

JULY 2011

# MUNICIPAL AUCTION RATE SECURITIES AND VARIABLE RATE DEMAND OBLIGATIONS

## Interest Rate and Trading Trends

Prepared by the MUNICIPAL SECURITIES RULEMAKING BOARD

## INTRODUCTION

In early 2009, the MSRB launched a transparency program to collect and disseminate interest rates and important descriptive information about municipal auction rate securities (ARS) and variable rate demand obligations (VRDOs). This program provides investors and other market participants with centralized access to previously unavailable information about these securities.

The MSRB collects ARS and VRDO information through its Short-term Obligation Rate Transparency (SHORT) System and also collects related trade data through its Real-Time Transaction Reporting System (RTRS). The MSRB's Electronic Municipal Market Access (EMMA) website at [www.emma.msrb.org](http://www.emma.msrb.org) combines this information with primary and secondary market disclosures for most issues of ARS and VRDO to create a comprehensive source of information for the ARS and VRDO markets made available for free to the public. A description of ARS and VRDOs, as well as the MSRB's transparency programs described herein, can be found at the end of this report.

This report summarizes key information for municipal ARS and VRDOs from early 2009 through April 2011, including the following:<sup>1</sup>

### Market Size and Trading Activity

- ARS and VRDO par outstanding decreased to \$320 billion and \$55 billion, respectively.
- Over 40 percent of all of the VRDO liquidity facilities are set to expire by the end of 2012.
- ARS par volume traded decreased 7.9 percent.
- The number of ARS trades decreased 59.3 percent.
- VRDO par volume traded increased to \$1.41 trillion.
- The number of VRDO trades decreased 8.2 percent.

### Interest Rate Resets

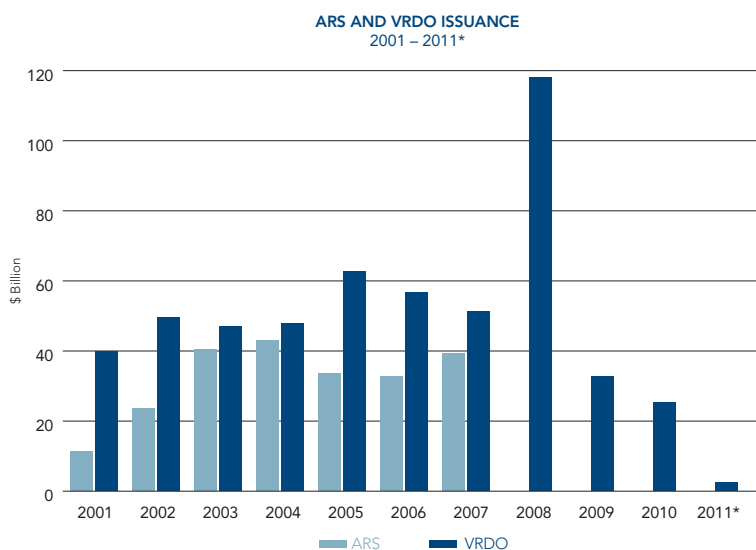
- Over 68,000 ARS rate resets have been reported.
- About 83 percent of ARS rate resets were set at the maximum rate.
- Interest rates for ARS set at auction have averaged 0.91 percent since 2010.
- Over 2.15 million municipal VRDO rate resets have been reported.
- Approximately 67 percent of all reported VRDO rate resets have a seven-day reset frequency.
- Rate resets for tax-exempt VRDOs accounted for 66 percent of all resets.
- Interest rates for VRDOs with a seven-day reset frequency averaged 0.44 percent in 2010.

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<sup>1</sup> ARS and VRDO data used in this report were derived from information collected through the MSRB's SHORT System. Certain reported ARS and VRDOs may have been excluded based on the lack of descriptive information available to the MSRB. The MSRB obtains some information on the characteristics of securities included in this report from Standard & Poor's Financial Services LLC and Thomson Reuters.

## OVERVIEW OF ARS AND VRDO PRIMARY AND SECONDARY MARKET ACTIVITY

Variable rate securities are an important tool in the debt portfolios of municipal securities issuers, providing access to the lower interest rates that generally exist at the short end of the yield curve. However, the contraction in the municipal variable rate market that began in 2008 continued to be evident in 2010, and during the first four months of 2011. Despite a record year for overall municipal issuance in 2010 of \$433 billion, variable rate securities accounted for only 9.0 percent of the par value issued, the lowest since 1983.<sup>2</sup> New issuance of VRDOs totaled \$24.8 billion in 2010 and \$2.5 billion in 2011 as of April.<sup>3</sup> Over 60 percent of the variable rate securities issued in 2010 and the first four months of 2011 were VRDOs.<sup>4</sup>



Includes securities with 13 months or more in maturity  
 \* As of April 2011  
 Source: Thomson Reuters

Due to the limited supply of newly issued variable rate securities and ongoing redemptions, the size of the VRDO market decreased to \$320 billion as of April 2011, compared to \$339 billion in April of 2010. Par amount outstanding for ARS decreased 15 percent to \$55 billion in that same period.<sup>5</sup> The VRDO market may be under pressure in the near term as a significant number of bank credit facilities become due for municipal issuers.

VRDOs are structured to pay investors should they tender their securities through a “liquidity facility,” provided by a bank.<sup>6</sup> This is done through one of two basic forms: (i) with use of a Letter of Credit (“LOC”) from the bank, which provides both a guarantee of liquidity and a guarantee that principal and interest will be paid for the life of the LOC; or (ii) with a Stand-by Bond Purchase Agreement (“SBPA”), in which the bank does not undertake to guarantee that principal and interest will be paid, but provides only that tendered securities will be purchased, except in limited circumstances that are generally related to credit events. Based on information collected by the MSRB, LOCs and SBPAs that support approximately \$74.5 billion of VRDOs outstanding are set to expire by the end of 2011.<sup>7</sup> By the end of 2012, approximately 44 percent, or \$142 billion, of all of the liquidity facilities are set to expire.

<sup>2</sup> Issuance data according to Thomson Reuters. Includes securities with 13 months or more in maturity.

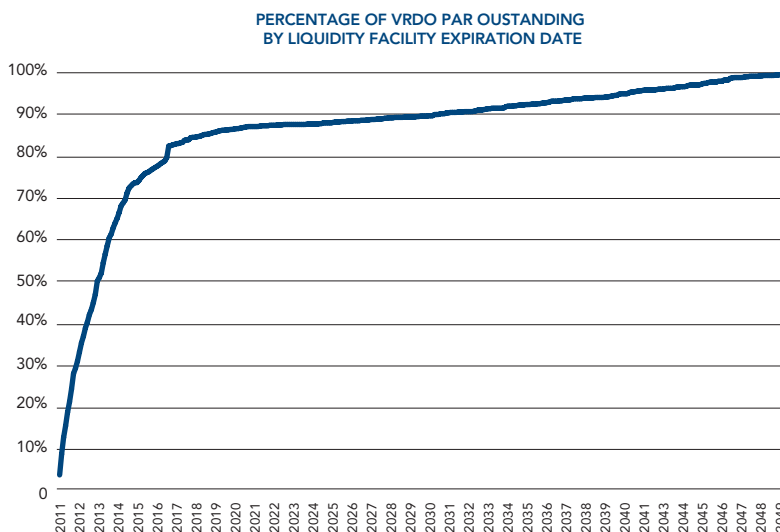
<sup>3</sup> There has been no new issuance of auction rate securities since 2007.

<sup>4</sup> Other types of variable rate securities include linked-rate securities and other securities without a put option.

<sup>5</sup> VRDO and ARS outstanding estimates based on information submitted through the MSRB’s SHORT system and information from Bloomberg, LLC.

<sup>6</sup> In some cases, a VRDO will be structured using self-liquidity, rather than a bank liquidity facility. In such cases, the issuer or obligated person promises to provide the liquidity for tenders. Such self-liquidity arrangements are atypical, because many issuers and obligated persons lack the liquidity required to make such a structure marketable.

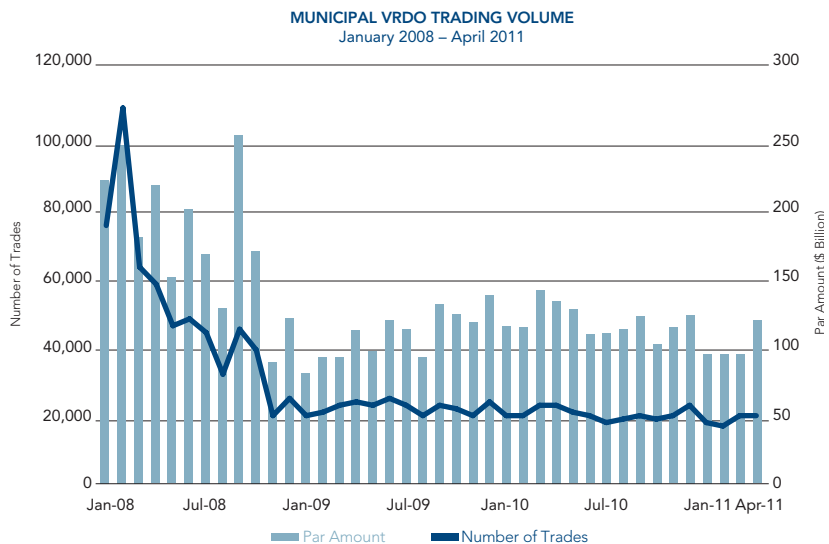
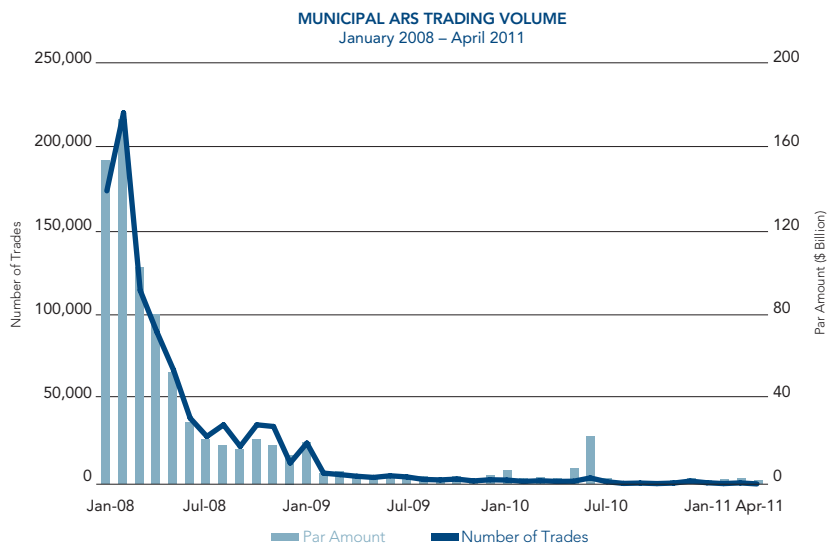
<sup>7</sup> VRDOs with more than one type of credit facility may have been counted multiple times.



Trading of ARS decreased 7.9 percent in 2010 to \$55.2 billion, compared to \$59.9 billion in 2009.<sup>8</sup> During the first four months of 2011, ARS par amount traded totaled \$8.3 billion compared to \$14.8 billion during the same period in 2010. The actual number of ARS trades decreased from 84,675 in 2009 to 34,483 trades in 2010. In 2010, approximately 89 percent of the ARS par amount traded were for trades of more than \$1 million, while only a very small percentage (1.5 percent) were for trades of \$100,000 or less. However, over 40 percent of the ARS transactions are for trades of \$100,000 or less, a possible indication of the significant involvement of retail participants.

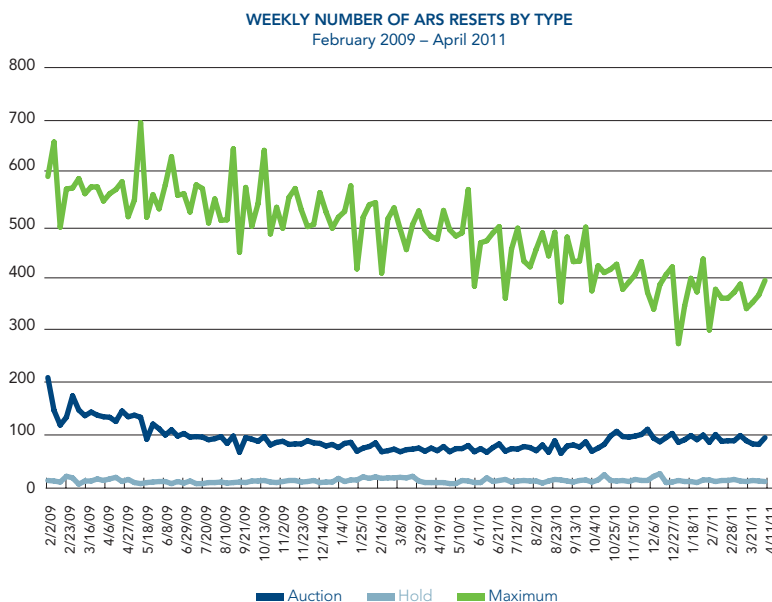
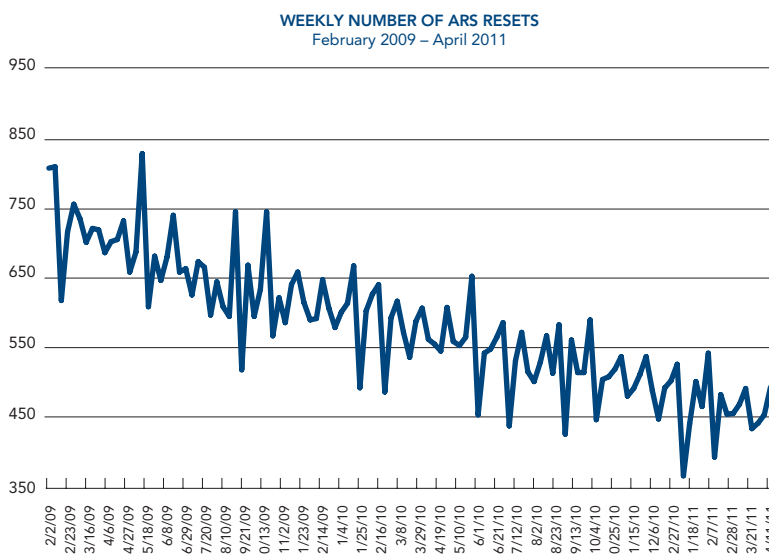
Par volume traded for VRDOs rebounded in 2010 with \$1.41 trillion, up from the \$1.29 trillion traded in 2009. The \$397.7 billion traded in the first four months of 2011 is considerably lower than the \$496.7 billion traded in the same period one year ago. The actual number of VRDO trades decreased to 238,679 in 2010, compared to 260,080 trades in 2009. Compared to the ARS market, the VRDO market is much more of an institutional market, with over 97 percent of all par amount traded and 57.8 percent of all trades being of more than \$1 million in size.

<sup>8</sup> As described in a MSRB Rule G-14 interpretive notice from January 2, 2008 (Reporting of Transactions in Certain Special Trading Situations), some transactions are subject to special conditions indicating that they are not a typical arms-length transaction and possibly a misleading indicator of the market value of a security. These transactions may be excluded from MSRB's transparency products, including data disseminated through EMMA, but may be included in this report.



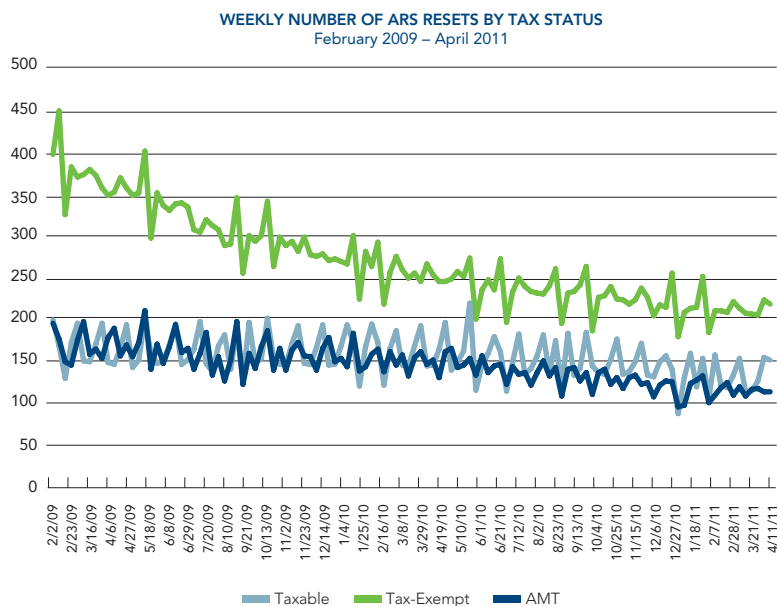
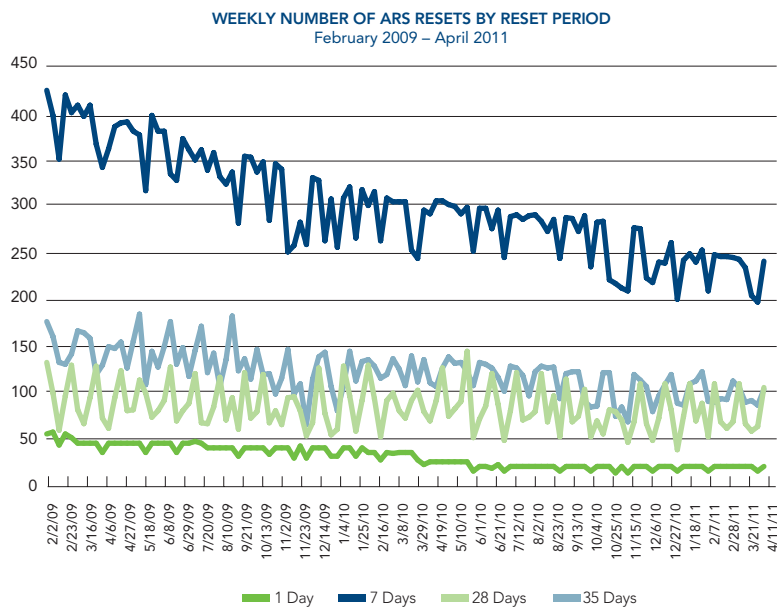
### ARS INTEREST RATE RESETS

Since the inception of the MSRB's SHORT System in February 2009, approximately 68,061 ARS rates resets were reported through April 2011. On a yearly basis, the MSRB received 31,908 ARS resets in 2009, 28,250 in 2010 and 7,903 during the first four months of 2011. During the first four months of 2010, the MSRB received 9,914 rate resets. Since February 2009, approximately 56,406 resets, or about 83 percent, were identified as being set at the maximum rate, which may indicate a failed auction. The number of ARS rate resets identified as being determined through a successful auction reached 10,553.<sup>9</sup> However, the percentage of rates being set at maximum has declined in the first four months of 2011 to 78.9 percent, from 82.8 percent in 2009 and 84.0 percent in 2010. The 19.2 percent of rate resets set at auction in the first four months of the year was considerably higher than the 12.3 percent in 2009 and the 14.0 percent in 2010.



<sup>9</sup> Approximately 1,102 rate resets were set at an "All Hold Rate" indicating that all existing holders either did not place an order or decided to hold at any interest rate.

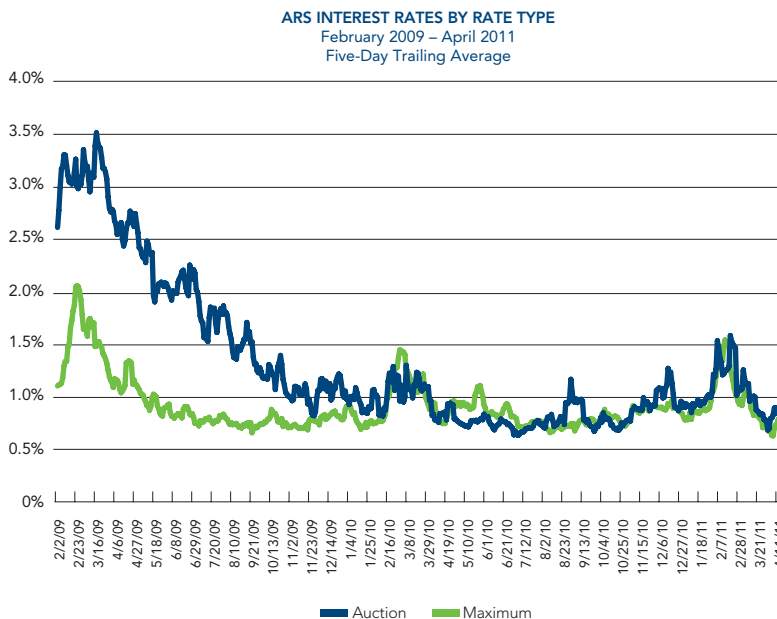
Over half, or 35,451, of all ARS rate resets between February 2009 and April 2011 were for securities that reset every seven days. Other reset frequencies reported included ARS with a 35-day reset (21 percent), 28-day reset (15 percent) and one-day reset (6 percent).<sup>10</sup> Comparing the tax status of municipal ARS, tax-exempt ARS accounted for 32,070 resets while ARS subject to the alternative minimum tax and taxable ARS totaled 18,443 and 17,209, respectively.



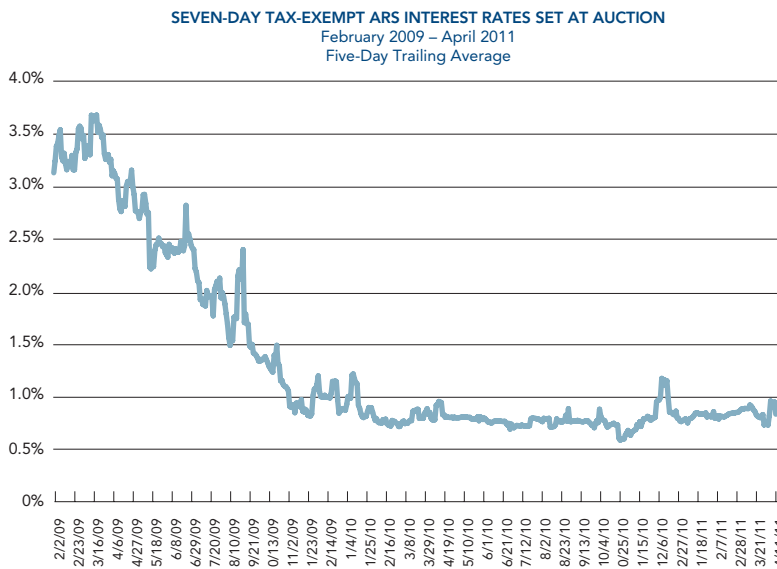
<sup>10</sup> The remaining 3,995 resets were for securities with other periodic reset frequencies.

### ARS INTEREST RATES

Interest rates for municipal ARS that were set at auction averaged 1.93 percent in 2009<sup>11</sup>, significantly higher than the average of 0.91 percent since 2010. During the same periods, ARS interest rates set at the maximum rate remained relatively stable averaging 0.97 percent in 2009 and 0.88 percent through April 2011.



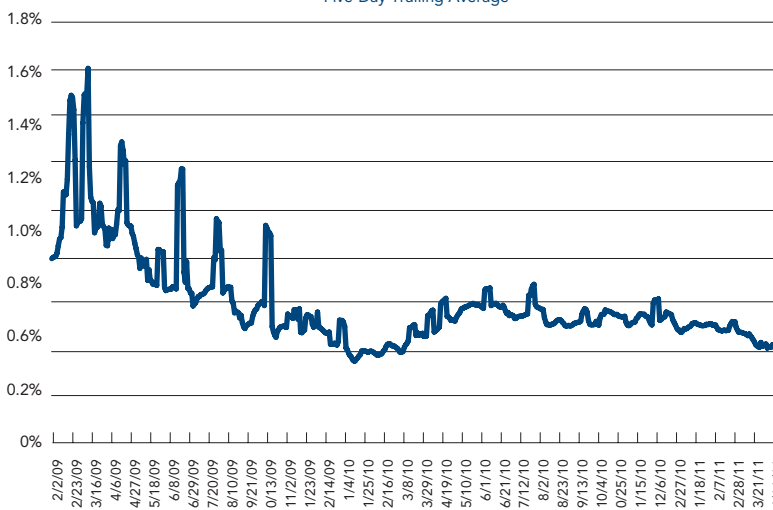
Since 2009, when interest rates for tax-exempt ARS with a seven-day reset frequency set at auction averaged 2.14 percent, rates have remained relatively stable at much lower levels with an average of 0.80 percent from January 2010 through April 2011. Taxable ARS with a seven-day reset frequency set at the maximum rate averaged 0.75 percent in 2009, higher than the 0.51 percent in 2010 and the first four months of 2011.



<sup>11</sup> Unless otherwise indicated, 2009 includes data from February through December for ARS.



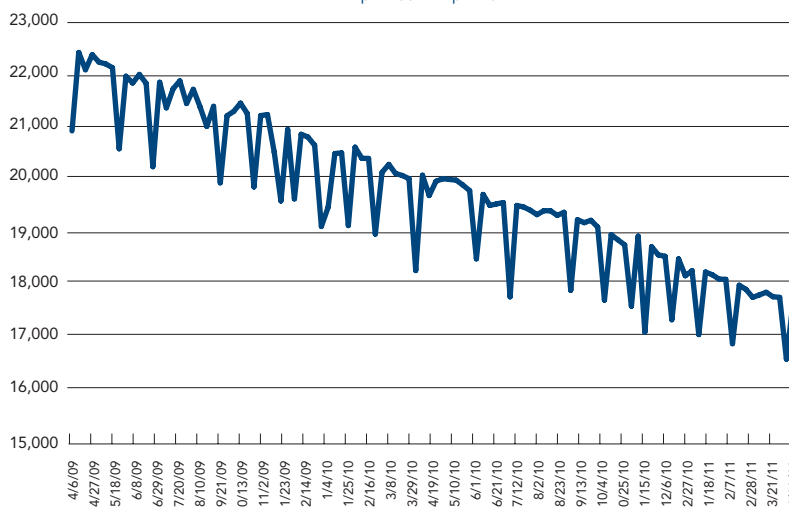
SEVEN-DAY TAX-EXEMPT ARS INTEREST RATES SET AT MAXIMUM  
February 2009 – April 2011  
Five-Day Trailing Average



**VRDO INTEREST RATE RESETS**

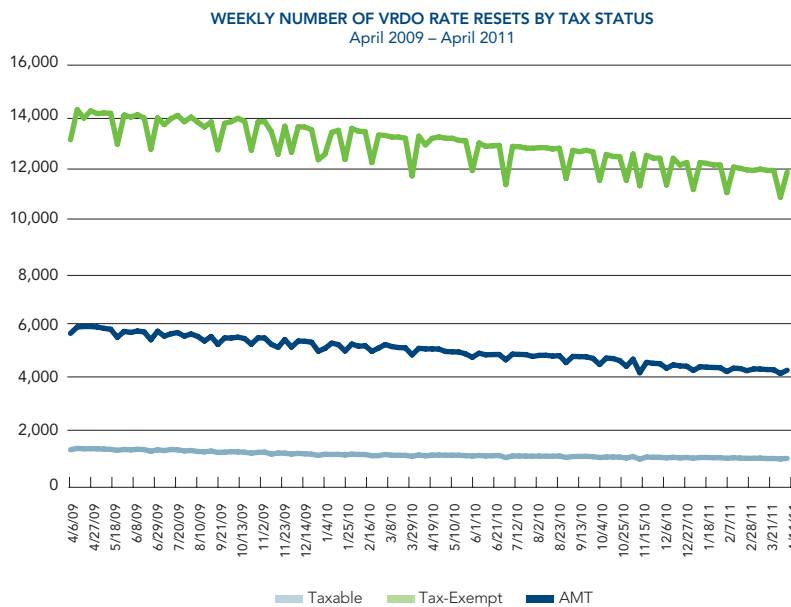
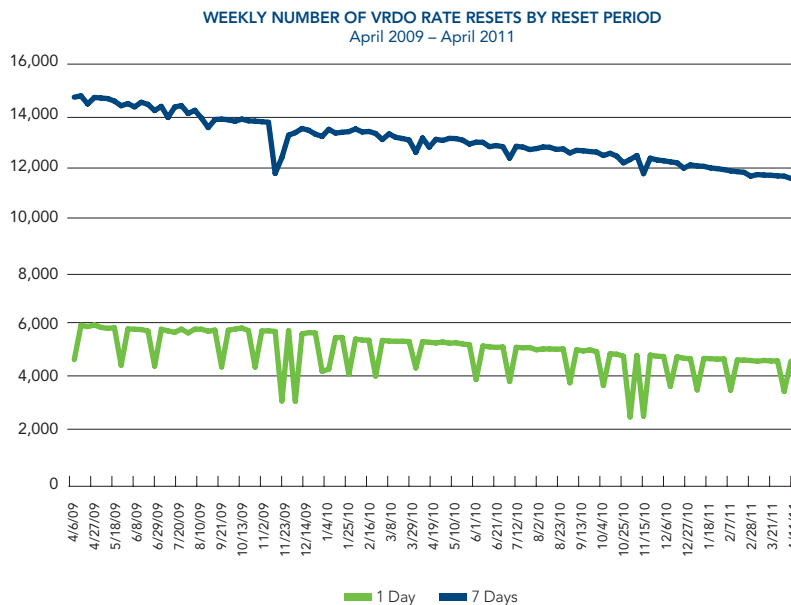
Over 2.15 million municipal VRDO rate resets were reported to the MSRB from April 2009 through April 2011. During the first 12 months after the MSRB began receiving VRDO reset information (April 2009 – March 2010), 1.10 million rate resets were reported, compared to 976,110 million rate resets in the following 12 months (April 2010 – March 2011). Approximately 301,639 VRDO rate resets were reported to the MSRB for the first four months of 2011, down 11.2 percent from the 339,518 rate resets in the same period of 2010. Approximately 67 percent of all reported VRDO have a seven-day interest rate reset frequency and 26 percent with a one-day reset.<sup>12</sup> Rate resets for tax-exempt VRDOs continue to account for the majority of the trades, or 66 percent, while approximately 26 percent of VRDO rate resets are for issues subject to the alternative minimum tax and six percent are for taxable issues.<sup>13</sup>

WEEKLY NUMBER OF VRDO RATE RESETS  
April 2009 – April 2011



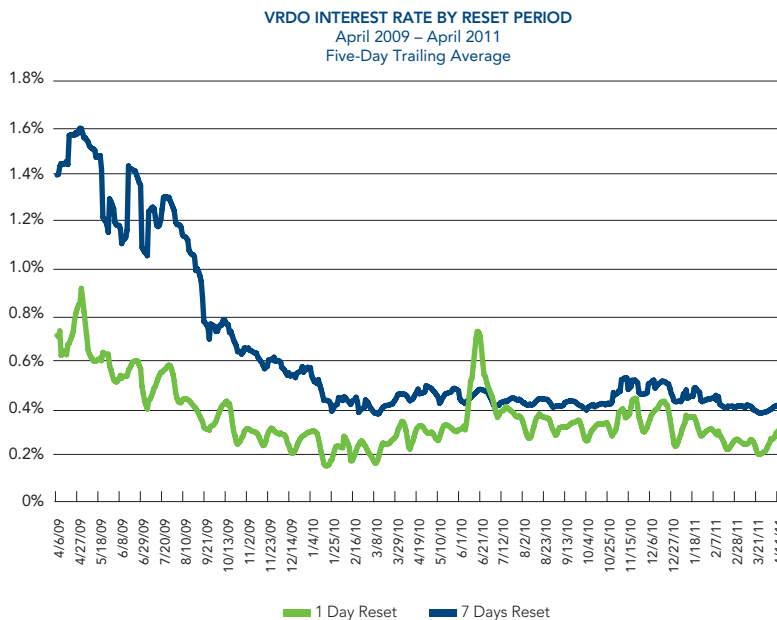
<sup>12</sup> Remaining VRDO interest rate reset frequencies included resets that occurred between two and six days and greater than seven days.

<sup>13</sup> The remaining 2 percent of VRDO resets could not be categorized by tax status based on available information.

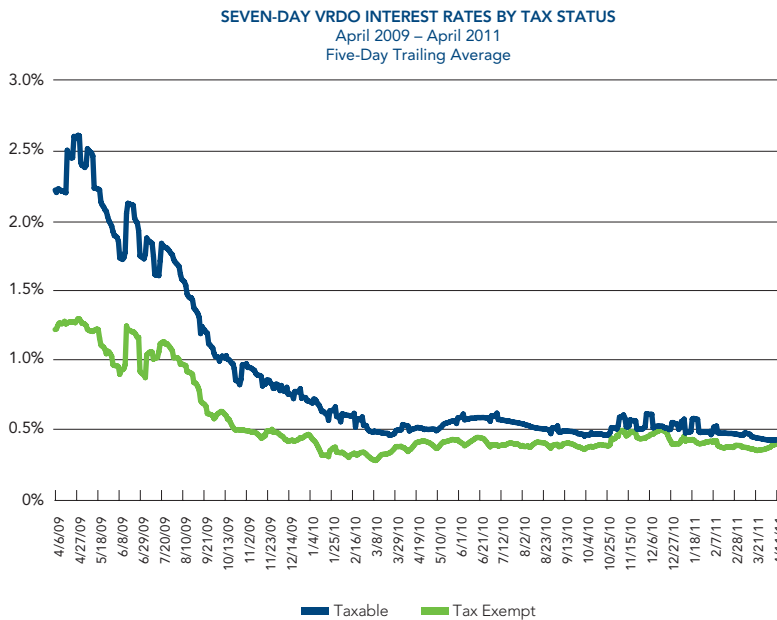
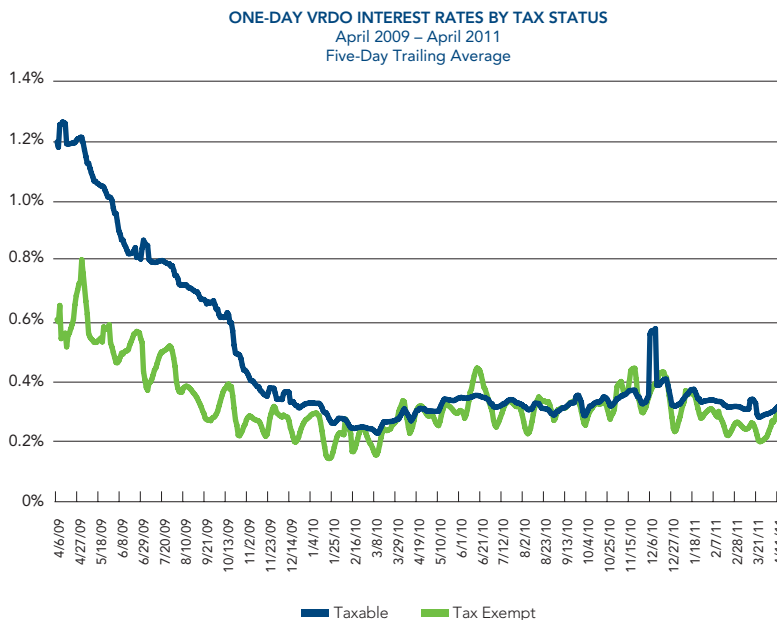


### VRDO INTEREST RATES

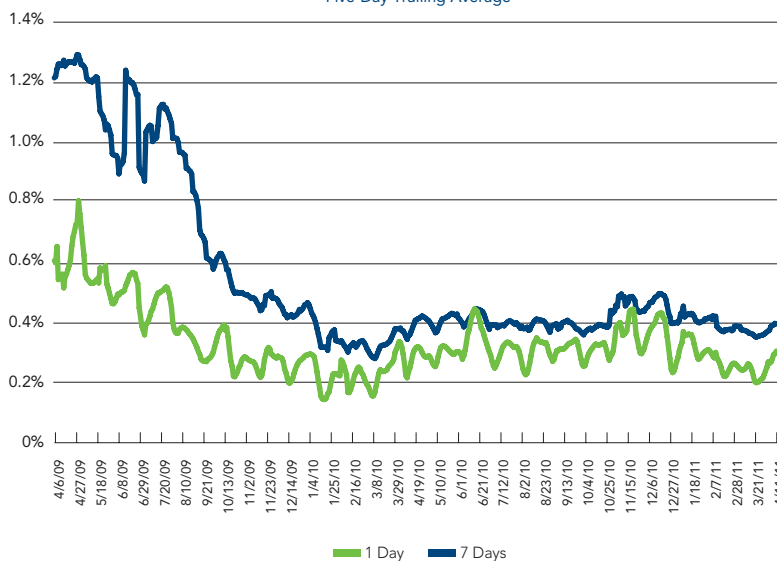
Interest rates for VRDOs with a seven-day reset frequency averaged 1.01 percent in 2009, compared to 0.44 in 2010 and 0.42 for the first four months of 2011. During the same period, interest rates of VRDOs with a one-day reset frequency averaged 0.45 percent in 2009, 0.33 percent in 2010 and 0.27 percent in 2011.



Average interest rate spreads of tax-exempt and taxable VRDOs continued to narrow in 2010 and 2011 after considerable dispersion in 2009. The average taxable to tax-exempt spread for VRDOs with a one-day reset frequency decreased from 33 basis points in 2009 to about 3 basis points in 2010. However, spreads in the first four months of 2011 have bounced back to approximately seven basis points. Similarly, the average spread for VRDOs with a seven-day frequency decreased from 65 basis points in 2009, to 14 basis points in 2010 and 9 basis points in 2011.



**TAX-EXEMPT VRDO INTEREST RATES**  
 April 2009 – April 2011  
 Five-Day Trailing Average



**TAXABLE VRDO INTEREST RATES**  
 April 2009 – April 2011  
 Five-Day Trailing Average



## BACKGROUND

Descriptions of ARS and VRDOs are provided below as well as of the MSRB transparency programs referenced in this report.

### AUCTION RATE SECURITIES

ARS are long-term securities that have variable interest rates that reset on a short-term basis. The typical auction process is one referred to as a Dutch auction in which securities are sold at the lowest interest rate, or "clearing rate," at which all of the securities that have been offered for sale by current holders of the securities will clear the market. Auctions are conducted by agents of the issuer of the auction rate security, called auction agents, and orders are submitted to the auction agent by certain dealers, called program dealers, that have rights granted to them through an agreement with the issuer to submit orders.

Official documents for ARS address situations that can occur when a clearing rate cannot be determined through the auction process. An "all hold" interest rate is set for auctions where existing holders either do not enter an order or instruct program dealers to hold at any interest rate. Such "all hold" rates often are linked to a market index and generally are intended to be lower than a clearing rate. In the event that all of the securities offered for sale in an auction are unable to be sold, the auction "fails" and a maximum rate is set. Maximum rates can be absolute values or linked to a market index.

### VARIABLE RATE DEMAND OBLIGATIONS

VRDOs are long-term securities with short-term interest rate periods. Interest rates are reset periodically through programs operated by dealers, called remarketing agents, on behalf of the issuers of the securities. The interest rate is set to allow the securities to be sold at par.

A distinguishing characteristic of VRDOs is the existence of a "put" or "tender" feature that allows a holder to liquidate a position, at par, on a periodic basis. Through the put or tender feature, holders seeking to liquidate a position can put the securities to a tender agent. A specified amount of notice is required to be provided to the tender agent and during that notification period, the remarketing agent seeks to find a purchaser for the securities that have been tendered. If the remarketing agent is unable to find a purchaser for the tendered securities, the tender agent will draw on a liquidity facility, such as a letter of credit or standby bond purchase agreement, to fund the purchase price of the tendered VRDO if the remarketing agent does not otherwise purchase the tendered VRDO.

VRDOs typically have a high minimum denomination requiring a minimum investment of \$100,000 and historically have been purchased primarily by institutional investors.

### SHORT-TERM OBLIGATION RATE TRANSPARENCY SYSTEM

The SHORT System provides a centralized source of information about municipal ARS and VRDOs. MSRB rules require ARS program dealers and VRDO remarketing agents to report to the MSRB current interest rates and other key information on the day that an ARS auction or VRDO interest rate reset occurs. Information collected by the SHORT System is posted to the EMMA website in real-time and is also available through a subscription service.

Effective May 2011, the MSRB increased the information collected by the SHORT System to provide greater transparency for the ARS and VRDO markets. For ARS, the MSRB now also collects from program dealers information about all orders submitted for an auction and whether these orders were executed, as well as documents that define auction procedures and interest rate setting mechanisms for ARS. For VRDOs, the MSRB now also collects additional information from VRDO remarketing agents including information about whether any of the VRDOs are being held by the liquidity provider and the outstanding size of the security, as well as documents detailing liquidity provisions, such as the letters of credit and standby bond purchase agreements.

## REAL-TIME TRANSACTION REPORTING SYSTEM

The MSRB Real-Time Transaction Reporting System (RTRS) serves two major functions in the municipal securities market—price transparency and market surveillance. The implementation of RTRS in January 2005 created “real-time” transaction price transparency. MSRB rules require dealers to report to the MSRB transaction data on all municipal securities trades with customers and with other dealers within 15 minutes of the time of trade, with limited exceptions. Transaction prices are electronically disseminated immediately after transactions are received by the MSRB and automated error checking is completed. Information reported to RTRS is available to subscribers, which include information vendors, and to the MSRB’s EMMA website, in real-time.

## ELECTRONIC MUNICIPAL MARKET ACCESS

EMMA ([emma.msrb.org](http://emma.msrb.org)) is a centralized online database that provides free public access to official disclosure documents associated with municipal securities issued in the United States. EMMA also provides real-time trade data for approximately 1.5 million outstanding municipal securities and current interest rates for ARS and VRDO. EMMA provides transparency of information for investors in this important financial market and makes it easy—and free—for them to access bond disclosures and pricing data that can inform investment decisions. Information available on EMMA includes snapshots of daily trade data based on security size, sector, maturity and source of repayment, educational material about municipal securities and their associated documents, and a comprehensive glossary of municipal securities terms.

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