimum Denominations of Municipal Securities

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Executive Summary

Municipal securities issuers establish minimum denominations for bonds at issuance to help target the sale to an appropriate category of investors or reduce administrative costs, among other reasons. In some cases, the use of minimum denominations is set by state or local law. The Municipal Securities Rulemaking Board (MSRB) has no rulemaking authority over issuers, including with respect to the use of minimum denominations. However, to help to ensure that municipal securities dealers observe minimum denominations in the official statement of a bond issue, the MSRB in 2002 established a rule that generally prohibits dealers from effecting a municipal securities transaction with a customer in an amount below the minimum denomination of the issue.

In recent years, industry concerns emerged about the limited nature of two exceptions to MSRB Rule G-15(f), on minimum denominations, intended to protect customers who already hold positions in securities that are below the minimum denomination of an issue. In 2015, the MSRB began to explore possible revisions to its minimum denomination rule that would have created additional exceptions. Ultimately however, in response to strong commenter opposition and an absence of comments from issuers or their representatives, the MSRB in May 2017 determined not to pursue proposed amendments and instead met with issuers, their advisors and counsel, dealers in municipal securities and other market participants to more fully understand their perspectives and the policy issues raised in the rulemaking process.

This issue brief, which provides a brief history of the establishment of minimum denominations, the development of MSRB Rule G-15(f) and exploration into amending its requirements, and summarizes input the MSRB received during its outreach, is intended as a resource for municipal market stakeholders and others on minimum denominations. It includes considerations that may merit further discussion among issuers, dealers and other market participants. While the MSRB does not plan to propose changes to its minimum denomination rule, it is providing this resource to support any efforts by market stakeholders to evaluate market practices regarding the use of minimum denominations, particularly in light of developments in technology, a growing interest in small-denomination municipal bonds and the allocation practices of investment advisers.

Part I. Background

A. History and Purpose of Minimum Denominations

The use of minimum denominations of securities by municipal bond issuers has been a market convention since at least the 1970s, although as the MSRB learned through its outreach, there is no consensus as to when they first came into use. Historically, factors that influence the setting of a minimum denomination of \$100,000 (or higher denominations) include the creditworthiness of the obligor, the perceived risks of default of the issue, a desire to restrict sales of the issue to those likely to be institutional or accredited investors, a concern that the securities may not be appropriate for many retail investors and the desire to qualify for an exemption from the disclosures required under Securities Exchange Act Rule 15c2-12. In some cases, an interest in administrative convenience also is a factor, related both to the benefits derived from qualifying for the Rule 15c2-12 exemption and the issuer's desire to limit, in the future, its contact and communications with a small group of investors. The adoption by issuers of a \$5,000 minimum denomination requirement appears to have developed as a market convention dating to at least the 1970s in part to reduce operational burdens that then occurred at the time of issuance (*i.e.*, the operational burden of signing each municipal bond to be issued), and these operational burdens no longer exist because certificates for each bondholder are no longer routinely issued.

B. Establishment of MSRB Rule G-15(f)

Prior to the adoption of Rule G-15(f), on minimum denominations, several issuers expressed concern to the MSRB that their issues with \$100,000 minimum denominations were trading in the secondary market in transaction amounts much lower than the stated minimum denomination. The MSRB reviewed transaction reporting information and, through a limited inquiry, identified significant numbers of below-minimum-denomination transactions. The MSRB and industry participants recognized that the creation of such positions was exacerbated by the evolution of the settlement process for municipal and other securities transactions, which included the dematerialization of bonds. The changes significantly diminished the role of transfer agents. Prior to the adoption of book-entry settlement, transfer agents could monitor transactions to determine if they complied with issuer denomination requirements and could refuse to honor a request to issue a certificate if the value of the municipal securities transaction to be settled was below the issuer's minimum denomination. As book-entry processes were adopted, individual certificates were no longer issued, and because no other systematic screening existed (or has been created since),

such below-minimum-denomination transactions came to be routinely settled.

At the time, two municipal securities issuers urged the MSRB to take action regarding transactions in their securities being effected in amounts below the minimum denominations that they had established. Each issued bonds statewide and became aware that bonds subject to \$100,000 minimum denominations had been sold to a substantial number of investors in amounts below the minimum denominations. Later, at two crucial stages during the rulemaking process that resulted in Rule G-15(f), a number of issuers provided comment in support of the MSRB's proposal.¹

In January 2002, the MSRB obtained approval from the Securities and Exchange Commission (SEC) to amend Rule G-15 by adding section (f), which generally prohibits a dealer from effecting a customer transaction in an amount less than the minimum denomination of an issue of municipal securities (the "prohibition").² Two exceptions to the prohibition were also incorporated. Rule G-15(f) is also referred to here as the "minimum denomination provisions." The exceptions were intended to protect customers who already hold positions that are below the minimum denomination of an issue, providing some degree of liquidity for such

¹ In 2001 and 2002, issuers provided important information, examples of misconduct and significant support for the provisions that were subsequently adopted in 2002. Six state issuing authorities commented in support of the MSRB's draft amendments published in March 2001. Securities Exchange Act Release No. 45338 (January 25, 2002), 67 FR 6960 (February 14, 2002) (File No. SR-MSRB-2001-07) ("approval order") at 67343-344 (the draft amendments struck "an appropriate balance between enforcing the bondholder protections contained in the bond documents and not unduly impairing the liquidity of bonds currently held in unauthorized denominations by unsuspecting bondholders."). Fifteen issuers and issuer organizations commented in support of proposed Rule G-15(f) when it was filed with the SEC. Securities Exchange Act Release No. 45174 (December 19, 2001), 66 FR 67342 (December 28, 2001) ("proposing release") at 6961, n.5 ("the proposal balanced the enforcement of bondholder protections without impairing liquidity of bonds currently held in unauthorized denominations by unsuspecting investors.").

² See 67 FR 6960. See also 66 FR 67342.

customers.³ The first exception, in Rule G-15(f)(ii), permits a dealer to purchase from a customer an amount below the minimum denomination if the dealer determines that the customer's position in the issue is already below the minimum denomination and the customer's entire position would be liquidated by the transaction ("dealer purchase exception"). The second exception, in Rule G-15(f)(iii), permits a dealer to sell to a customer an amount below the minimum denomination if the dealer determines that the position being sold is the result of a customer liquidating an entire position below the minimum denomination. If the dealer is satisfied that this condition is met, the dealer is also required to provide to the acquiring customer written disclosure that the quantity of securities being sold is below the minimum denomination for the issue, which may adversely affect the liquidity of the position, unless the customer has other securities from the issue that can be combined to reach the minimum denomination ("dealer sale exception"). Also, prior to making such sale, if the dealer acquired the below-minimum-denomination position in an inter-dealer transaction, the dealer must obtain a written statement from the other dealer (the dealer that purchased the position from a customer) stating that such below-minimum-denomination position is the result of a customer fully liquidating its below-minimum-denomination position ("liquidation statement").

Following SEC approval, the MSRB applied Rule G-15(f) prospectively, making it applicable to transactions in municipal securities issued after June 1, 2002 (except an MSRB Rule G-17 interpretation, which applied to all transactions in municipal securities regardless of the date of issuance of the security).⁴ The minimum denomination provisions have not been amended since their adoption.

Considerations Raised Regarding the 2002 Rulemaking. During the 2002 rulemaking process, dealers stated that investment adviser practices were

³ See 67 FR 6960 (the two exceptions "are designed to help preserve liquidity of customers' below-minimum-denomination positions that may occur through actions other than a dealer effecting transactions in below-minimum-denomination amounts."); 66 FR 67342 at 67344. See also MSRB Request for Comments on Minimum Denominations, MSRB Reports, Vol 21, No. 1 (May 2001). Examples of how a position below the minimum denomination may be created and held in a customer's account include the bond documents incorporating a call provision that allows calls in amounts less than the minimum denomination to occur, investment advisers that purchase positions above the minimum denomination, and then split the position among several clients in below-minimum-denomination amounts, or the division of an estate as a result of a death or divorce.

⁴ The Rule G-17 interpretation stated that any time a dealer is selling to a customer a quantity of municipal securities below the minimum denomination of the issue, the dealer should consider this to be a material fact about the transaction, to be disclosed to the customer. 67 FR 6960 at 6960-6961.

responsible for the creation of some customer below-minimum-denomination positions. They described scenarios where investment advisers directed the purchase of a position that conformed to an issue's minimum denomination, but then allocated below-minimum-denomination positions in the municipal security to multiple advised accounts, creating multiple below-minimum-denomination customer positions. Input from dealers received recently strongly suggests that such allocation practices continue today, contributing to the creation of new below-minimum-denomination customer positions.

In recent years, the MSRB has received input from multiple dealers—including those involved in the development of the proposed amendments to Rule G-15(f)—indicating that the rule had been “on the books” for a number of years and dealers have had an opportunity to develop and implement policies and procedures to analyze transactions in municipal securities that are subject to minimum denominations, as most are, and to halt, prior to or immediately after execution, any transactions that would violate Rule G-15(f) requirements. Nonetheless, some dealers have reported that they continue to observe scenarios where a dealer is unable to assist a customer to either liquidate an existing position or acquire a position below the minimum denomination under the current rule where neither the dealer nor the customer appeared to be proposing a customer transaction that would violate the intent of the rule or the policies underlying it.

C. Investor Protection and Enforcement Issues

Continuing Concerns of Dealers. Although some dealers had, with some reservations, supported the minimum denomination provisions when adopted in 2002, during the rulemaking, dealers and some issuers noted the potential loss of liquidity to below-minimum-denomination positions held by customers as a result of the rule. One dealer organization emphasized the burden that the minimum denomination provisions would place on dealers and investors holding such positions. Even issuers favoring the adoption of the minimum denomination provisions had acknowledged that the rule, to some extent, would impair the liquidity of such positions but believed that liquidity would not be “unduly” impaired.⁵ After the rule was adopted and implemented, some dealers and dealer organizations voiced their concerns regarding implementation of the rule to the MSRB at market outreach events and similar meetings. For example, certain dealer organizations emphasized then and today that the terms of the exceptions to the prohibition require dealers to take extra steps to execute a transaction and that dealers are

⁵ See 66 FR 67342 at 67345.

reluctant to consider executing such transactions, which has reduced liquidity to the detriment of customers. Dealers also continued to note that investment advisers continued to engage in allocation practices that dealers believed resulted in the creation of new below-minimum-denomination positions.

Compliance Issues. Over the last decade, the Financial Industry Regulatory Authority (FINRA) and the SEC have identified transactions where dealers did not comply with Rule G-15(f). From 2006 through 2017, publicly available information shows that FINRA concluded more than two dozen formal disciplinary actions against multiple dealers.⁶ From 2014 through 2017, the SEC has instituted 14 administrative proceedings against dealers involving violations of the MSRB's minimum denomination provisions.

Sales or purchases in violation of an issuer's \$100,000 minimum denomination predominate in these FINRA matters and SEC administrative proceedings (collectively, "cases"), although some of the below-minimum-denomination transactions occurred in municipal securities subject to \$25,000 minimum denominations.⁷ In many of these cases, dealers sold high minimum denomination securities in lots as small as \$5,000 to one or multiple customers. Dealers also often failed to make the required disclosure in writing that the position was below the minimum denomination of the issue. In addition, findings were made of violations of MSRB Rule G-17, which requires a dealer to disclose to retail customers material facts about a security at or prior to the time of trade, including the fact that the position was below the minimum denomination, which could affect its liquidity.

D. Recent Proposals to Amend the Minimum Denomination Provisions

In response to continuing concerns expressed by certain dealers, the MSRB in 2016 began a review of its existing minimum denomination regulatory framework. The MSRB considered if the minimum denomination provisions could be revised to provide more liquidity for customers holding below-minimum-denomination positions by amending the rule to provide more

⁶ Generally, such matters were resolved by settlement and the execution an Acceptance, Waiver and Consent ("AWCs"). See www.finra.org. In these cases, the documentation alleged that the dealer had executed numerous below-minimum-denomination transactions in one or more issues. Certain dealers were also charged with failing to make the required disclosures to customers purchasing below-minimum-denomination positions.

⁷ For those transactions referenced in the cases, for which the CUSIP and descriptive information regarding the CUSIP was available on the Electronic Municipal Market Access (EMMA®) website, the MSRB determined that very few transactions that were executed in violation of Rule G-15(f) involved \$5,000 minimum denominations, with all others involving minimum denominations set at \$25,000 or, most commonly, at \$100,000.

flexibility for dealers without sacrificing or diminishing the customer protections imbued in the current rule. The MSRB sought to identify trading scenarios that might not be inconsistent with the spirit of the rule or related to the investor protection concerns that the rule seeks to address. A number of trading scenarios were reviewed to determine if one or more additional exceptions could be incorporated in the rule to allow dealers additional flexibility in customer transactions involving below-minimum-denomination positions to enhance liquidity for such customers, consistent with the competing policy objectives to protect investors and not foster the creation of additional outstanding below-minimum-denomination positions in such securities.

In pursuit of these objectives, from January 2016 to May 2017, the MSRB developed and considered three different versions of proposals to amend the existing minimum denomination provisions. The first and second versions of the proposal (“draft amendments”) were published in two requests for comment, and revisions to the second version reflected changes made to respond to certain concerns raised by commenters about the first version of the draft amendments.⁸ In both requests for comment, the MSRB also solicited comments on the economic impacts and likely costs and benefits of the proposal.

E. The Rule Filing and its Withdrawal

The MSRB filed the third version for consideration by the SEC. The proposed amendments to the existing minimum denomination provisions (with Rule G-15(f) to be reorganized as stand-alone new Rule G-49), included the general prohibition, the two exceptions in existing Rule G-15(f) and two additional exceptions applicable to dealers’ sales of below-minimum-denomination positions to customers. The proposed amendments did not incorporate from existing Rule G-15(f) the “liquidation statement” requirement but did include a provision limiting some inter-dealer transactions in below-minimum

⁸ See MSRB requests for comment regarding minimum denominations: [Request for Comment on Draft Amendments to MSRB Rule G-15\(f\) on Minimum Denominations, MSRB Notice 2016-13, dated April 7, 2016](#) (“First Request for Comment”) and [Second Request for Comment on Draft Provisions on Minimum Denominations, MSRB Notice 2016-23, dated September 27, 2016](#) (“Second Request for Comment”).

positions.⁹ Like the two prior versions, the intent of proposed Rule G-49 was to strike an appropriate balance among competing policy concerns: helping ensure that dealers observed the minimum denominations stated in official documents for the protection of issuers establishing such requirements and customers; allowing dealers additional flexibility in customer transactions involving below-minimum-denomination positions to enhance the liquidity for customers holding such positions; and not creating additional outstanding below-minimum-denomination positions in such securities in the market.¹⁰

The SEC received four comments in response to the rule filing,¹¹ generally expressing strong opposition to the proposed minimum denomination provisions. In contrast to the MSRB's rulemaking process in 2001-2002, none of the comments were from issuers or issuer organizations. More than one commenter asserted that customers are harmed by the existing provisions in Rule G-15(f), with one commenter stating that Rule G-15(f) is the primary source of investor harm in this area, and customer harm would continue under the proposed amendments, if approved. Some commenters urged the MSRB to rescind the existing rule and allow dealers to rely solely on a suitability analysis to avoid transactions that were not appropriate for

⁹ The obligation to obtain a liquidation statement is an element of the existing dealer sale exception. It is intended to deter dealers from creating multiple below-minimum-denomination customer positions where there previously was only one. The introduction of the inter-dealer transaction requirement was intended to prevent the creation of additional below-minimum-denomination positions that might have become permissible in some instances, if the liquidation statement were deleted.

¹⁰ The rule filing included a full discussion of the purposes of the proposed rule change, the statutory basis for the MSRB's action and the likely benefits, impacts and costs of the proposed amendments.

¹¹ Comments were received from a dealer, two organizations representing dealers and a professor of finance. The dealer organizations and the professor of finance had filed comments previously in response to the proposal contained in the Second Request for Comment. The dealer organizations had also filed comments in response to the First Request for Comment. The comments on the rule filing can be found [here](#).

particular customers.¹² One commenter asserted that the MSRB seemed to presume that below-minimum-denomination positions are not suitable for any investor.

Given the strong concerns in the comments, the MSRB determined that more information should be obtained from stakeholders. To provide time for the MSRB to engage in meaningful outreach with stakeholders and in light of an Exchange Act deadline requiring the SEC to act on the proposal by May 10, 2017, the MSRB withdrew the rule filing on May 1, 2017. Unamended Rule G-15(f) remains in effect.

Part II. Outreach to Stakeholders

The MSRB believes that the views of all stakeholders, especially issuers, are needed regarding the use and consideration of minimum denominations. In deciding to engage in outreach, the MSRB hoped to obtain additional information from a diverse group of stakeholders about the nature and use of minimum denominations. Because of the pivotal role issuers played and the input they provided in the development of Rule G-15(f), the MSRB in particular sought such issuer input as part of its recent outreach.

During the second half of 2017, the MSRB met with a broad and diverse group of market participants, including issuers and issuer organizations, dealer trade associations, dealers, lawyers who serve as bond counsel and a consumer advocate.¹³ The MSRB also met with FINRA, including personnel

¹² A review of the comments filed with the SEC revealed that some commenters' views had changed from the time the First Request for Comment was published to the publication of the rule filing. For example, in response to previously published draft amendments, a commenter suggested modifying the minimum denomination provisions to not apply to municipal securities subject to a low minimum denomination (e.g., \$5,000) (The commenter stated that such positions did not raise the same suitability concerns as below-minimum-denomination positions subject to larger minimum denominations, such as \$100,000.) Also, commenters urged the deletion of the proposed inter-dealer provision, asserting that it was unwarranted, inconsistent with the customer protection purposes of the rule and would harm liquidity.

¹³ These groups included the Government Finance Officers Association (GFOA); a California issuer official and his counsel; the National Association of Health and Educational Facilities Finance Authorities (NAHEFFA); the National Association of Bond Lawyers (NABL); the Bond Dealers of America (BDA); Regional Municipal Operations Association (RMOA), the Securities Industry and Financial Markets Association (SIFMA) and several other dealer representatives.

from its Enforcement and Market Regulation departments, and engaged with the SEC's Office of the Investor Advocate.

During the outreach, the MSRB sought to gain a deeper understanding of stakeholders' views regarding the uses, benefits, costs and legal aspects of minimum denominations at issuance and in secondary market trading to discern why and how such denominations are established. The MSRB sought to ensure that any subsequent consideration of minimum denomination issues by the MSRB would be informed by the views all market participants, including those that establish minimum denomination requirements.¹⁴

All participating stakeholders provided input and information regarding the following issues.

- What are the benefits (and costs) of establishing minimum denominations?
- What is the purpose of establishing higher minimum denominations (*e.g.*, \$100,000)?
- What is the purpose of establishing a minimum denomination at \$5,000, the market convention?
- What are the factors (*e.g.*, perceived credit risk, a proxy for suitability or administrative convenience) that predominate in any determination to establish a minimum denomination for a particular issue?
- What is the role of a deal participant (*e.g.*, an underwriter, issuer's counsel, municipal advisor or other advisor) in determining whether an issue should be subject to a minimum denomination? And at what level – at \$5,000, or a larger minimum denomination?
- What is the impact on the secondary market trading of issues subject to a minimum denomination and positions in such securities that are below minimum-denomination?
- What are your thoughts on existing Rule G-15(f), should it be amended, and if so, how?

Also, all participants were asked to raise any other policy or operational issues regarding minimum denominations that they thought were pertinent. To encourage frank discussion, specific views and statements were not for attribution.

¹⁴ In compiling this report, the MSRB also considered information provided and views expressed by commenters in their comment letters in response to the First and Second Request for Comment and the withdrawn rule filing, and information and views exchanged in meetings with various stakeholders.

\$100,000 Minimum Denominations. Most participants had a very clear view of the purpose(s) and uses of minimum denominations of \$100,000, or higher. Market participants, including issuers, said that the factors that predominate when a higher minimum denomination is set include: the creditworthiness of the obligor; the perceived risks of default of the issue; a desire to restrict sales of the issue to institutional and accredited investors; a concern that the securities may not be appropriate for many retail investors; the desire to qualify for an exemption from the disclosures required under Exchange Act Rule 15c2-12; and, in some cases, administrative convenience. The interest in administrative convenience related to the benefits derived from qualifying for the Rule 15c2-12 exemption, in part, but also the issuer's desire to limit, in the future, its contact and communications with a small group of investors. Most issuers stated that they routinely impose a \$100,000 minimum denomination if the bond is rated non-investment grade or is not rated. A number of issuers, underwriters and others stated that establishing a \$100,000 minimum denomination serves as a proxy for suitability, with issuers and others stating that an issuer, alone or with an underwriter or municipal advisor, may decide before the offering that the municipal security is not a suitable investment for retail investors.¹⁵ In effect, the \$100,000 minimum denomination may be a proxy for the type of suitability analysis—"reasonable-basis" suitability—used to determine if the offered municipal security is suitable for at least certain investors (*i.e.*, high net worth individual investors or institutional investors, but not retail investors). In some cases, the discussion and decision to subject an issuance to \$100,000 minimum denomination is made programmatically, rather than as to the specific issuer, or specific issue, because the conduit borrowers that use the program are generally not sufficiently credit-worthy (are not rated, are not rated investment grade, etc.). The issuers adopting such policies at a

¹⁵ Under Rule G-19, suitability of recommendations and transactions, a dealer must have a reasonable basis to believe that a recommended transaction or investment strategy involving a municipal security is suitable for the customer. The suitability obligation of a dealer is viewed as having three main prongs: (1) reasonable-basis suitability (a dealer must perform reasonable diligence to understand the nature of the recommended security or investment strategy involving a security or securities, as well as the potential risks and rewards, and determine whether the recommendation is suitable for at least some investors based on that understanding); (2) customer-specific suitability (a dealer must have a reasonable basis to believe that a recommendation of a security or investment strategy involving a security or securities is suitable for the particular customer based on the customer's investment profile); and (3) quantitative suitability (a broker who has control over a customer account must have a reasonable basis to believe that a series of recommended securities transactions are not excessive).

program level do not want to incur the risks of selling such municipal securities to retail investors, and have concluded, that, generally, the securities of such issuers would not be suitable for retail investors.¹⁶

The MSRB specifically asked participants in its outreach about the origination or source of the \$100,000 minimum denomination requirement. According to both issuers and underwriters, although issuers and municipal advisors may be the source of the requirement, frequently, the underwriter may be the first to suggest or require that the bonds be subject to a large minimum denomination due to credit concerns. For example, an underwriter's engagement committee may determine that a large minimum denomination should be established because the committee believes that the security should not be sold to retail investors either directly by the underwriting firm or by dealer members of its retail distribution network.

\$5,000 Minimum Denominations. As noted, participants generally agreed about why an issuance of municipal securities is subject to a \$100,000 minimum denomination. In contrast, there were diverse views and opinions about why a \$5,000 minimum denomination is established at issuance. When asked about the source or the origination of the \$5,000 minimum denomination requirement, most issuers and issuer organizations, and other market participants indicated that a \$5,000 minimum denomination appeared in new municipal securities issuances because of market convention, statutory requirements or existing bond indenture requirements. The MSRB understands that the use of \$5,000 minimum denominations developed as a market convention in the 1970s in part to reduce operational burdens that occurred at the time of issuance (*i.e.*, the operational burden of signing each municipal bond to be issued), and these operational burdens no longer exist because certificates for each bondholder are no longer issued. Although this convention was adopted in the 1970s, some issuers and dealers that were interviewed thought the market convention had existed much longer.

¹⁶ Issuers stated that when they wish to further restrict who may invest in their bonds, they may impose much higher minimum denominations (*e.g.*, \$250,000), or impose additional requirements, such as limiting investors to accredited investors or qualified institutional buyers (QIBs). Some issuers also require each investor to deliver a “big boy” letter to the trustee as a condition of the sale. Where an issuer has established requirements in addition to a high minimum denomination that will effectively limit the number of investors, issuers and underwriters may also favor a restriction on the total number of investors for the administrative convenience of the issuer (and trustee).

Multiple issuers, issuer organizations and other market participants indicated that a \$5,000 minimum denomination, although routinely incorporated as a term in new municipal securities issuances (unless a \$100,000 minimum denomination or a higher minimum denomination was established), typically had been incorporated without a discussion of whether it might not be required or the pros and cons of the term.¹⁷ Several issuers specifically noted that they had never affirmatively requested that the underwriters, bond counsel or other parties participating in a bond issuance include a \$5,000 minimum denomination as a term of issuance, and multiple issuers did not recall ever making an affirmative determination to incorporate the term. Issuers noted that the requirement may have become a term of the issuance when the provision appeared in documents provided to them by bond counsel or underwriters for their review. Some issuers thought that the inclusion of the \$5,000 minimum denomination was a standard term that was an underwriter-driven issue or even a “requirement” and that dealers would be reluctant to underwrite their municipal securities if the \$5,000 minimum denomination were not incorporated.

Some underwriters pointed to bond counsel as the source of the term in the issuer’s bond documents. Bond counsel stated that, as a general matter, the \$5,000 minimum denomination requirement is included in the statutory provisions, master resolution, ordinance or indenture governing the issuance of new debt. Additionally, in situations where no specific legal requirement exists, the \$5,000 standard has been transferred from prior bond documents to documentation prepared for an issuance without comment on the amount from any member of the working group. Bond counsel noted that some ordinances authorizing the issuance of bonds by a municipal entity include specific references to a \$5,000 minimum denomination, which they believed were incorporated because previous ordinances had included such language, rather than as a result of a current analysis regarding the need for a \$5,000 minimum denomination. One of the bond counsel interviewed also expressed the view that it would not be difficult to secure the enactment of an ordinance that does not include a reference to \$5,000 minimum denominations.

¹⁷ For example, when stakeholders were asked which factors predominate in the cases where an issuer decides to establish a \$5,000 minimum denomination for a particular issue, factors that are relevant in the decision to establish a \$100,000 minimum denomination (“reasonable-basis” suitability, the appropriateness of the investment for retail investors, the relative risk of default, other credit issues, and, in limited cases, administrative convenience) were not considered.

Dealers in comments and in interviews noted that, in their experience as underwriters, they had not engaged in a discussion with the issuer regarding the use of the \$5,000 minimum denomination, but generally the term was included in every issuance of municipal securities not subject to a higher minimum denomination. Several persons representing dealer perspectives stated that dealers generally are not interested in dealing in bond lots below \$5,000, because such small transactions were more expensive to execute, and the dealer and the individual representative, incurred generally the same or higher costs regarding the trade and received almost no compensation for effecting the transaction. Many indicated that even \$5,000 “round lots” were viewed by dealers as too small to be cost-effective for dealers to trade. Effectively, several persons giving voice to the dealer perspective implied or expressly stated that they were not in favor of routinely exercising transactions in municipal securities (or other bonds) that were less than a \$5,000 bond lot.

Dealers, like issuers, were not uniform in their views, however. Although acknowledging dealers’ preference to avoid small transactions as one reason for incorporating a \$5,000 minimum denomination, certain dealers stated that, for certain retail investors, a \$5,000 minimum denomination may provide investor protection. They stated that a \$5,000 minimum denomination may be used as a proxy for engaging in a suitability analysis, which refers to a “customer-specific” suitability analysis.¹⁸ Specifically, in scenarios where an investor desires to purchase municipal securities in very modest amounts (*i.e.*, less than \$5,000), these dealers opined that if such amounts are an indication of an investor’s financial situation and a low level of income, there is a good possibility that a tax-exempt municipal security would not be suitable for the investor. From these dealers’ perspective, having a \$5,000 minimum denomination requirement imposes a beneficial barrier to investment.¹⁹

¹⁸ Customer-specific suitability refers to a dealer’s obligation to have a reasonable basis to believe that a recommendation of a security or investment strategy involving a security or securities is suitable for the particular customer based on the customer’s profile and differs from the “reasonable-basis” suitability analysis for which a \$100,000 minimum denomination may serve as a proxy.

¹⁹ In addition, these dealers indicated that for such investors, in lieu of purchasing a position under \$5,000 in a single bond, a more advantageous product for the customer might be a \$1,000 or \$2,000 interest in a fixed income fund, offering a more diversified fixed income investment that is both more diversified and likely more liquid than a bond position of less than \$5,000.

In summary, market participants had different views on the purposes of establishing \$5,000 minimum denominations. In addition, several of the reasons related to dealer preferences and dealer views regarding minimum lot sizes needed for cost-effective trading and the continuation of a market convention.

Bonds Issued in \$1,000 Denominations. In interviews with several persons, including issuers, dealers and bond counsel, the MSRB asked about the frequency of \$1,000 denominations in the current market, and the perceived costs and benefits of a potential shift in the market convention to \$1,000 from \$5,000. A few issuers had issued municipal securities with \$1,000 denominations or observed others doing so. One issuer stated that in two smaller issuances, the state conduit issuer issued \$1,000 bonds at the request of the banks with which the issue was privately placed. An issuer from another state indicated that the state had not issued bonds having \$1,000 denominations and the state had not been approached to do so. A third issuer stated that, although it might be strategic to offer \$1,000 municipal securities in a state where an issuer seeks to increase the direct retail participation, the issuer had never done so because that had never been a goal within the issuer's state. Other issuers stated that if a bond is investment grade, they were agnostic as to whether the bond would be issued subject to a \$5,000 denomination or a \$1,000 denomination. When market participants were asked if they thought a change in market convention from \$5,000 minimum denomination to \$1,000 denominations should be discussed and considered among the appropriate stakeholders, certain issuers indicated that they would not be in favor of "additional regulation" if it would increase issuer costs generally or would adversely "affect the delta between taxable and tax-exempt rates for their bonds."²⁰ Citing the same concerns, some issuers stated that they would not favor a change in market convention.

The MSRB asked if such a change would increase the costs of issuance to issuers, underwriters or to parties in the secondary markets. There was uniformity among those asked, including dealers and organizations representing dealers, that reducing denominations from \$5,000 to \$1,000 generally would not result in increased costs in the primary market to issuers and underwriters nor to dealers in the secondary market. The same conclusion was reached regarding customer costs, except that transaction execution charges as a general matter are larger as a percentage of the overall dollar amount of the trade for smaller transactions than for larger

²⁰ As noted, the MSRB does not have rulemaking authority over issuers, including with respect to the use of minimum denominations.

transactions, including those in municipal securities. Advances in technology and community interest in “mini” bond programs could support expanded acceptance and use of smaller-denominated municipal bonds. However, as noted above, several dealers expressed concerns regarding transaction costs if bonds were sold in amounts less than \$5,000 and stated that dealers are now, and would be, reluctant to participate in retail markets due to the costs of executing smaller transactions.

Other Issues. Some dealer representatives stated that they may begin to more frequently use a mechanism other than a large minimum denomination in a municipal securities offering to limit the group of investors. They referred to certain Rule G-15(f) compliance issues as involving “regulatory foot faults.” According to these dealer representatives, such scenarios include those where the dealer did not realize the securities were subject to a larger minimum denomination because (1) \$100,000 minimum denomination securities are not designated by special CUSIPs; (2) a dealer used low-quality information from a data vendor; or, (3) the issuance was exempt from SEC Rule 15c2-12 requirements to post the offering statement on the MSRB’s Electronic Municipal Market Access (EMMA®) website, and, as a result, there is no information available on EMMA to review.

Role of Broker-Dealers and Investment Advisers. One issuer firmly stated that if a \$100,000 minimum denomination bond is transferred to customer accounts in \$25,000 pieces, the dealer is at fault, noting that the Depository Trust & Clearing Corporation should not be expected to police such activity. The issuer believed that technology exists that allows the dealer to be alerted that an investment adviser or another party is attempting to create a below-minimum-denomination position. In the issuer’s view, an investment adviser engaging in such allocations should be notified. Upon notification, the investment adviser should be able to reverse the allocation. Notwithstanding, more than one issuer official noted that the issuer is aware that investment advisers purchase the issuer’s \$100,000 minimum denomination securities and then allocate below-minimum-denomination positions to various client accounts.

Another dealer similarly indicated that dealers should have policies and procedures and technology in place to detect when below-minimum-denomination positions are being allocated to one or more customer accounts or another party is attempting to settle a customer trade that is a below-minimum-denomination position, noting the long period that Rule G-15(f) has been in effect.

Outreach to Regulators. As part of its outreach, the MSRB met with other regulators, including the SEC’s Office of the Investor Advocate, regarding the

risks to retail investors of holding below-minimum-denomination positions in municipal securities. The MSRB also shared dealer concerns that investment advisers' allocation practices may contribute to the number of below-minimum-denomination positions in municipal securities held by retail investors.²¹

The MSRB intends to maintain these lines of communication to continue the discussion with other interested financial services regulators regarding minimum denominations.

Part III. Additional Considerations Raised through Stakeholder Outreach

At this time, the MSRB does not plan to engage in any further rulemaking related to minimum denominations. Should municipal market participants decide that discussion of or changes to policies related to the use of minimum denominations are warranted, the MSRB is providing a summary of considerations raised during its outreach to support such conversations.

Questions that arose during the MSRB's outreach included the costs and benefits of establishing minimum denominations and the costs and benefits of the regulation of below-minimum-denomination transactions. Issuers and dealers provided valuable insights on these topics, including issuer and bond counsel views of the law regarding below-minimum-denomination positions and dealer views regarding the complexities of regulating below-minimum-denomination positions.

The following are additional considerations raised during the MSRB's outreach regarding minimum denominations, which are provided to support any additional industry discussion of minimum denominations and their uses and benefits.

1. What are the benefits to issuers, investors, broker-dealers and the market to utilizing a \$5,000 minimum denomination? A \$100,000 minimum denomination? Are there costs incurred as a result of establishing a \$5,000 minimum denomination? A \$100,000 minimum denomination?
2. In setting a \$5,000 minimum denomination for a new issue of municipal securities at other than a statutorily required level, what factors might be considered by the working group? Before

²¹ See [Letter to Rick Fleming, Investor Advocate, U.S. Securities and Exchange Commission from Lynnette Kelly, Executive Director, MSRB, dated October 17, 2017](#).

recommending to an issuer that a new issue of municipal securities should be subject to a \$5,000 or a \$100,000 minimum denomination (or not subject to a minimum denomination), what factors should be discussed with the issuer?

3. For institutional investors and non-institutional investors, what are the benefits and costs of investing and holding a municipal security with a \$5,000 minimum denomination? For institutional investors, what are the benefits and costs of investing and holding a municipal security with a \$100,000 minimum denomination?
4. Should issuers consider establishing minimum denominations of less than \$5,000? What are the transactions costs for investors and dealers of doing so? What are the suitability considerations for investors holding a very small position in municipal bonds?
5. Are larger minimum denominations effective in limiting investment in securities, or should another mechanism be used, such as restricting purchases to qualified institutional buyers (QIBs), or accredited investors?
6. Given the decline in transaction costs and the dematerialization of securities, what are the costs and benefits of lowering the market convention for municipal securities to \$1,000 denominations as a standard, which is used in the corporate and Treasury securities markets?
7. What is the role of quantitative and qualitative data and studies, and could they inform future policy decisions and issuers' decision-making processes regarding minimum denominations? For example, could they assist in identifying and understanding the costs and benefits of minimum denominations? Identifying the number of below-minimum positions and the extent to which they are held by retail customers? By institutional investors? Understanding the causes or behaviors that facilitate the creation of customer positions below the minimum denomination?
8. Issuers' minimum denomination requirements are applicable to all parties and investors, including dealers, whether as intermediaries or investors, but the current regulatory framework does not apply to inter-dealer transactions. Is there any data available to assist in determining if inter-dealer transactions contribute to the creation of additional below-minimum-denomination positions and determining

if such positions are generally sold to customers?

9. Is there more that can be done (through improvements to trading platforms, transaction mechanics, more accurate and complete reporting of minimum denomination data or otherwise) to facilitate the execution of transactions in compliance with bond document minimum denomination requirements and ensure that investors are not purchasing or disposing of an amount below the minimum denomination of the issue? For example, should the MSRB's Real-time Transaction Reporting System (RTRS) be modified to "flag" a transaction that is executed below the minimum denomination of the issue?

The MSRB hopes the information provided in this issue brief on the use of minimum denominations is beneficial to market participants and can support any future discussions by market participants.