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More on Municipal Bonds …

AUCTION-RATE FIREWORKS: OOH, AAH, OUCH page 7
Issuers discover the dark side of exotic bonds.

A QUESTION OF CREDIT page 9
Credit enhancement market is in flux.

THE SECOND GARAGE page 11
District outlook calls for expansion in self-storage space.

LETTER TO THE EDITOR page 13

DISTRICT VOICES page 13
How are tighter credit markets affecting commercial building and real estate sales?

TALKING TURKEY page 14
Raising turkeys is big business in the district.

CRP: GREEN IS GOOD page 16
Conservation Reserve Program is losing ground.

DISTRICT DATA

Data Map 20

To say that you've never seen anything like it almost sounds trite.

I've never seen anything as deep and as broad. ...

It's fair to say it's scary.*

The bonds of debt

The recent financial crisis blew a hole in the municipal bond market. But it has been shifting for more than a year

By RONALD A. WIRTZ
Editor

In the complex world of finance, most people see municipal bonds as a combination of Rip Van Winkle and Rodney Dangerfield: a little sleepy, and they get no respect.

At some levels, the reputation is deserved: When governments want new roads and buildings, they borrow money, build new roads and buildings, and pay the bills about as predictably as the setting sun. That's kind of what makes the municipal bond market a bit boring: Governments don't lose their job, skip town and stiff the bank on their debt.

Given municipal bonds' relative safety compared with corporate stocks or bonds and their yield advantage over U.S. Treasuries, municipal bond issuers had gotten used to having access to affordable money when they needed it. Issue bonds, build the bridge, hit the snooze button until the next bridge.

But in mid-September, the crisis in the broader financial market gave the municipal bond sector a long, loud wake-up call, and the muni bond market has been anything but sleepy since. Governments accustomed to getting cheap financing were finding no takers, or they were having to swallow hard and pay much higher interest rates or be content to temporarily mothball projects and programs.

In early October, the state of California sought a $7 billion emergency loan from the U.S. Treasury because it could not find a buyer for routine short-term bonds used for cash-flow purposes. A state-run housing program in Wisconsin had to suspend lending about the same time because it could not get the underlying financing for the program.

But many might not be aware that, much like the broader financial system, the municipal bond market has been in a state of flux for some time, enduring bouts of both subtle and obvious volatility since the summer of 2007. Continued on page 2

*Kreg Jones, senior vice president and managing director in public finance, D.A. Davidson & Co., a bond underwriter firm in Great Falls, Mont., speaking in early September.

What's happened since in the bond market (and obviously the broader market) is truly unrivaled in recent times. But it didn't happen overnight. Like many economic developments, it germinated much earlier, evolved sporadically and finally came to a more visible head.

Municipal bonds from page 1

"To say that you've never seen anything like it almost sounds trite," said Kreg Jones, senior vice president and managing director in public finance, D.A. Davidson & Co., a bond underwriter firm in Great Falls, Mont. He's been with the company for 27 years, all in municipal finance. "I've never seen anything as deep and as broad. … It's fair to say it's scary."

To put that in context, Jones was speaking in early September—*before* the financial market collapse at mid-month. What's happened since in the bond market (and obviously the broader market) is truly unrivaled in recent times. But it didn't happen overnight. Like many economic developments, it germinated much earlier, evolved sporadically and finally came to a more visible head.

The first signs of instability in the muni bond market became evident in August of last year when the subprime mortgage industry started to turn sour. Liquidity started to tighten, and interest rates rose slowly as cautious bond investors played harder-to-get while sizing up possible contagion effects. Then in early 2008, that tightness spread into full seizure for a growing type of variable-rate bond (called auction-rate) when muni bond insurers got exposed to the subprime crisis.

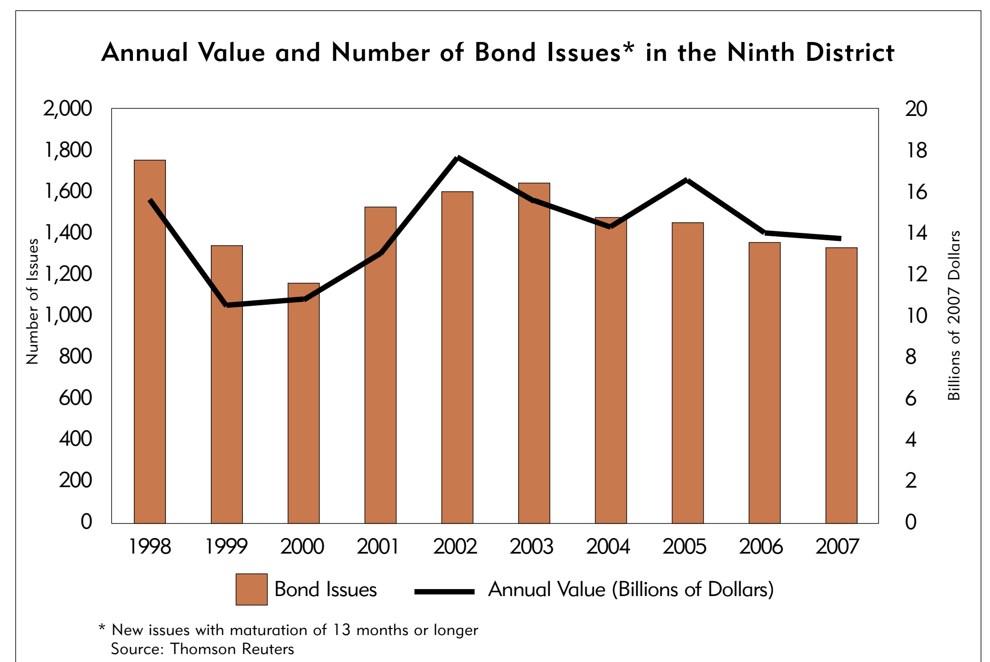
The auction-rate calamity was fast and furious. It affected only a small number of local and state governments directly, including a handful in the Ninth District, most of which were planning to finance health care facilities and student loans. But the municipal bond sector suffered shrapnel wounds from the flameout in this niche bond market because it turned the so-called enhancement market—insurance and other financial protections for bonds—on its head.

Despite the turmoil, much of the municipal bond sector returned to some measure of normalcy by the end of this summer. Though there were notable exceptions in student loan and health care bond markets, sources said deals were otherwise getting done. Some issuers had to accept higher interest rates, but the turmoil wasn't stopping the business of government. Sewers and schools were getting built, governments were selling and investors were buying. Back to sleep, Rip.

And then the September crisis in financial markets hit like a howitzer, shutting off liquidity and seizing the municipal bond market. As of mid-October, by most accounts, the bond market was still reeling.

Broadly speaking, the September shock appears to have simply accelerated what was already evolving in financial markets (albeit more slowly and methodically): a flight to quality, where skittish bond investors ascend to safer ground. Generally, such a trend favors more-secure municipal bonds over the stock market.

But amid the recent financial chaos, flights to quality have rushed in different directions. Since mid-September, for example, investors have been stampeding past municipal bonds and piling into ultra-safe U.S. Treasuries. Muni bonds needing financing have been either paying higher interest rates or—particularly for large issues—getting shelved altogether.



* New issues with maturation of 13 months or longer
Source: Thomson Reuters

What lies beyond the current commotion for the muni bond market is hard to know because it is currently traversing uncharted territory. The flight to quality should ultimately benefit municipal bond issuers, but not all issuers are created equal. Credit spreads—the interest rate differential between high- and low-rated bond issuers—are widening, and many expect that trend to hold. If it does, the ability of local and state governments to borrow affordably in the future will depend more than ever on the credit worthiness of issuers and their projects.

Muni bonds 101

When local and state governments need to borrow money for capital projects and a host of other priorities, they issue municipal bonds, the umbrella term for debt securities from nonfederal governments and any related authorities.

It might sound like a niche financial market, but it's serious money. Nationwide, almost $2.7 trillion in outstanding municipal bonds is in the piggybanks of investors around the world—up from $1.4 billion in 1998, according to the Securities Industry and Financial Markets Association (SIFMA). Municipal bond issuance reached a record $429 billion in 2007, 11 percent higher than in 2006.

Getting a handle on the municipal bond trends, at least outside of obvious shocks, can be difficult because there are many unique, interacting elements (many of which are defined and discussed either later in this article or in the accompanying sidebars).

For example, thousands of entities are authorized to issue municipal bonds in the Ninth District alone, representing multiple levels of government (state, county, city, school district and others). These entities can issue different kinds of bonds (general obligation, revenue) for different needs or projects (schools, hospitals, housing, infrastructure, student loans) using different interest rate structures (fixed, variable) and varying maturities (months to 30 years) that require different levels of enhancement (insurance, letters of credit) depending on issuers' individual credit rating (if they have one, which isn't required to issue bonds), all of which help to determine a bond's coupon (or interest) rate. Getting sleepy yet?

Since 1998, local and state governments in Ninth District states have issued between $10 billion and $18 billion annually in municipal bonds (inflation-adjusted), according to data on so-called new issues from Thomson Reuters, a financial services information firm. That includes 2008; through the first eight months, district states had already exceeded $10 billion. Among five district states, annual municipal bonding has zigzagged a fair amount over the past decade. (See charts above and on page 3. All of Wisconsin was included for this analysis; Michigan was excluded because the Upper Peninsula has a very small share of annual municipal bonding in that state.)

Each district state is unique in terms of its appetite for debt and the end use of bond proceeds. In South Dakota, for example, 37 percent of all bond proceeds

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One of the Minneapolis Fed's congressionally mandated responsibilities is to gather information on the Ninth District economy. The *fedgazette* is published bimonthly to share that information with the district, which includes Montana, North and South Dakota, Minnesota, northwestern Wisconsin and the Upper Peninsula of Michigan.

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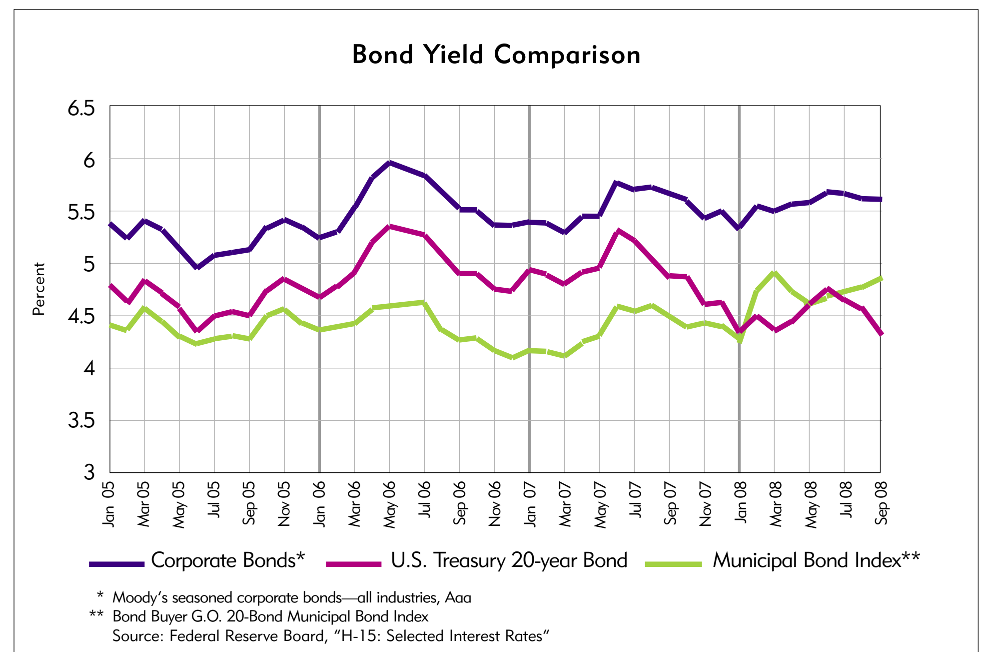
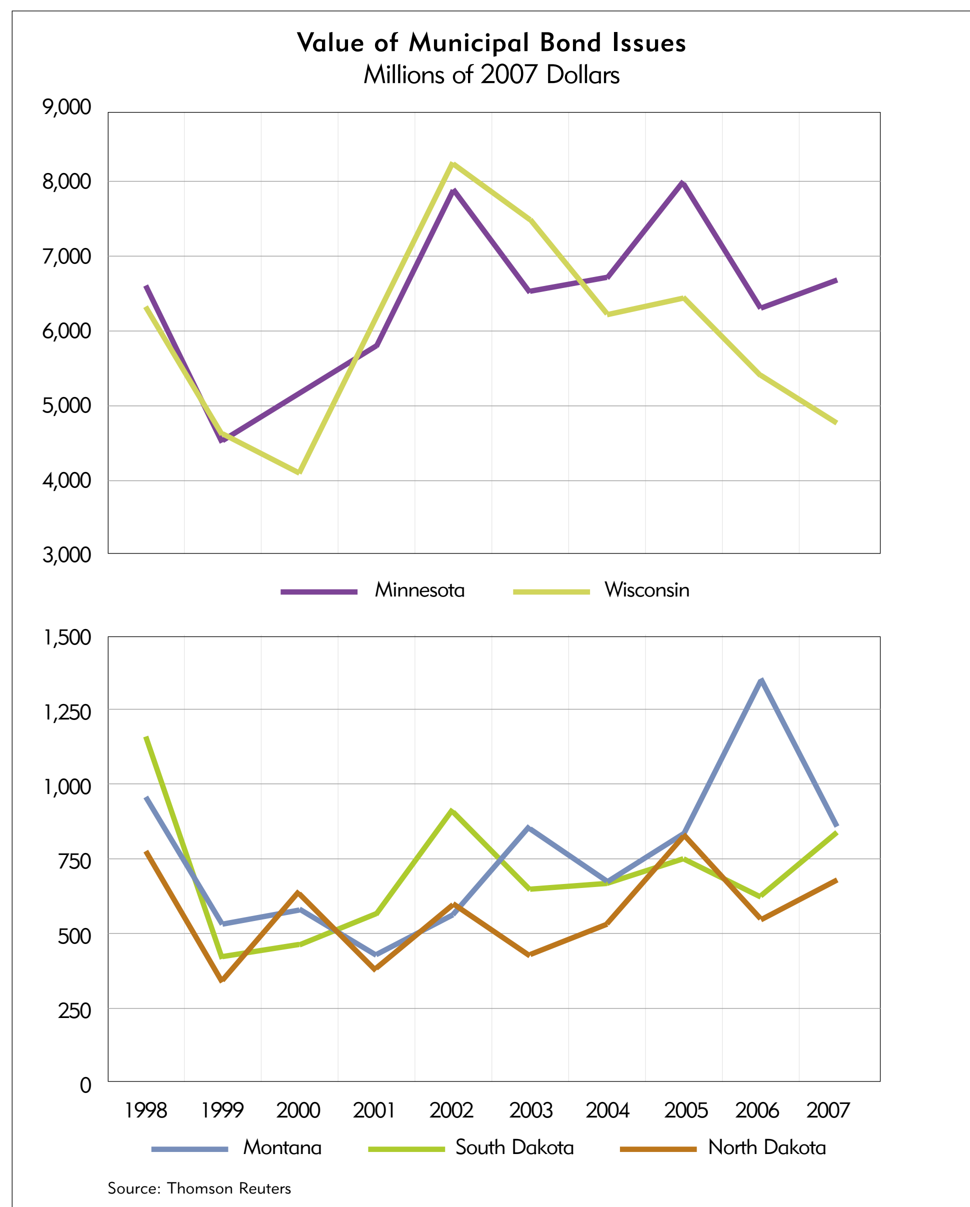
To retain that affordable financing, the municipal bond market has to remain a secure place for investors to park money.

issued in the past decade have been used to provide low-cost financing for single-family housing—easily the highest rate among district states for that particular use. Forty percent of bond proceeds in Wisconsin go for the generic designation of public improvement, which includes such varied things as road construction and general obligation debt used to close public pension shortfalls.

Municipal debt tends to be priced pretty cheaply because investors are happy to exchange the investment safety of a government payor for modest but predictable returns (typically 3 percent to 6 percent, tax-free, depending on the bond type and maturation). In this respect, muni bonds have something of a sterling reputation: not as safe as U.S. Treasury bonds—the gold standard—but much safer than corporate bonds, and that risk is reflected in the investment yield of each. (See chart at right; note that nominal yields for U.S. Treasury bonds are typically higher, with recent exceptions, than those of long-term muni bonds. But Treasuries are subject to federal income tax, and most muni bonds are exempt from all income taxes. After factoring for tax effects, the yield of Treasury bonds is typically lower than the yields of municipal bonds.)

To retain that affordable financing, the municipal bond market has to remain a secure place for investors to park money. That was a virtual guarantee until late summer of last year, when the municipal bond market was shaken from its slumber to find that it faced indirect risks related to the subprime mortgage situation that was just starting to reveal itself.





The subprime sandwich

As the subprime contagion spread, more players in the interconnected world of global finance became infected. One of those sectors was bond insurance, which government issuers buy to enhance their credit rating.

Investors see bond insurance as a seal of safety and approval, because the insurer—by definition, historically triple-A rated in terms of risk—guarantees interest and principal payments even if the government issuer defaults. So bond insurance earns a government issuer a better credit rating than it could get on its own, and the cost is more than offset by the cheaper financing that results.

Bond insurance has been cheap, and "it added value to broader marketability" in terms of attracting more buyers, said Frank Hoadley, capital finance director for the state of Wisconsin. "It made life easier for (Wall) Street … (and as a result) the buy side spent significantly less time and money on analysis."

Ultimately, the virtuous circle of bond insurance became a vicious one. Bond insurers are also referred to as monoline insurers because historically they only insured municipal and corporate bonds. But the sector saw opportunity in the subprime market and began insuring now-infamous "collateralized debt obligations"—subprime home mortgages as well as other asset-based debts (like car loans) that were bundled together and then resold as bonds.

When subprime mortgages started defaulting, so did CDOs, putting insurers on the hook for billions in payments to bond holders. Ambac, until recently the world's second-largest bond insurer, suffered $1.7 billion in losses mostly related to CDOs in the first quarter of this year.

From there, it was a straight-ahead crash into the municipal bond market. Ambac was downgraded by Fitch Ratings in early 2008. Without the triple-A credit rating, bond insurance is largely wasted money, because investors are no longer willing to accept smaller returns if a bond's financial safety net is suspect in any way. Later in the year, other major bond insurers (MBIA, CIFG Guaranty, Financial Security Assurance) would be downgraded or put on watch lists.

This crisis of confidence in bond insurance spawned two separate but connected reactions. The most immediate and intense came in so-called auction-rate securities, a growing, widely insured bond niche that collapsed in February. (See sidebar on page 7.)

The crisis in auction-rate bonds further intensified a growing spotlight on the broader credit enhancement market—third-party insurance and letters of credit that protect bond investors from loss. (See sidebar on page 9.)

With fewer triple-A rated firms offering their gold seal of protection, sources said, costs for credit enhancement have gone up. As a result, lower-rated gov-

Continued on page 4

The municipal bond market:

Here's what happened

- **Muni bond market** sees steady, decade-long growth, more than doubling in size since 2000.
- **During the housing boom,** and innocuously at the time, firms that insure municipal bonds start insuring collateralized debt obligations tied to subprime mortgages.
- **Subprime mortgage industry** begins to sour in August 2007.
- **Bond market liquidity** tightens as investors gauge spillover exposure from the subprime market.
- **Bond rates** rise modestly; bond market nonetheless finishes 2007 at record levels.
- **Major bond insurers** lose their triple-A rating or are put on downgrade watch lists.
- **Subprime mortgage defaults** rise, putting bond insurers on the hook for billions in failing collateralized debt obligations.

Ultimately, the virtuous circle of bond insurance became a vicious one. ...

Municipal bonds from page 3

ernments, which have more of a rationale to buy credit enhancement in the first place, faced higher borrowing costs regardless of their action: They could either buy higher-priced enhancement or eschew it and stand on their own (lower) credit rating.

That's why credit spreads have been widening. The interest rate spread between triple-A and a low investment grade rating (Baa) widened from about 30 basis points in June of 2007 to about 120 basis points a year later, according to Dave MacGillivray, a principal with Springsted Inc., an investment advisory firm in St. Paul that counsels hundreds of city, county, school district and other government clients. On a 20-year, $10 million bond, those 90 extra basis points would add more than $1 million in interest costs over the life of the issue, MacGillivray said.

That credit spread potentially affects more than just a few outliers. Minnesota, for example, has a reputation for good governance. But according to a March report by Moody's, more than 20 percent of the 390 cities, counties and school districts that are rated by Moody's have a rating of Baa1 or lower.

How credit spreads directly affect these lower-rated local governments is not a black and white matter, however, because some have the ability to piggyback onto the state's stellar Aaa rating to secure more affordable financing. Rising credit spreads have also renewed attention on muni bond ratings because the risk of municipal default—the fundamental concern of investors—is tiny, even for low-rated issuers (see sidebar on page 9 for more discussion).

Calm before the storm

Despite these challenges and controversies, the spring and summer months saw a return to relative normalcy for much of the bond market. Though some muni bond areas continued to struggle (particularly for student loans and health care facilities), sources said deals for routine government projects were getting done.

"I'm not seeing a lot of change in terms of municipalities having access to capital," said Steve Apfelbacher, senior financial adviser and president of Ehlers Inc., in an interview during the second week of September. Ehlers is a financial adviser to government with offices in the Twin Cities, and one of the nation's largest bond sales firms. "The typical Twin Cities community hasn't been affected. … We're not seeing (problems) on small issues."

Ditto for Jones of D.A. Davidson in Montana, who said in early September, "We're not seeing any constraint in getting things done at that local government level. … We're having excellent placement rates."

New municipal bond issues nationwide and in the Ninth District were little changed through the first eight months of this year, according to data from *The Bond Buyer*, an industry publication. Given a volatile stock market, highly rated borrowers were also seeing very competitive bond rates.

Who turned out the lights?

And then mid-September happened. During the week of Sept. 15, financial markets plunged with the news of the Lehman Bros. bankruptcy, the sale of Merrill Lynch to Bank of America, the bailout of AIG by the Federal Reserve and the eventual push later that week for a huge bailout package for the financial sector.

That week, everything changed in the municipal market, in part because of overall jitters, and also because Lehman, Merrill Lynch and AIG were major players in the bond market. One source said that liquidity in the bond market became "significantly constrained," and market conditions from just a week earlier "are outdated." Another source said some variable-rate muni bonds—whose short-term interest rates reset periodically—were moving from 2 percent to 10 percent, reminiscent of the auction-rate fiasco a half-year earlier.

Todd Hight, finance director for the South Dakota Housing Development Authority, the state's largest bonding agency, said there was "not much to say; liquidity is drying up and there is no bond market."

Interest rates rose across the board. According to indexes from *The Bond Buyer*, there was a jump of 30 to 40 basis points for long-term bonds between the first and third weeks of September, followed by a jump of similar magnitude by the first week of October (see top chart on page 6).

Interest rates rose even more for short-term bonds. Normally, there is a spread of up to several percentage points between short- and long-term bonds. But that started disappearing in September. MacGillivray, from Springsted, said that the rate between a 20-year bond and a one-week variable-rate bond was only about 75 basis points, give or take, and only 10 basis points separated a 20-year bond and an 18-month bond he had sold for a Midwestern city in early October.

Don Templeton, executive director of the South Dakota Health and Educational Facilities Authority (SDHEFA), agreed that the bond market "has really dried up. A bond issue can be sold, but at really high interest rates." Templeton was at a national conference in late September, and he said that a lot of peer offices in other states "are putting bond issues on hold unless you've got a project you really have to get done."

The final two weeks of September

The sector saw opportunity in the subprime market and began insuring now-infamous "collateralized debt obligations"—subprime home mortgages as well as other asset-based debts (like car loans) that were bundled together and then resold as bonds. When subprime mortgages started defaulting, so did CDOs, putting insurers on the hook for billions in payments to bond holders.

saw just $5.7 billion in new issues nationwide—a 60 percent drop compared with the same period a year earlier, according to *The Bond Buyer*. Media accounts typically stressed the complete lack of liquidity, as high-profile borrowers like the state of California and New York City—governments accustomed to issuing debt as a matter of course—suddenly found no buyers.

Liquidity has also tightened in the secondary market, where existing variable-rate bonds are resold. SDHEFA saw the interest rate on one variable-rate bond go from 1.05 percent to about 9 percent, according to Templeton. In the second week of October, it reset back down to 2.2 percent.

Deal or no deal

But some parts of the bond market have apparently remained fairly liquid. Smaller bond issues—up to $10 million or $15 million, according to sources—were still finding buyers, mostly retail investors attracted to the security of municipal bonds.

Jones, from D.A. Davidson, said his firm managed to complete a few small deals in the $10 million range. But this was merely the continuation of a trend under way even before the bond market crisis hit because retail investors were returning to basics, Jones said.

"People are having a terribly hard time digesting everything" that's happening in financial markets, he said. That's why there has been an uptick in retail investors going to what he called "vanilla" issues—bonds for local projects like a library that don't involve a lot of high finance. "There's nothing tricky there."

There's other evidence of that retail mentality in the district. For example, the "vast majority" of bonds issued by Minnesota counties are small, according to Joe Mathews from the Association of Minnesota Counties. In early October, Mathews was at a conference with county administrators from across the state. "I asked around to see if anyone was experiencing issues (in the bond market), and all replied that they really weren't running into any problems." Though some wondered if there would be trouble down the road, for the time being "counties seem to be operating as normal," he said.

But it's a different story for many large bond issuers. MacGillivray said that bond issues larger than $15 million or so were having difficulty selling because "institutional buyers are not participating." For starters, institutional investors are consolidating—A.G. Edwards was bought by Wachovia last year, which was bought by Wells Fargo. That consolidation leaves only one buyer where there used to be three.

Equally important, in the current environment institutional investors have to be more careful with available capital; they are more reluctant to tie it up in bonds "because they might have liquidity needs elsewhere," MacGillivray said. As a result, governments with large issues they know likely won't sell "are sort of sitting on the sidelines watching to see what's happening."

Apfelbacher, from Ehlers, said in early October that the firm's bond sale department was told by several investment firms that they weren't in the buying mood. One firm, according to Apfelbacher, said that "unless they get orders (for munis), they will not bid on any issue. They do not want inventory." Another said that "banks do not have money presently to buy bonds and until they do they will not be buying munis."

For Jones, from Davidson, "larger issues have been extremely challenging, and we have delayed anything that does not absolutely have to come to market. … Right now, everyone is sitting on their wallet and happy to avoid any big mistakes."

Continued on page 6

- **Loss of confidence** in bond insurers prompts collapse in auction-rate bond market in February 2008.
- **Bond enhancement market** turned on its head; costs for bond insurance rise, and access to insurance and letters of credit becomes constricted; credit spreads become more pronounced.
- **Despite credit spreads** and continued turmoil in certain bond markets, much of the muni bond market functions normally through the end of summer 2008.
- **Financial crisis** in mid-September has major impact on bond market. Liquidity is shut off and muni bond markets seize.
- **"Flight to quality"—investors** bypass muni bonds for ultrasafe U.S. Treasuries. Bond rates rise across the board, particularly for short-term debt, and credit spreads widen further.
- **Beneath the headlines** of illiquid bond markets, retail investors are still funding small issues in their own flight to quality. But institutional investors are "sitting on their wallets."
- **By late October,** the bond market shows signs of loosening, but it is still a long way from finding the new normal.

When the shaking stops and the dust settles on agitated financial markets, it's uncertain what the "new normal" will look like in the municipal bond market.

Municipal bonds from page 5

That liquidity scenario—tight for large issues, more liquid for smaller ones—can be seen in September activity. Despite the fact that the number of issues brought to market was virtually identical between (roughly) the first and second halves of September, the value of those issues dropped by 47 percent (see middle chart at right).

Bond vertigo

The bond market is likely to take a while before it resembles its old self, sources said. With so many issues deciding to wait out the market for lower rates, there is now a backlog waiting to come to market; when these bonds start seeking funds, the pent-up demand for funding will likely keep bond prices high as a glut of projects chases available money.

But at some point, most sources believed, the muni bond market will be an attractive place for investors. In late September and early October, investors were fleeing to U.S. Treasuries, whose short-term yields were nearing 0 percent. "At some point, they (investors) are going to get tired of getting 0 percent from Treasuries, and they'll start going to munis," said MacGillivray.

"This is structural. It's not like (the reaction from) a bad jobs report. It'll get worked out. There will be a functioning municipal market, but no one knows what time frame it will be," said MacGillivray. The bailout package passed by Congress in early October would likely help, he added, but it was unlikely to unglue the bond markets. "It's not a light-switch situation. It's more like a light at the front end of a long, dark alley."

Apfelbacher, from Ehlers, offered some historical context: Bond rates have risen significantly since hitting the low 4 percent range in December 2006. Still, prevailing long-term rates (nearing 5.5 percent in early October) were a fraction of the rates in 1982, when they topped 13 percent, and "we still issued bonds in 1982."

By mid to late October, the muni bond market showed signs of loosening. The entire week of Oct. 20 saw very strong activity, for example. Large new issues and secondary markets finally started finding buyers as institutional investors began to return and bond rates dropped considerably. Traders, however, disagreed on whether the market had turned a corner or was seeing a short-lived burst, according to daily market updates from Municipal Market Advisors, an industry research firm. Bond activity the following week of Oct. 27 was more subdued, according to MMA.

Which way is up?

When the shaking stops and the dust settles on agitated financial markets, it's uncertain what the "new normal" will look like in the municipal bond market. Most evidence suggests that the September haymaker that landed on the bond market simply accelerated the flight to quality that was already under way. In the short term, government borrowing will cost more; for those with less than stellar credit ratings, and those using more exotically structured bonds, interest rates will likely be higher still.

Longer term, one might anticipate subtle shifts that reflect the flight to safe havens, like a return to the safety of general obligation bonds, which come with the full faith and taxing authority of the issuing government. If repayments lag, the issuing government can make its taxpayers simply pony up the necessary money to repay bondholders.

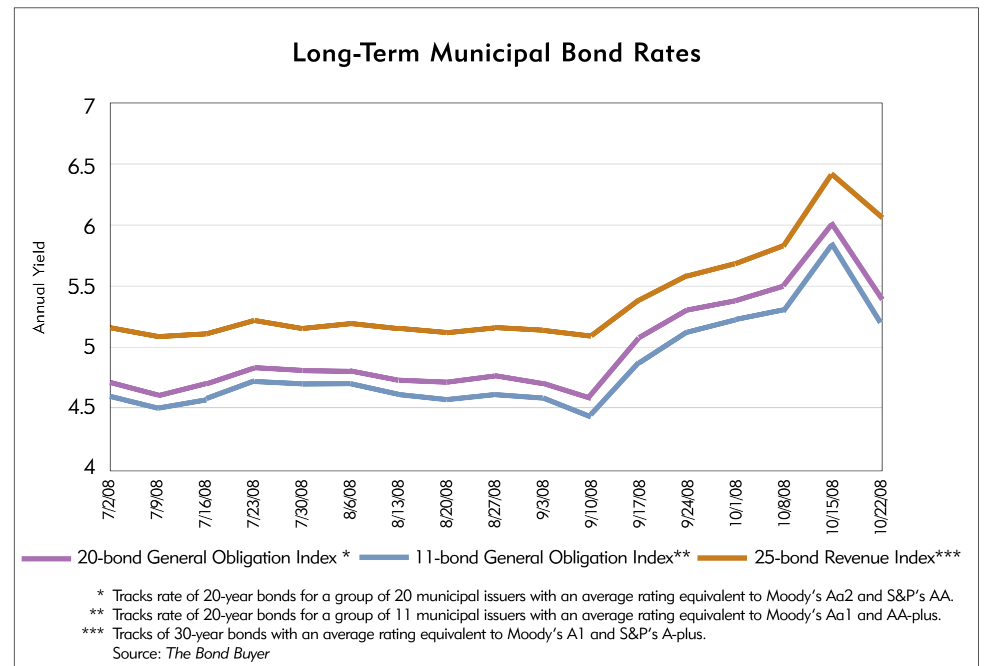
Its counterpart is the revenue bond, which is repaid by nontax sources, most often revenue generated from the project being financed, like the rate hikes that result from a new sewer system. Revenue bonds are more popular and have grown faster in the past decade (see bottom chart at right), in part because they don't require direct taxpayer funding or approval. But in a world seeking safety, some types of revenue bonds could see rough water because their repayment streams can be less dependable. Prevailing rates on 30-year revenue bonds have soared from about 4.7 percent in January of this year to more than 6 percent, according to *The Bond Buyer.*

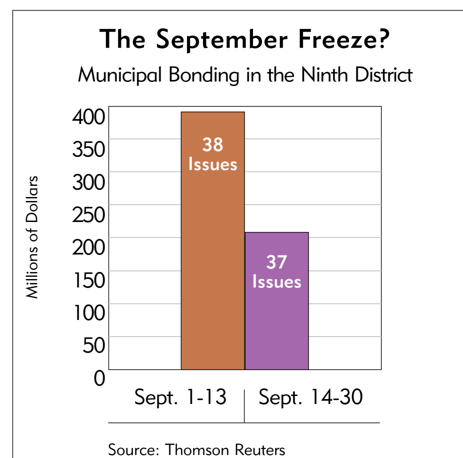
Speculative economic development by local communities was another example, according to MacGillivray. In the past, one could find investors for a retail development in a tax increment finance district even before construction began, so long as the project had a reasonable number of leases already in hand. Speaking about this matter in early September, he said investors aren't interested "unless a lot of extra guarantees are involved," which pushes so-called marketing costs up considerably, MacGillivray said. "Nobody's taking construction risk. ... These days the building has to be under construction, and leases have to be in place."

MacGillivray also said that growth-based infrastructure expansions might struggle to finance debt. In light of the housing slowdown, "if your new sewer is based on (payments from) a thousand new rooftops a year, … they'll have some challenge."

In the long term, sources said, no one really knows what to expect. "I think it's just too early to tell what the long-term implications for the muni bond market will be," said Templeton, from SDHEFA. "Wider credit spreads seem likely to be with us for a while, particularly for lower-quality credits."

"For a while, things are going to be different," said MacGillivray, in part because he and other sources believed the bond market was not yet done with surprises. "Nobody knows how this is going to play out. … There were big shocks to a market that doesn't deal (often) with shocks." f





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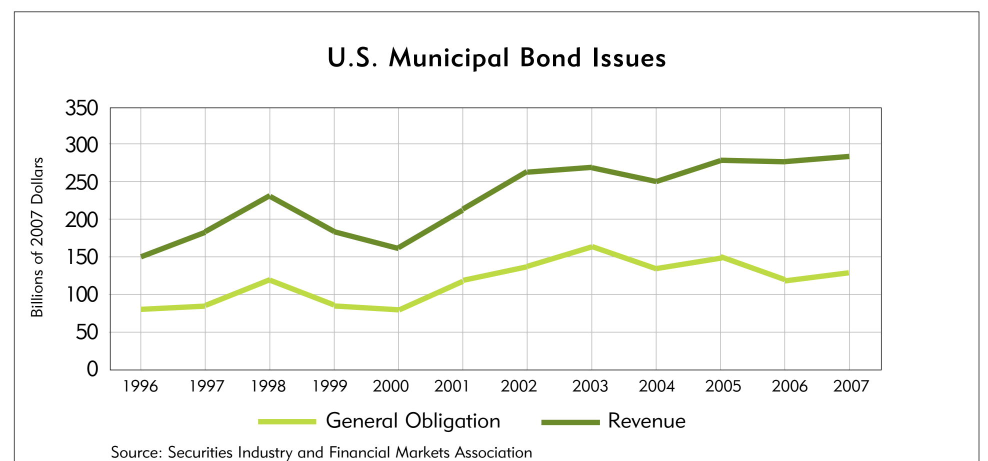


Auction-rate fireworks: Ooh, aah, ouch

Once a useful and sophisticated tool for cheap financing, issuers discover the dark side of more exotic bonds

By RONALD A. WIRTZ
Editor

In the investment world, municipal bonds are often described as plain vanilla, for their simplicity.

Over the past decade, however, financial markets have developed sophisticated variable-rate products that delivered cheap financing for municipal bond issuers. Thanks to recent volatility in financial markets, two of those products—so-called auction-rate securities (ARS) and variable-rate demand obligations (VRDO)—now have their own ice-cream name: rocky road.

Both types of bonds are floating-rate, tax-exempt bonds whose rates reset periodically (usually weekly or monthly, depending on the bond). This design allows the borrower to issue long-term debt at very attractive, short-term interest rates because the bond is repeatedly resold in secondary markets, giving investors high liquidity. In essence, these bonds were advertised as money market funds with better returns.

From virtually zero in the mid-1990s, both ARS and VRDO markets have grown considerably (see top chart). In 2007, together they captured better than 20 percent of the municipal bond market, according to data from *The Bond Buyer.*

Sources said these bonds worked efficiently for both buyer and seller, and low interest rates have saved government issuers millions—indeed, likely billions—since their introduction.

In 2003, for example, the state of Wisconsin issued about $950 million in auction-rate bonds to help close a yawning liability gap in the state's pension fund. For the first four years, state officials had nothing to worry about. "The bonds performed beyond our expectations," in terms of prevailing reset rates, said Frank Hoadley, capital finance director for the state of Wisconsin. "It was great."

When subprime mortgage problems first appeared in August 2007, bond investors became more cautious and liquidity started to tighten (see cover article for more details). Hoadley's office saw "a small tremor in August," when resets on the state's auction-rate bonds started trading in a range "with a little more amplitude" in relation to common benchmarks—a trend that continued through the end of the year, he said.

Auction-rate bonds are typically insured. So when Ambac, a major bond insurer, was downgraded by Fitch Ratings in January for its exposure to the subprime home loan debacle, the auction-rate market started to lose its footing because financial guarantees on this government debt were looking shaky.

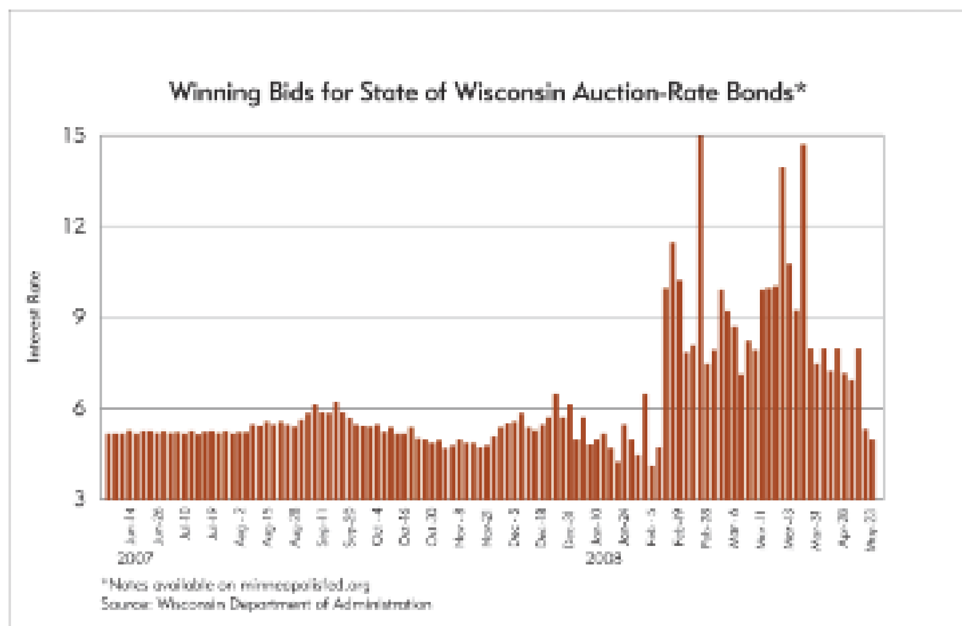
Then "on February 12 or 13—pick your day—the bottom fell out," said Hoadley. With doubts about bond insurers, major bond dealers, including Goldman Sachs, Citigroup and UBS, decided to stop supporting auctions. In the past, bond dealers were buyers of last resort. But faced with liquidity problems of their own, and seeing yet another volatile market in front of them, they sat on their collective hands. At that point, Hoadley said, "the whole idea of a correct market price was pretty screwy. It was a wild ride."

Subsequent auctions did one of two things, both of them bad for government issuers: Buyers fled, and remaining bidders demanded much higher interest rates. Or auctions failed altogether—meaning there were no buyers, period. And because these auction bonds are marketed for their liquidity, a failure triggers the max (or penalty) rate that can range as high as 15 percent, even 20 percent. Issuers are forced to pay these higher rates until new, lower-bid auctions clear or the issuer redeems the bond.

In Wisconsin's case, the bond came in nine different "tranches," or slices. Though there were no auction failures for any tranches, all but one reached interest rates of at least 10 percent, and three hit at least 14 percent (see middle chart). The state managed to get out from underneath these bonds by June. But the collateral damage had been done. During that brief window from mid-February to early June, the state paid an extra $10 million in higher interest charges, $5 million in additional finance charges and additional millions when beneficial swap arrangements had to be terminated.

The kicker is that the state had hedged every penny of its auction-rate bonds—meaning that it made other secondary investments that protected it from large interest rate swings. But the hedges were based on the assumption that auction rates would approximate shifts in the London Interbank Offered Rate (LIBOR), the rate banks charge each other for short-term loans and a

Continued on page 8



SIFMA Auction-Rate and Variable-Rate Indexes

SIFMA 7-Day Auction-Rate Index

SIFMA One-Month Auction-Rate Index

Muni Bond Swap Index (VRDOs)

Interest Rate: 8, 6, 4, 2, 0

2007 2008

Source: Securities Industry and Financial Markets Association (SIFMA)

As of early October, not a single new auction-rate issue has been sold in 2008—this after the market gobbled up $39 billion worth last year alone.

Higher borrowing costs were not the result of missed payments or bad credit ratings. Simply, some bond issuers have taken more of the brunt from the subprime fallout.

Auction-rate fireworks from page 7

common benchmark for floating-rate securities. "That's where we got hurt. Auction rates were indifferent to LIBOR," Hoadley said, and the much higher rates rendered the hedge moot.

The bonds that tie

Fallout from the auction-rate implosion appears fairly limited in the district. But where it hit, it hit hard.

Outside of Wisconsin pension obligation bonds, most of the exposure appears to be concentrated in programs that finance health care facilities and student loans, which pose little direct threat to taxpayers; the issuer is either a public agency that then lends proceeds to eligible private firms (like a hospital) that bear the financial risk or a nonprofit entity authorized to issue bonds and handle the distribution of proceeds.

That's a cold salve for many private firms—particularly in health care—that financed programs or capital projects using municipally issued ARS or VRDO debt and are now dealing with the consequences. A South Dakota official, for example, said two hospitals financed by state bonding "have experienced some problems, with some interest rates going really high."

They aren't alone. At the beginning of this year, the Wisconsin Health and Education Facilities Authority had 32 auction- or variable-rate bond issues worth $2 billion with 19 different borrowers in its portfolio, according to Larry Nines, WHEFA executive director. Those involved are among the largest and strongest health care organizations in the state, and they chose this type of financing because they could; small or financially shaky health care firms can't get such financing, Nines said.

By the spring of 2008, each of these WHEFA bonds saw interest rates rise from an average of about 3.5 percent to at least 6 percent, and some went as high as 14 percent to 16 percent, Nines said. By the end of August, about three-fourths of these bonds had been restructured.

Even temporary rate spikes hurt. Each percentage point increase on $1 million of debt adds $10,000 a year in extra interest charges, according to Nines. If a health care firm borrows $50 million for a new hospital, a rate hike from 3.5 percent to 6.5 percent adds $125,000 a month in financing costs.

Frozen bond-bonds

Probably no one in the district has been put through the auction-rate wringer like the Montana Higher Education Student Assistance Corp.

Created in 1983 to provide a secondary market for federal student loans and help finance college for Montana students, MHESAC has seen annual bonding levels over the years creep from about $35 million to upward of $250 million for a few years this decade when low interest rates created a wave of student loan consolidations.

MHESAC started out issuing fixed-rate bonds, but found over time that floating-rate bonds made more sense for a variety of business reasons, none more important than the fact that they were a cheaper way to finance student loans, as well as a better asset-liability match for these kinds of loans, according to Jim Stipcich, chief executive officer and president of the Student Assistance Foundation (SAF), which is MHESAC's business manager. Today, MHESAC has $1.9 billion in outstanding bonds, $1.2 billion of it in auction-rate securities.

Like others, Stipchich started seeing liquidity problems in August 2007. There were fewer buyers, which meant interest rates had to go up to attract investors, pushing interest rates from 3 or 4 percent to 5 or 6 percent, he said. Then in February, auctions for student loan bonds—MHESAC's and similar loan programs elsewhere—began failing altogether, which automatically triggered the max rate. One of MHESAC's auction bonds reset at 10 percent for three weeks.

"You pay the rate and look everywhere you can" for interested investors, said Stipcich. "I was talking to everyone."

As of early September, MHESAC had not been able to restructure any of the bonds because "liquidity is extremely scarce." He added that at the time, "the urgency (to restructure) is a hair less" because rates had drifted back down.

But MHESAC has taken a hit financially. According to a June 2008 report by the Legislative Fiscal Division of the State of Montana, the organization experienced an unbudgeted increase of $14 million related to higher interest rates just in those few months, causing MHESAC to post its first-ever operating loss this past fiscal year.

There are other consequences for Montana citizens as well. For example, MHESAC has had to pull out of the consolidation loan business, according to Stipcich. In turn, SAF downsized by almost 70 employees because MHESAC and several other of SAF's student loan clients "are not making as many loans," he said. Primary federal student loans have not yet been affected—though future financing is a bit more up in the air.

Stoned soup

If there's any doubt regarding the market's auction-rate indigestion, consider the recent trend. As of early October, not a single new auction-rate issue has been sold in 2008—this after the market gobbled up $39 billion worth last year alone, according to *The Bond Buyer.*

Most of that bonding business (including many conversions out of auction-rate bonds) has been transferred to VRDOs, a market that grew from $52 billion in 2007 to $95 billion through just the first nine months of this year. VRDOs typically come with a letter of credit—in essence, a promise from a bank to be a financial backstop should problems arise, and the market viewed this as a good lateral move away from auction-rate bonds that were insured by firms with significant exposure to the subprime housing problems.

But the mid-September chaos in financial markets convinced holders of VRDOs to hit the exits, sending financing rates up for those as well. Stipcich said that borrowing costs on MHESAC's lone "solidly performing" VRDO went from 1.8 percent to 5.6 percent by about mid-month. "Liquidity has been extremely difficult to find." They were hardly alone, as rates for both VRDOs and ARSs jumped in September (see bottom chart on page 7).

Stipcich has pointed out that MHESAC's bond problems were not due to the underlying business model, or to delinquent student loans. Rather, they were yet another contagion effect of the subprime mortgage crisis, as markets were getting skittish over similar kinds of securitized assets, like student loans.

"No one anticipated the depth of subprime problems," Stipcich said. "Could anybody have predicted this? Nobody did, and we did business with the best minds in the world."

The Montana Facility Finance Authority has experienced difficulties with VRDO markets. It manages one bond pool that resets weekly. It went from 5.25 percent to 10 percent in a span of three weeks during September, according to executive director Michelle Barstad.

Higher borrowing costs were not the result of missed payments or bad credit ratings. Simply, some bond issuers have taken more of the brunt from the subprime fallout. Access to credit markets, Barstad said, "is becoming more restrictive and expensive for entities that had nothing, nothing, nothing to do with subprime." f

A question of credit

The credit enhancement market is in flux, which leads to some navel gazing over municipal credit ratings

By RONALD A. WIRTZ
Editor

With the recent churn in financial markets, many parts of the economy are being forced to re-evaluate their financial circumstances. In a similar vein, local governments are getting better acquainted with the fundamental notion of credit risk.

Over the past decade, there has been steady growth in so-called credit enhancement, an umbrella term for insurance, letters of credit or other financial protections that bond issuers wrap around an offering to make it more attractive to investors. Until recently, bond issuers gladly traded the added cost of enhancement for lower financing costs.

But turmoil in municipal bond markets—and more specifically among bond insurers and banks that provide credit enhancement—is convincing some issuers to forgo such third-party bond protections. It's also leading some to question the fundamental credit risk of municipal bond issuers and the credit rating system that has historically been treated as gospel.

Are you in good hands?

Until recently, insurance had been the dominant form of credit enhancement for municipal bonds, making up 90 percent of a $220 billion enhancement market in 2007, according to data from *The Bond Buyer.* Municipal bond issuers in the Ninth District tend to use insurance less frequently (38 percent of bond value in 2007) than counterparts nationwide (46 percent), though there is considerable variation among individual states (see top chart) and in any given year.

But recent trouble among bond insurers (see cover article) has shaken the enhancement market like a Christmas snow globe, creating a two-tiered market: downgraded firms that the market no longer trusts and untainted firms that are getting more business than they know what to do with, which has limited access to insurance and pushed prices up.

Last December, the Montana Facility Finance Authority was preparing a $130 million fixed-rate bond offering for a health care facility in a larger Montana city (unnamed here because financial negotiations are ongoing). The initial deal was ultimately postponed because of concerns about the bond insurer—Ambac, which was on downgrade watch lists at the time.

Fast-forward nine months, and by September, the medical facility had managed to finance $60 million in a private placement, but work continued on the remaining $70 million. One of the problems was finding affordable enhancement. "The cost has gone up for the borrower," said Michelle Barstad, executive director of the Finance Authority. "The question is, can you find the underlying enhancement, and at what cost? … People are demanding exorbitant fees because there are fewer players."

Several sources said bond insurance premiums have doubled or tripled in price—from 20 or 30 basis points of principal and interest to upward of 80 basis points. Not surprisingly, the proportion of insured bonds has plummeted; by year's end, it will likely drop by more than half nationwide compared with 2007 (see middle chart).

Use of bond insurance in district states has also fallen this year, to just 27 percent through mid-August. Historically, smaller, lower-rated issuers like cities and school districts have been persistent users of bond insurance. But their use of bond insurance has dropped dramatically as well (see bottom chart).

Many bond issuers seeking enhancement have switched to letters of credit. Issued by banks, letters of credit are functionally similar to insurance in terms of offering financial protection. But LOCs also offer a liquidity guarantee; banks are obligated to buy the debt if there are no other buyers. From 2004 to 2007, the LOC market hovered around $20 billion to $25 billion. Thanks to the auction-rate implosion, it jumped to more than $57 billion through August of this year.

What's ironic is that the bond market shifted away from insurance because of concerns over the financial stability of bond insurers, only to lean more heavily on guarantees from a banking industry that was also hoeing a rough patch for much of the year, and fell into a free-fall in mid-September with the financial crisis. Before that crisis hit, one Wisconsin official involved in state bonding pondered, "I sit here and wonder, could what happened in the municipal insurance market replicate itself in banking?"

Well, yes, it seems. According to *The Bond Buyer*, three of the five largest LOC

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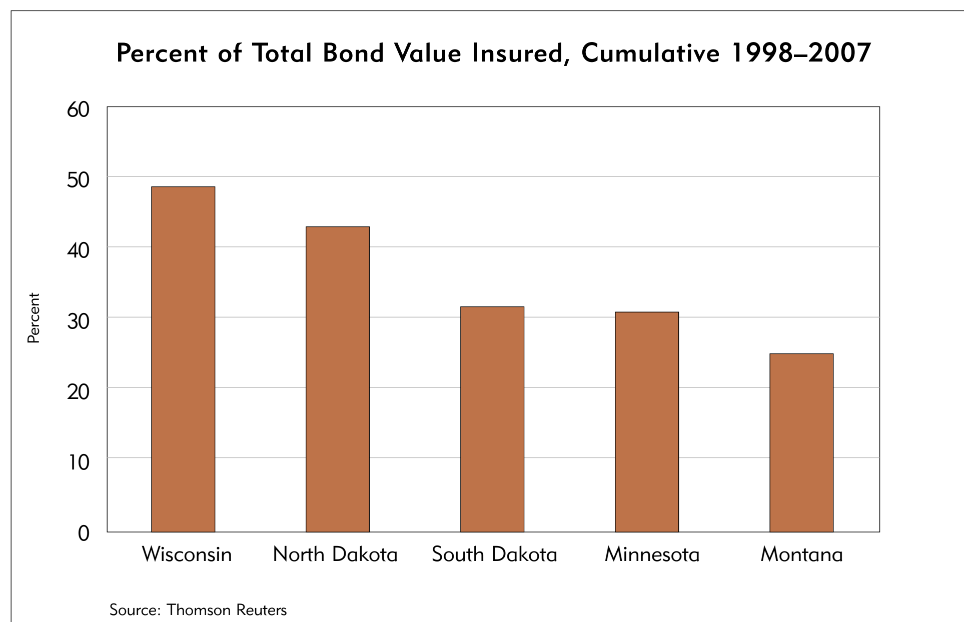

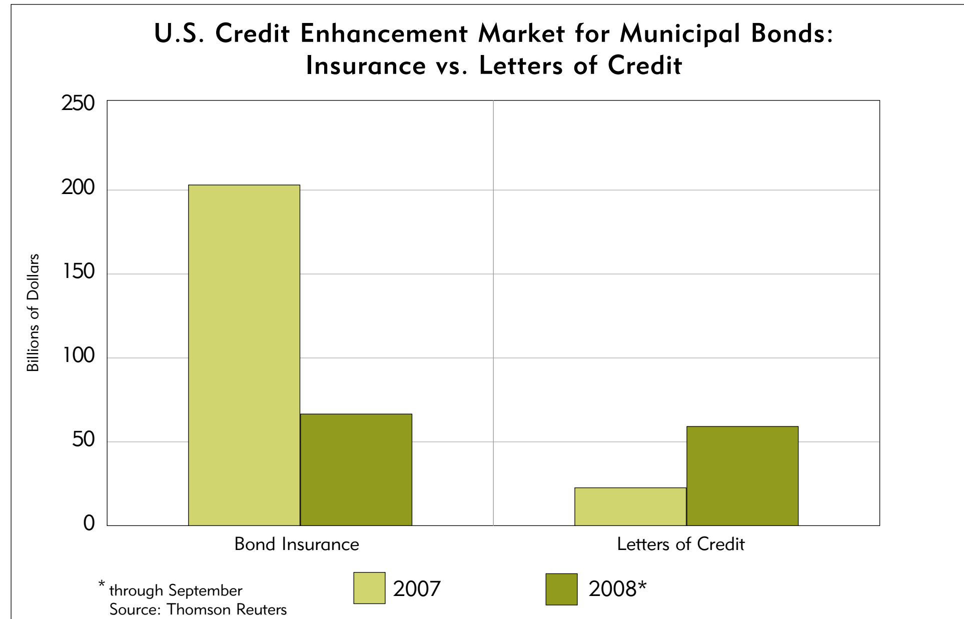

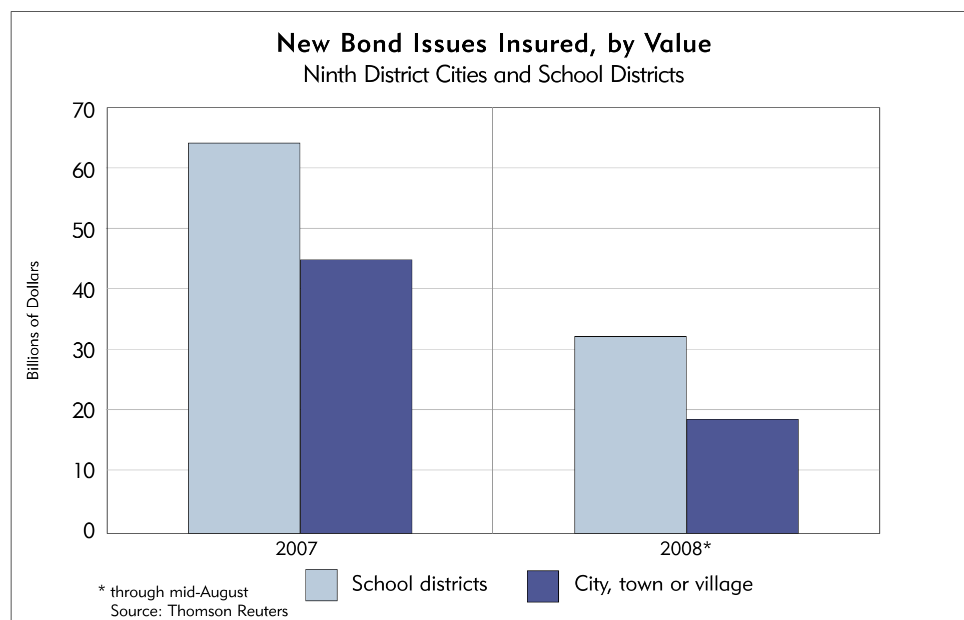

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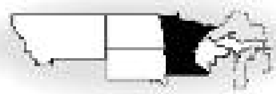

Economy: Funny odd, not funny ha-ha

There's probably a good, self-effacing Ole-and-Sven joke somewhere in Minnesota's slumping economy, but please forgive state residents if they're not in a laughing mood.

The housing market continues to suffer, especially in the Twin Cities. Through early August, permits and planned units in the metro were half their level from a year ago. But the downturn is much broader than just the housing market. Since January, the state lost more than 16,000 jobs, helping to push overall unemployment to 6.2 percent, an eye-popping level because it not only exceeds the national average, but is the state's highest rate since 1985.

The state's Department of Employment and Economic Development noted that unemployment claims due to permanent layoffs have been rising. So many people were exhausting their 26-week unemployment benefits that Gov. Tim Pawlenty authorized the state's involvement in a federal program that offers a 13-week extension.

In September, DEED also released results from its second-quarter job vacancy survey, and there was more bad news: Job vacancies dropped by 17 percent over the same quarter a year ago and were near all-time lows; worse, the ratio of unemployed persons to job vacancies—at 2.9—was 10 percent higher than at any time since the survey began in 2000.

Iron willed

Though many doubted a shovel would ever turn, the dream of bringing steelmaking to the Iron Range took a big step when ground was broken in September on a $1.6 billion project in Nashwauk.

The project involves a new iron ore mine, concentration and processing plants to turn taconite into direct-reduced iron, and an electric-arc steel plant (rather than a traditional blast furnace plant that consumes most taconite). The project is being undertaken by Essar Steel, the largest steel producer in western India, to gain better footing in the North American steel market.

The construction phase is expected to employ 2,000 workers, and once operational, Essar Steel Minnesota would employ nearly 500 people. Iron ore pellets would be produced within two years from the start of construction, and production of pellets and steel slabs is expected by the fifth or sixth year.

—Ronald A. Wirtz

With or without credit enhancement, the price of borrowing has gone up for lower-rated municipal bond issuers, and will likely remain higher even after the current financial crisis subsides because investors are now paying more attention to underlying credit ratings.

Credit from page 9

issuers through the first half of 2008—Bank of America, Dexia Group and Wachovia—either were experiencing solvency problems or otherwise had significant exposure to subprime markets.

And as has occurred among bond insurers, a two-tiered LOC market appears to be developing, where untainted banks get even more business. Kreg Jones, from D.A. Davidson & Co. in Great Falls, Mont., said that many LOCs were coming from major banks such as Wells Fargo, US Bank and Compass "that have not had the same exposure as other banks … to the subprime debacle. You see that in the way they trade."

LOC prices are also rising. In early September, Jones said a letter of credit typically commanded a fee of 75 to 125 basis points, but added he is "seeing some upward pressure," with LOCs recently priced as high as 150 basis points.

What's my real score?

With or without credit enhancement, the price of borrowing has gone up for lower-rated municipal bond issuers, and will likely remain higher even after the current financial crisis subsides because investors are now paying more attention to underlying credit ratings.

In turn, this has created some backlash against the three-headed credit rating system cumulatively generated by Moody's, Standard & Poor's and Fitch Ratings. Each rating agency maintains credit ratings on thousands of municipal bond issuers (as well as corporations and other entities that either issue bonds or seek credit). The market has long accepted these credit ratings as a given. But over the past year, the reputations of the credit agencies themselves have been badly damaged because of their failure to identify huge credit problems in subprime mortgages and other markets.

Each of the three ratings firms uses a relatively similar scale, generally running from triple-A to C, with multiple grades in between. These scales are used for both corporate and municipal ratings. However, municipal issuers are rated by their fiscal health relative to other municipal issuers, while corporate ratings look at an individual firm's unique risk of default and default loss.

The methodological difference sounds harmless—and indeed, it might be. But municipal and corporate bond issuers with a similarly low rating are dramatically different credit risks because governments rarely default on their bonds.

In an April report on the municipal bond market, the Securities Industry and Financial Markets Association stated that "the actual risk of default and loss of most municipal issuers is nearly zero." Officially, it pegged the default rate on municipal bonds at 0.06 percent, a rate five times lower than corporate bonds. Municipal Market Advisors, an industry consulting firm, estimated earlier this year that triple-A rated corporate bonds had a default rate up to 10 times that of (lower-rated) single-A rated municipal bonds.

The rating agencies themselves have acknowledged the disparity in risk between municipal and corporate bonds. In testimony to a House subcommittee in March, a Moody's official said that if municipal issuers were rated alongside corporations, municipal issuers would consistently be in the top two ratings (Aaa, Aa). An early 2007 report by Fitch Ratings stated that most municipal bonds had "consistently lower default rates and higher recovery rates than similarly rated corporate and structured finance debt."

Because of a seeming double standard in bond ratings, some argue that municipal issuers—particularly low-rated ones—are getting strong-armed or hoodwinked by the existing rating system into either paying artificially higher interest rates or purchasing credit enhancement to buy down those rates.

That's difficult to prove. The existing rating system has been around for decades; markets have become accustomed to it, defenders insist, and they price debt accordingly. There is sophisticated expertise on both buy and sell sides of the market, as well as generally good liquidity, which helps markets find equilibrium. If bond rates were systemically and artificially high, both issuers and investors would likely be able to spot that and act accordingly, which also would bid prices down.

Steve Apfelbacher, president of Ehlers Inc., a public finance advising firm in St. Paul, believes the market has a good grasp of municipal bond risk, despite any rating-scale nuances. "When you look at the rate difference between A (rated) and triple-A, it isn't a whole lot."

As such, ratcheting up all municipal credit ratings on paper might do nothing for the interest rates government pays on its debt.

But this is not a black-and-white matter either. Both the buy and sell sides have relied heavily on rating agencies to properly gauge risk. Given their implicit or explicit role in the chaos of financial markets over the past 18 months, both the general competence of rating agencies and the accuracy of their ratings have come into question. It's a bit like finding circumstantial evidence that there are 13 inches to a foot.

Yet despite an erosion of confidence in all three major ratings agencies, "the market has never been more reliant on them," said Jones, from D.A. Davidson. "I'm not sure I understand it; I'm not sure the market understands it either. … I'm a little surprised that there hasn't been a bigger uproar (from municipal issuers). But prior to the crisis striking, there wasn't really any cry or hue that the ratings have to change."

Nonetheless, both Moody's and Fitch Ratings have pledged to move to a so-called global scale, which will base muni bond ratings on default risk. This is expected to boost ratings by an average of one to two grades for issuers with room to move up. In October, however, both agencies delayed the move because of the existing tumult in financial markets.

Once (or if) this change is implemented, what ultimately happens to muni bond rates is guesswork. A preliminary estimate in September by two of the leading municipal bond underwriters in Wisconsin concluded that lower-rated credits might see lower interest rates for future issues, which they estimated between 4 and 10 basis points.

Apfelbacher agreed that a new rating scale would likely have a very modest effect—maybe a few basis points. "It's not a lot, but it's something." f