

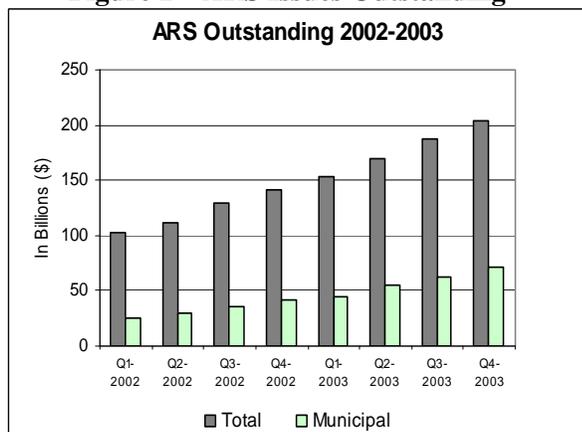


## AUCTION RATE SECURITIES

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The Auction Rate Securities market has expanded significantly in the public finance sector since 2001. Nationwide, issuance of auction rate securities, including the public finance area, grew from \$100 billion in the first quarter of 2002 to \$200 billion by the end of the fourth quarter of 2003. Public finance has become the fastest-growing sector to use auction rate securities, with total issuance projected to grow at double-digit rates in the future (see Figure 1).

Figure 1 – ARS Issues Outstanding



The use of auction rate financing is becoming more attractive for many reasons, especially in comparison to variable rate demand obligations (VRDO). Auction Rate Securities have no “put” or tender feature, no letter-of-credit requirement, and no need for an annual short term bond rating, all of which increase the cost of issuance and maintenance of VRDO. However, these securities may not be appropriate for all municipal issuers. Municipalities planning to issue Auction Rate

Securities must carefully evaluate the current environment, their objectives, and consider how this debt will be managed over the long term.

This *Issue Brief* provides an overview of the market, mechanics, costs, benefits and risks associated with Auction Rate Securities.

### I. DEFINITION AND PURPOSE

Auction Rate Securities (ARS) are long term, variable rate bonds tied to short term interest rates. ARS have a long term nominal maturity with interest rates reset through a modified Dutch auction, at predetermined short term intervals, usually 7, 28, or 35 days. They trade at par and are callable at par on any interest payment date at the option of the issuer. Interest is paid at the current period based on the interest rate determined in the prior auction period.

Although ARS are issued and rated as long term bonds (20 to 30 years), they are priced and traded as short term instruments because of the liquidity provided through the interest rate reset mechanism. Frequent issuers of municipal ARS include traditional issuers of tax-exempt debt such as municipalities, non-profit hospitals, utilities, housing finance agencies, student loan finance authorities and universities. Municipal ARS issues are typically of high credit quality. Historically, over 75 percent of the issues sold have received the highest credit rating available from the major credit agencies, generally because of bond insurance.

ARS investors are typically high net worth individuals (for tax-exempt issues) or corporations (for taxable issues). Money market funds are ineligible to hold ARS due to Securities and Exchange Commission Rule 2a-7, restricting them to securities with a final maturity of 397 days or less.

ARS trade at par value and typically include a “multi-modal” conversion feature that allows for conversion to long term fixed or variable rate bonds. The usual minimum issue size is \$25 million, in denominations of \$25,000.

In addition to the typical bond issue participants, ARS require a broker/dealer (either a single underwriter or syndicate of multiple broker/dealers) to structure the issue, underwrite, distribute, and provide and increase liquidity to ARS investors. ARS also require an “auction agent” to receive bids from the broker/dealers, determine the winning bid and reset rate, and act as liaison between the issuer, brokers, trustees, and security depositors.

ARS carry the typical up front fees associated with a traditional fixed rate bond issuance along with ongoing annual fees; industry standard is \$5/bond for initial placement fee plus annual fees of 25 basis points for broker/dealer fees and 1-2 basis point(s) for auction agent fees. Because ARS have no letter of credit requirement, letter of credit fees are eliminated, but additional costs of bond insurance may be necessary.

Credit risk associated with ARS mirror those of other municipal and corporate issues in terms of default risk associated with the issuer. Because ARS do not carry a “put” feature (which allows the bondholder to require the purchase of the bonds by the issuer or by a specified third party), they are very sensitive to changes in credit ratings and normally require the highest ratings

(e.g. AAA/Aaa) to make them marketable. This is usually achieved with bond insurance.

## II. DUTCH AUCTION MECHANICS

The interest rate on ARS is determined through a Dutch auction process. The total number of shares available to auction at any given period is determined by the number of existing bond holders who wish to sell or hold bonds only at a minimum yield.

Existing holders and potential investors enter a competitive bidding process through broker/dealer(s). Buyers specify the number of shares, in denominations of \$25,000, they wish to purchase with the lowest interest rate they are willing to accept.

Each bid and order size is ranked from lowest to highest minimum bid rate. The lowest bid rate at which all the shares can be sold at par establishes the interest rate, otherwise known as the “clearing rate”. This rate is paid on the entire issue for the upcoming period. Investors who bid a minimum rate above the clearing rate receive no bonds, while those whose minimum bid rates were at or below the clearing rate receive the clearing rate for the next period.

Holders of existing ARS have the option to:

- Hold at Market: hold an existing position regardless of the new interest rate (these shares are not included in auction).
- Hold at Rate: bid to hold an existing position at a specified minimum rate.
- Sell: request to sell an existing position regardless of the interest rate set at the auction.

Potential buyers have the option to:

- Buy: submit a bid to buy a new position at a specified minimum interest rate (new buyers or existing holders adding to their position at a specified interest rate).

**Figure 2 - Example of Sales Process**

<b>\$25,000,000 ARS Issue</b> OUTSTANDING 1,000 SHARES @ \$25,000 EACH AVAILABLE 500 SHARES (INCLUDES ALL SELL AND HOLD AT RATE ORDERS)				
Bidder	Order Placed Shares	Bid Type	Bid Minimum Rate	Orders Filled @ 1.00% (clearing rate)
1	100	Buy	Any	100
2	200	Hold at Rate	.90%	200
3	100	Hold at Rate	.95%	100
4	200	Buy	<b>1.00%</b>	100 (Partial)
5	100	Sell	Any	Shares are Sold
6	100	Hold at Rate	1.03%	Shares are Sold
7	300	Buy	1.03%	Not Filled
8	200	Buy	1.10%	Not Filled

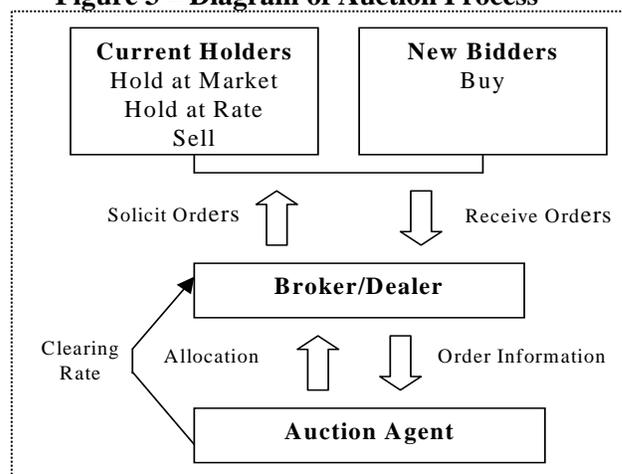
Figure 2 illustrates how the “clearing rate” is determined for an ARS offering of 500 shares, made up of (1) orders to sell and (2) orders to hold at rate. In this example, orders for 1,300 shares of different bid types were placed. The clearing bid is 1.00 percent because it provided the last share purchase to clear the auction total of 500 shares.

The entire orders for bidders 1, 2, and 3, totaling 400 shares, were filled at the clearing rate of 1.00 percent. Bidder 4’s 200-share order was partially filled for 100 shares because a maximum of 500 shares available at this auction was reached. The orders for Bidders 5 and 6 were sold. Bidders 7 and 8 had buy orders that were not filled.

### III. ARS AUCTION PROCESS

Figure 3 provides a diagram of the auction process.

**Figure 3 – Diagram of Auction Process**



- Investors specify the par amount of securities they want and what they are willing to pay.
- The broker/dealer(s) conveys the bids to the auction agent.
- The auction agent, who is a third-party bank selected by the issuer, collects all the bids from all participating broker/dealer(s) on behalf of the investors.
- The auction agent assembles all the bids in ascending rate order and determines the clearing rate.
- The bids at or lower than the clearing rate will receive the bonds. In the event of multiple bids at the clearing rate, the auction agent will allocate securities on a pro-rata basis. Existing holders receive preference over new bidders at the same rate.
- After selection, the auction agent notifies the broker/dealer(s) of the auction results.
- The broker/dealer(s) record and settle the trades for next business day settlement.

A “failed auction” can occur due to a *lack of demand* and no clearing bid received. In the event of a failed auction, existing holders will hold their positions at the maximum rate set in the official statement until sufficient bids are entered to set a clearing bid at the next auction. Although the underwriting broker/dealers are not required to do so, they can provide a

“clearing bid” to ensure the success of each auction and provide liquidity to investors who wish to sell. Failed auctions are associated with downgrades in credit quality of either the issuer or insurer of the issue.

For auction periods with a *lack of supply*, where all existing holders wish to continue to hold, an “all hold” rate is paid for the next period. This rate is established in the official statement and is generally tied to the Bond Market Association Index (BMA) rates or commercial paper rates.

Interest is paid by a trustee or paying agent. Interest payments to holders in the current month will be based on the interest rate determined in the prior month’s auction period. This lag time is necessary to provide time for clearing and administration of the payments.

#### IV. ARS COMPARED TO VARIABLE RATE DEMAND OBLIGATIONS

ARS are an alternative to variable rate demand obligation (VRDO) bonds. A VRDO is a security for which the interest rate is reset periodically, typically through a remarketing process, or according to a specified index. The bond’s demand feature permits the bondholder to require the purchase of the bonds by the issuer or by a specified third party, either periodically, at a certain time prior to maturity, or upon the occurrence of specified events or conditions. This process is often referred to as “putting” a bond or exercising a “tender option”. Interest rates are generally based on market conditions and the length of time until the bondholder can exercise the put option. Because of the put feature, the VRDO normally requires a bank letter of credit.

Whereas a VRDO would generally require a letter of credit, ARS do not because the investor does not possess a put option but

rather relies on the liquidity generated by the Dutch auction process and the credit-worthiness of the issuer or insurer. Although no letter of credit is required, most issues carry bond insurance to elevate them to the highest credit rating. The following table describes typical differences in features between ARS and VRDO bonds.

**Figure 4 – Feature Comparison: ARS versus VRDO**

	VRDO	ARS
Denominations	\$100,000	\$25,000 (Tax-Exempt) \$50,000 (Taxable)
Interest Rate Period	Daily, weekly, monthly, etc.	7 day (Non-AMT), 28 day (Taxable), 35 day (AMT)
Interest Payment Rate	Monthly or Semi-Annually	Business day following the auction
Change of Interest Rate Period	Yes	Yes
Insurance	Must at least have a liquidity facility	Typically Insured
Credit Enhancement	AA/Aa or better plus liquidity	AAA/Aaa
Remarketing	Yes	Broker/dealer
Tender or “Put”	Yes	No (subject to mandatory purchase on conversion date to another mode)
Redemption Provisions	Callable on any interest payment date at par value	Callable on any interest payment date at par value
Typical Investor	Mainly money market funds, corporate investors, high net worth investors	Corporate and high net worth investors, bond funds, and bank trust departments to a lesser extent

The interest rate on ARS is usually slightly higher than that of VRDO, which would generally result in a higher cost of funds for the borrower. In addition, the upfront fee (e.g. initial placement fee) associated with ARS is generally higher than that of VRDO. However, the cost of obtaining a letter of credit in an issuance of VRDO, along with risks associated with the elimination and/or renewals of the letter of credit, can make the cost of funds for an issuance of VRDO on par or even more expensive than that of an issuance of ARS.

All costs associated with the issuance (e.g., bond insurance, broker and auction fees) should be considered in the decision to issue ARS (see Figure 5).

**Figure 5 - Cost Comparison: ARS versus VRDO**

	ARS	VRDO
Interest Rate	+/-BMA Index	+/-BMA Index
Letter of Credit	N/A	+65 Bp**
Bond Insurance	+7 Bp	N/A
Cost of Issuance	+5 Bp	+3 Bp
Remarketing Fee	+25 Bp	+9 Bp
Auction Agent Fee	+1 to +3 Bp	N/A

\*Estimated costs are current as of 2004. \*\* +Bp = additional costs measured in basis points associated with issuance

ARS, as shown in Figure 5, have additional unique and required costs. The nature of the instrument requires a broker or remarketing agent to solicit investors, an auction agent to facilitate the periodic auctions, a trustee to manage payments and in most cases, bond insurance to elevate the credit quality of the issue to an AA or AAA rating.

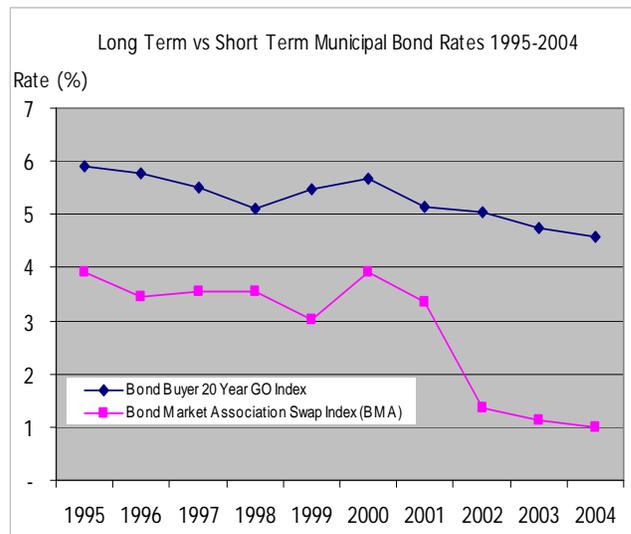
## V. CONSIDERATIONS IN ISSUING ARS

The following items should be reviewed and analyzed when considering the issuance of ARS.

### ARS have lower interest costs than fixed rate debt

Over the past 10 years (through 2004) the spread between long term (fixed) and short term (variable) debt has been significant. Figure 6 shows the 10-year historic interest rate advantage comparing The Bond Buyer 20 Year GO index (fixed rate average) with the Bond Market Association Swap Index (variable rate average). For 2004 the spread is about 3.5 percent.

**Figure 6 - Historic Trends in Interest Rates**



### ARS have higher risk than fixed rate debt

ARS are long term variable rate debt with interest payments determined on a 7, 28, or 35-day basis. In periods of sustained rising rates, interest expense and volatility will rise. Issuers must be aware of the potential impact rapidly rising rates will have on forecasted debt service and cash needs.

Depending on the issuer's tolerance for risk, it may require supplemental hedging strategies to mitigate the variability of interest rates. Issuers employ a variety of mechanisms to lower or eliminate interest rate risk and volatility. The most common are interest rate caps and interest rate swaps.

- **Interest Rate Cap**

An interest rate cap is used when a variable rate bond issuer enters into a contract with a counterparty (typically a financial institution) to maintain interest rate payments within pre-established limits. In effect, the bond issuer is buying an insurance policy to protect it against high interest rate payments on its variable rate bonds. The counterparty takes the obligation to pay rates above the cap level.

- **Interest Rate Swap**

Many variable rate issuers use interest rate swaps to hedge their interest rate risk. Interest rate swaps permit borrowers to convert variable rate cash flows into fixed rate cash flows without changing the structure of the underlying bond issue. Variable rate borrowers who want to fix borrowing costs pay a fixed amount to the financial institution, which in turn pays a floating amount to the borrower to settle the underlying variable rate loan obligations.

**Increases in an issuer's variable rate debt ratio may negatively impact its credit rating**

As a general rule, some rating agencies recommend that variable rate debt not exceed 20 percent of total debt outstanding, although many factors may affect the evaluation of the appropriate level.

**Government Finance Officer's Association (GFOA) offers guidelines for issuing variable rate debt**

The Government Finance Officer's Association (GFOA) has issued recommendations and guidelines for the issuance of variable rate debt. These recommendations apply to ARS as well as VRDO bonds or any other variable rate debt instrument.

They include the following:

- Review statutes or ordinances governing the issuance of debt to ensure that issuance of ARS is permitted and understood.
- Ensure that the government's debt policy specifically addresses the use of ARS.
- Consider the ability of the government to manage ARS, including staff requirements to monitor market conditions; record interest rate changes; make adjustments to budgets and financial plans as needed; and manage relationships with investors, liquidity providers, and remarketing agents.
- Evaluate the impact on debt service requirements assuming different interest rate scenarios and develop appropriate contingency plans for rising interest rates.
- Consider the impact of changing interest rates on rate covenants and an issuer's financial position.
- Evaluate the total cost of issuing ARS debt, including fees to brokers, auction agents and trustees, bond insurance costs, additional internal resource needs, and possible use of derivative instruments such as interest rate caps and swaps.

## VI. CONCLUSION

ARS can be a valuable alternative and complement to fixed rate debt in a government borrowing program.

Governmental issuers considering issuing ARS must carefully evaluate their objectives and how this debt will be managed over the long term. Issuance of ARS or any variable rate debt should be guided by the government's overall financial and debt management objectives and its financial condition.

The use of ARS can provide significant benefits including: (1) reducing total interest costs, (2) diversifying the debt portfolio, (3) allowing the opportunity to take advantage of current short term variable interest rate trends, and (4) matching the structure of assets to liabilities.

ARS, however, carry more risk than fixed rate bonds, but these risks can be offset with the appropriate use of derivative products like interest rate caps and variable to fixed interest rate swaps.

ARS, like other variable rate debt instruments, require a greater commitment of time and expertise by staff managing the program. In addition, specific policies regarding the use of variable rate debt must be conformed to the issuer's statutes and addressed with credit rating agencies.

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