



Municipal Finance & Economic Development

- State & local government taxing powers, debt tools and credit quality can serve economic development purposes:
 - Raise capital for development finance programs
 - Finance infrastructure, public improvements or services needed to attract private development and investment
 - Expand capital availability for manufacturers and development projects in targeted areas
 - Finance non-profit facilities
 - Finance renewable/energy efficiency projects



Primary municipal finance tools

- Tax-exempt and taxable debt
- Tax-increment financing
- Assessment districts



Municipal and Tax-exempt Debt

- General Obligation Bonds—“full faith and credit” of government, full taxing power is behind repayment
- Revenue Bonds—backed by specific revenues
 - Includes tax increment; assessment districts
- Private activity bonds: tax-exempt bonds in which proceeds are used to finance a private party and payments from that party are used to repay bond principal and interest
 - Subject to annual volume cap by state: greater of \$100 per capita or \$301.5 million
 - Unused cap carried forward for 3 years
 - Cap has exceeded use in recent years by 6:1



Tax-Exempt Private Activity Bonds

- Uses allowed under IRS code:
 - 501(c)(3) use, i.e., non-profit organizations (no volume cap)
 - Industrial development bonds for small manufacturers
 - Exempt facilities: airports, water, sewer, waste treatment facilities, some energy and public transportation facilities
 - Multi- and single family housing bonds for low-income households
 - Redevelopment bonds to eliminate slums and blight
 - Empowerment Zone Facility Bonds

Figure 1 and Figure 3 from "[CDFFA Annual Volume Cap Report: An Analysis of 2015 Private Activity Bond & Volume Cap Trends.](#)" Council of Development Finance Agencies, 2016 have been removed due to copyright restrictions.

Comparative PAB Bond Use 2015 (\$ millions)

USE	MA	MI
Exempt Facilities*	\$679.5	\$207.1
Multifamily Housing	\$429.5	\$104.6
Home Mortgages	\$75.0	\$7.8
IDBs	\$27.6	\$8.0
Student Loans	\$200.0	NR
Total PAB Issuance	\$982.1	\$222.8
Annual Capacity (Annual Cap + Carryover)	\$1,005.3	\$3,749.9
Issuers	MDFA, MHFA, MEFA	MEDC, MSHDA, MFA

*Per IRC S.142 includes airports, water, sewer & waste disposal facilities, etc.



Industrial Development Bonds

- Tax-exempt financing for manufacturing plants
 - Definition expanded to include production of “technology”
- Firms limited to \$20 million within 3 years (+ or -) from date of issue; \$40 million over their lifetime
- A capital subsidy for firms that are bankable as bonds require a letter of credit or willing buyer
- Can expand access to capital markets to finance fixed assets for small firms:
 - Pooling several small loans into one bond (PA, AR)
 - Provide credit enhancement through reserve or insurance fund (MA)
 - Lower transaction costs with private placement, standard legal documents and financing team=> makes small transactions feasible. St. Louis mini-bond program with deals of \$500,000 to \$2 million



Parties in Municipal Bond Deals

- Issuer
- Underwriter or placement agent
- Trustee
- Bond counsel
- Other legal counsel
- Rating agency
- Credit enhancement provider



Structuring Municipal Debt

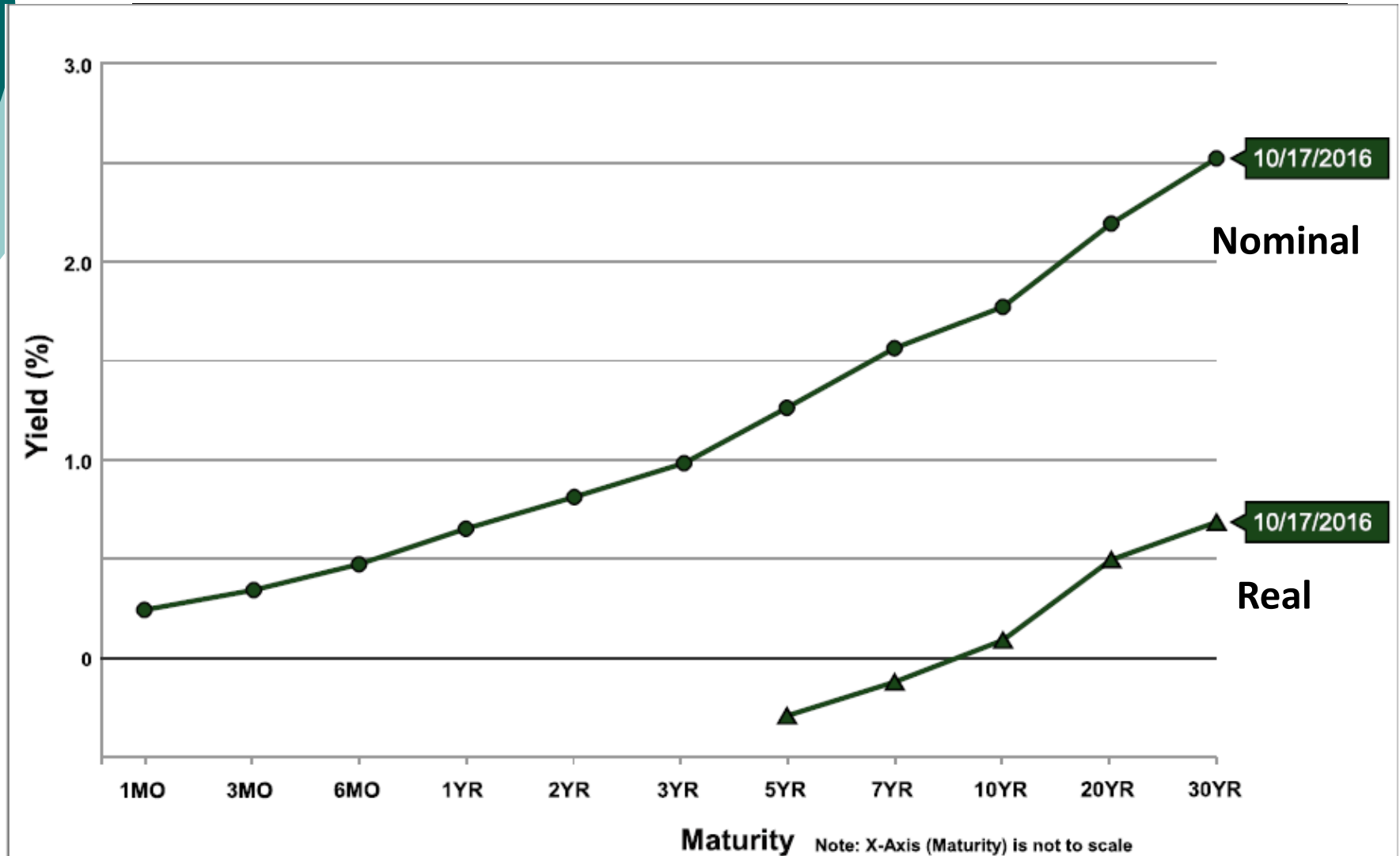
- Interest is typically paid semi-annually
- Fixed or variable (floating) rate
 - Weekly/monthly floating rate popular with steep yield curve and/or low short term rates
- Principal repayment options
 - Term bonds: interest only with full repayment in at one maturity date
 - Serial bonds: annual repayment with differing principal amounts each year
 - Zero coupon: pay all interest and principal at maturity



Sizing Serial Bonds

- Typical structure is serial bonds
 - Principal divided into a series of bonds with sequential annual maturities
 - Lowers interest cost as each serial bonds has interest rate tied to its maturity
 - Match annual maturities to available cash flow
 - Annual debt service = interest on all outstanding bonds + principal payment for maturing bond

US Treasury Yield Curve





How much debt can be supported?

Year	Available Cash Flow	Interest Rate	Principal Amount
2007	2,000,000	4.80%	
2008	2,250,000	4.85%	
2009	2,500,000	4.90%	
2010	3,000,000	4.95%	
2011	3,000,000	5.00%	
Total	12,750,000		



Calculating Principal Amount

- Start at last year => interest paid only on maturing bond
 - Cash flow (CF) = Principal (P) + Interest (I)
 - Interest = Principal (P) * Interest rate (i)
 - Cash flow = $P + P*i$; $CF = (1+i)*P$
 - $P = \text{Cash flow} / (1+i)$
 - $P_{2011} = 3,000,000 / (1.05) = 2,857,000$
- 2nd to last year (2010), pay interest on P_{2011} & P_{2010}
 - $I = .0495 * P_{2011} + .05 * P_{2010}$
 - $CF = P_{2010} + .0495 * P_{2010} + .05 * P_{2011}$
 $= 1.0495 * P_{2010} + .05 * P_{2011}$
 - $P_{2010} = (CF - .05 * P_{2011}) / 1.0495$
 - $P_{2010} = (3,000,000 - .05 * 2,857,000) / 1.0495 = 2,722,000$

$$P_n = (CF_n - \text{Interest on future principal}) / 1 + i_n$$



How much debt can be supported?

Cash Flow	Rate	Total Interest Payments	Principal
2,000,000	4.80%	\$537,974	\$1,462,000
2,250,000	4.85%	\$467,798	\$1,782,000
2,500,000	4.90%	\$381,371	\$2,118,000
3,000,000	4.95%	\$277,589	\$2,722,000
3,000,000	5.00%	\$142,850	\$2,857,000
Total		\$1,807,582	\$10,941,000



Bond Financing for Clean Energy

- Federal CREBs and QECBs bonds under ARRA
- Revenue bond financing for RE loan funds
 - Hawaii bonds backed by utility system charge
- Tap state/local experience with infrastructure bond financing for energy projects
- State finance intermediaries (CT Green Bank)
- Brookings' agenda to tap opportunity
 - Partnership and learning between Clean Energy and Bond Finance Fields
 - New credit enhancements & other tools to scale up transactions
 - Standardized docs and provide data
 - Develop investor market and "asset class"



Tax Credit Bonds for Renewable Energy and Energy Efficiency

- Congress created 2 new types of taxable bonds that pay **tax credits rather than interest**
 - Clean Renewable Energy Bonds (CREBs): \$2.4 billion allocation with ARRA; now expired
 - Qualified Energy Conservation Bonds (QECCBs); \$3.2 billion allocation with ARRA
- Subsidy to borrower since no interest is paid
- Investor/bond holder pays income tax on the tax credit amount
- US Treasury sets tax credit rate based on yields for “comparable” taxable bonds and maximum maturity
- Direct interest payment option added in 2010



QEGBs: Eligible Borrowers and Projects

- Issued by government tax-exempt bond issuers
- Borrowers: at least 70% for governments and up to 30% for private users as private activity bonds
- 5 types of Qualified Conservation Projects (QCPs)
 - Capital investments for: lowering energy use in public buildings; green community programs, CREB project, and rural renewable energy projects
 - Research grants and R & D facilities for renewable energy, energy efficiency, CO sequestration
 - Mass transit
 - Demonstration projects
 - Public education campaigns
- \$3.2 billion divided among states and then to cities and counties
 - Allocated under separate state and local processes



QECCB Examples

- \$1.19 billion issued for 209 projects and programs in 36 states as of 9/15
- 37% utilization rate
 - Many public building retrofit projects
 - Some private RE projects: \$5.8 million for 4.5 megawatt solar field in Westford MA
- NYSERDA and St. Louis: \$24.3 million and \$10.3 million for EE loan programs
- Boulder, Colorado: \$1.52 million for commercial PACE program



Michigan and QECBs

- \$103.8 million allocation
 - \$25.7 million issued or 25% use
 - \$78.1 million unused allocation
 - Detroit allocated \$9.5 million
 - \$22.5 million allocated for MI Saves municipal & residential EE loan programs
 - Municipal and school EE investments

State energy office QECB web site

- http://www.michigan.gov/energy/0,4580,7-230-72052_72054_73979---,00.html



Tax Increment Financing

- Set aside new "incremental" tax revenues to raise financing for a project or public improvements. Financing can be on "pay as you go" basis, debt, or developer financing
- "Base year" tax assessments & revenue frozen at year TIF district is established and continue to flow to taxing jurisdictions
- New or incremental taxes after base year are diverted to TIF district and its governing authority. Increment comes from:
 - assessment growth
 - improvement to existing properties
 - new development



TIF Uses to Support Economic Development

- Address site/infrastructure obstacles for a project
 - Site assembly and preparation
 - Environmental contamination
 - Public infrastructure
- Address blight and infrastructure in a large area
- Target investment of tax revenues to an area suffering from neglect and disinvestments
- Can be a tax base sharing mechanism (Montgomery County EDGE Program)
- Spread and abuse of TIF:
 - Bypass voter referendum requirements for debt
 - Subsidize development that would occur
 - Divert revenue from local governments



TIF Financing Challenges

- Slow growth of tax increment: first years may be too low to pay interest
- Uncertain level and timing of new development and related TIF revenue
- Risk of declining property values
- Options to address challenges:
 - Capitalized interest and debt service reserves
 - Expand TIF district size
 - Guarantees and credit enhancement

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11.437 Financing Economic Development
Fall 2016

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