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Municipal Bond Markets Experience of the USA

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INTRODUCTION

Municipal bond markets provide a vehicle to narrow local governments resource gap through schemes varying from debt funding based on the full faith and credit of sub-sovereign issuers, to revenue bonds secured by the earnings of such projects as water facilities and toll roads. This note reviews the main characteristics of the US municipal bond markets—the most advanced by any measure of depth and sophistication. A separate note discusses the conditions underlying the development of municipal credit markets in developing countries.

VARIOUS CATEGORIES OF MUNICIPAL BONDS

In their broadest definition, municipal bond markets refer to borrowings by sub-sovereign public entities, directly or through their public corporations, to fund general purpose expenditures or specific purpose projects. The US municipal bond markets have developed over the past hundred years into a main component of the credit markets. The growth of these markets may be attributed to the country's decentralized federal structure and the innovations that have characterized its financial system. The tax status under which US municipal debt is issued may have had an impact on market growth. Municipal securities are sometimes referred to as the "tax-exempt" segment because interest earnings on municipal issues are exempt from federal income, and possibly state and local, taxes. The tax regime has been subject of a number of reforms (including the major Tax Reform Act of 1986) and of policy debates beyond the scope of this note. European countries with centralized processes for regional resource allocation—and where local government debt had often

implied sovereign guarantee—have lagged behind. Reforms are however taking place and municipal markets (in Italy and Spain) are slowly developing. Amongst other developed countries, Australia has also created a truly sub-sovereign debt market.

Municipal bonds have been the primary vehicle for financing local infrastructure in the US. They include general obligation bonds supported by the taxing power of local governments as well as project revenue bonds by states and local jurisdictions such as counties and cities (including their "special purpose" corporations).

General Obligation Bonds

General Obligation (GO) bonds are debt instruments issued against the full faith and credit of local governments. They remain essential financing instruments of tax-supported capital projects. Unless certain tax revenues are specifically restricted, issuers generally back GO bonds with all their revenue raising powers. Typically, local governments at the municipal level issue debt obligations against their ability to raise property taxes. Sub-national governments at the state level usually issue debt obligations against unrestricted revenue streams such as sales or income taxes. The capacity and willingness of local governments to service their GO debt depend upon the economy as well as their financial performance and debt burden. Property taxes have been a main source of municipal income, although in the US their share of total revenues has been decreasing (from over 95% in the thirties, to less than 80% on average today) as a result of: (i) the value of real property not being necessarily linked to household income and therefore to constituents' ability to pay

taxes; and (ii) growing political resistance and legal barriers to increasing property taxes (as reflected for instance by Propositions "13" in California and 2&1/2 in Massachusetts).

Other Categories of General Obligation Bonds

Other categories of GO bonds have been developed in the US. For instance, "Special Purpose Districts" are political subdivisions created to provide economic development or related services to residential, commercial or industrial areas. These can be both within an incorporated municipality or outside its limits, in "developing areas". These districts can represent viable arrangements for effective delivery of public utility services such as water, sewers, hospitals, fire protection and roads, when demand overflows administrative boundaries of individual local governments. Special district obligations are generally tax-backed although their ability to raise taxes may often be restricted, by tax ceilings for instance. "Tax Increment Districts" can levy taxes on the growth of property value and have been used to fund the re-development of neglected downtown areas. These have been viewed as viable and safe instruments when the project area is of significant size and presents a good diversity amongst tax payers. Some of the special districts may be more speculative in nature.

Revenue Bonds

The second main category of municipal debt consists of "revenue bonds". These are secured by user fees or dedicated taxes rather than the general taxing power of local governments. US revenue bonds have included issues for a wide range of investments including health care, higher education, transportation (highways, mass transit, toll roads, ports, airports) and utilities (water, waste water, power, natural gas). Security for this kind of debt may vary considerably but is typically a single dedicated revenue stream directly related to the services provided. For example, revenues from electricity sales can secure bonds sold to build a power plant. However, for municipal facilities for which revenues would not be sufficient to service debt—such as convention centers, parking and street lighting—the security could be a dedicated sales tax, a fuel tax or a combination of both.

Municipalities may sometimes issue a hybrid of general obligation and revenue bonds to enhance the credit of marginal investments. These so-called "double-barreled" bonds are secured by an enterprise's revenues and, should these not be sufficient, an additional security pledge of full faith and credit of the issuer government.

Creditworthiness of General Obligation Bonds and Revenue Bonds

The comparison of GO bonds to revenue bonds in terms of creditworthiness is not straightforward as a number of factors come into play. On the one hand, the attractiveness of financing capital projects through user fees rather than broad-based taxes has, since the 1970's, reduced the capital market dominance of GO financing over revenue bonds. This is due to the: (i) limited and uncertain legal capacity of governments to carry ever larger debt burdens; and (ii) continuing market innovations which favor revenue bond issuance. Moreover, as strong as a tax-backed GO pledge might be, it is no absolute guarantee of repayment. In fact some investors might view a dedicated stream of revenues from services by a government utility as a more flexible and reliable security allowing for an increase in user fees as opposed to tax rates/bases subject to voter authorization, restriction or repeal. On the other hand, the security for revenue bonds remains narrower than broad-based GO bonds which can call on property, income and sales taxes to meet debt service requirements. In addition, the competition which may exist among providers of services may squeeze profitability and market share and introduce uncertainty as regards repayment ability compared to GO tax-backed obligations.

Short-term Municipal Instruments and Other Features of Municipal Debt

While municipal markets mainly consist of long-dated issues, there are also short-term municipal instruments such as municipal notes and commercial paper. Although commercial paper (CP) is issued for periods ranging from 30 to 270 days, a CP "program" itself could be rolled-over for several years so as to exhibit a strong relationship to long-term debt. For instance, short-term "revenue anticipation notes" and in particular "tax anticipation notes" are issued to address seasonal mismatches between expenditures for ongoing operations and lump sum receipts.

Municipalities also use debt instruments with features aimed at minimizing initial cash outlays or interest costs. For instance municipalities may issue "zero coupon" bonds with no coupon payment to bondholders. Instead the bond is issued at a deep discount and matures at par—the advantage being the smaller initial cash outlay by the issuing municipality. The difference between par value and the original discount price could be translated into a specified annual yield. A variant is the "municipal multiplier" which is a bond issued at par and does provide for interest payments; however interest accruals

are only paid at maturity assuming that the undistributed payments had been re-invested at an agreed yield (usually the bond yield-to-maturity at issue). “Variable-rate demand obligations” are interest-bearing notes with “put” features tied to specific short-term indices, sold by municipalities to finance capital projects. These are part of the “structured” finance products.

Structured Municipal Finance

“Structured” financings have become part of the municipal debt markets. These are conventional debt instruments combined with derivative products such as futures, options and swaps. (Futures are contracts where financial commitments between two parties are “settled” at a future agreed date. Options are buy/sell agreements where, against an up-front fee, one party acquires the discretionary right—with no obligation—to settle a financial contract at an agreed price and time. Swaps are contracts whereby two parties agree to assume each other’s financial liabilities as these come due.) While derivatives may be used for speculative purposes, they also are powerful instruments for “hedging” risk—i.e., for protecting a financial position against unwanted market price movements. Structured financings may thus entail risk mitigating and credit enhancement features embedded in the debt instruments.

A “puttable” bond for instance gives investors the right to sell back—if they so elect—the security to the issuer at an agreed price (usually the par value) at designated dates or within specified periods. Bondholders may elect to “exercise” such a right should they become concerned about the deteriorating credit standing of an issuer. Put options also provide bondholders with market protection in an environment of rising interest rates, as they could redeem their investment at par—though the market value of their bonds might have fallen below par—and re-invest the proceeds in higher yield instruments. Conversely, from the issuers’ stand-point, municipal bonds may entail a “call option”, an arrangement which permits an issuing municipality to redeem—at its option under specified conditions—the bond before the scheduled maturity. An issuer would elect to exercise such a right if, in an environment of declining interest rates, the outstanding debt—which carries a high fixed coupon rate—could be replaced by lower cost borrowings.

Derivative products which extend market and credit risk protection to investors (e.g., put options) and market hedge to issuers (e.g., call options) are provided at a price paid for by the beneficiary of the derivative instrument. For instance a municipal debt issue with an embedded call option should carry a higher yield than a

conventional issue—a “premium” that compensates the bondholder as to the uncertain maturity of his holding. Other derivatives, such as interest rate swaps or forward contracts, may allow municipal issuers to hedge their financial position in altering the risk profile of their liabilities say from variable to fixed rates, or setting a cap on the potential cost of borrowing. Swaps are also used by bondholders to similar ends. Structured products entail though a number of risks, and in particular credit risk.

State Revolving Funds

The US “State Revolving Funds” (SRFs) are pool finance arrangements that provide low-cost loans to local entities for projects that comply with national regulations. These were introduced in connection with the 1984 “Federal Clean Water Act” on environmental regulations. They involve capital grants from the federal government to the state, matched by a contribution from the state (currently 20%). Matching contributions are primarily funded with proceeds of state general obligation, and less frequently revenue, bonds. SRF lending is mostly accomplished in leveraging central capital grants and state matching funds through bond issuance. The size, composition and diversification of the loans extended by the fund enhance the quality of the overall portfolio above the pool’s weakest credit. Mechanisms enhancing the credit of the bonds issued by the fund can also be considered, for instance in subordinating one class of debt to the rights of senior creditors.

CREDIT RISK ISSUES

Unlike US Government securities, municipal debt obligations are not immune to default. In the mid-70’s, New York City had to default on its debt obligations rather than disrupt the provision of basic city services. (Note that this default did not result in liabilities for, nor prompt a rescue by, the Federal Government—a reflection of the maturity of the US municipal bond markets.) Credit ratings which allow investors to gauge the creditworthiness of municipal issuers, and financial and legal mechanisms (such as options or guarantees) that enhance the credit quality of municipal debt have become important factors in investment choices.

Credit Rating. The capability of rating agencies to assess the creditworthiness of municipal and other issuers has considerably evolved since the time of the Great Depression. Indeed, “of the municipal debt issues that were rated by a commercial rating company in 1929 and plunged into default in 1932, 78 percent had been rated AA or better, and 48 percent had been rated AAA”.

Credit ratings have now achieved “wide investor acceptance as easily usable tools for differentiating credit quality”. They have become important parameters in investment decisions, particularly in the US municipal bond markets which have a strong individual investor base averse to, and ill-equipped to assess, credit risk. It is no surprise thus that most US municipal debt issuers have secured a credit rating by one or more of the leading rating agencies. The stamp of a rating agency is however no guarantee against default as the financial condition of a rated entity may change, sometimes rapidly—as shown by the example of “Orange County” in California which despite its high quality rating had to file for bankruptcy protection as a result of speculative financial management. Another example is “Washington Public Power Supply System” which defaulted on its debt obligations in 1990 while these had high quality ratings. Outstanding debt ratings may thus be subject to downgrade/upgrade should a rating agency consider, in the course of its surveillance process, that material changes in the financial condition of an issuing entity do warrant a rating review. The issuer rating may be put under “credit watch” until such time as a revised rating is announced.

Credit Enhancement Mechanisms. The creditworthiness of municipal debt issues may be enhanced by special features which confer preferential status on debt obligations. These include seniority, collateral security, guarantees, put options, joint and several liability of a number of entities, and bank letters of credit for short-term debt. Municipal debt can also have the legal provisions of “public credit enhancements” which may entail state insurance programs, central/state guarantees, and automatic withholding and use of state aid—most common in the US—to meet defaulted debt service. Such programs may be used both to increase market acceptance of bond issues and lower interest costs. Securitization is another credit enhancement tool. [Mortgage-backed securities, though not related to local government finance, provide an example of securitization which has considerably strengthened the housing finance market—its essential pillar being the diversified residential housing stock that backs the debt issues. Added to the physical asset, is the “public credit enhancement” resulting from the implied sovereign guarantee for the federal housing agencies (FNMA, GNMA) in the case of “pass-through” mortgage securities]. Other forms of municipal credit enhancements may use separately capitalized subsidiaries which could be made “bankruptcy-remote”. Finally, a potent form of municipal credit enhancement is bond insurance.

Bond Insurance. Bond insurance has played in the past 15-20 years an important role in the growth of the US municipal bond markets. Indeed, individual investors rely on bond insurance to enhance the quality of the assets they are willing to hold. Yet, bond insurance in the US has not been a vehicle for allowing non-creditworthy issuers to have market access. Rather, the insurance by “AAA” rated insurance companies allows small issuers at the lower end of the investment grade (“BBB” and “A”) to access the national market for high investment grade debt. This enhances the liquidity of the issues which can then trade on secondary markets. Close to 50% of total US municipal bond (75% of “BBB” and “A”) issues are covered by bond insurance. Providing insurance coverage only to investment grade (i.e., low default risk) credits while charging low premia makes the economics of insurance attractive to issuers. (Insurance firms further enhance their profitability through high leverage and investment income.)

PRICING OF MUNICIPAL DEBT

Debt by non-sovereign, including municipal, borrowers is priced in reference to the government securities yield curve, where spreads reflect issuers' parameters in terms of creditworthiness, liquidity and size. Given the tax-exempt features of municipal debt, the true reference for investors in US municipal securities would be the “taxable equivalent yield” which must be earned on taxable treasury bonds to produce the same yield as a tax-exempt municipal bond.

CONCLUSION

Municipal bonds, an important segment of the US securities markets, have been a primary source of local infrastructure finance. The challenge would be to develop these markets in developing countries, where local government borrowings have been largely confined to bank loans often with central government guarantees.

TO LEARN MORE

Municipal Bond Portfolio Management, 1995, by Frank Fabozzi.

Infrastructure Note, FM-8b, February 1997, “Municipal Bond Markets—Prospects for Developing Countries” by Samir El Daher.
