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 "CDFA 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)

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

*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 or 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 bond 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
This data is in the public domain.
How much debt can be supported?

<table>
<thead>
<tr>
<th>Year</th>
<th>Available Cash Flow</th>
<th>Interest Rate</th>
<th>Principal Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>2,000,000</td>
<td>4.80%</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>2,250,000</td>
<td>4.85%</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>2,500,000</td>
<td>4.90%</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>3,000,000</td>
<td>4.95%</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>3,000,000</td>
<td>5.00%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>12,750,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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 = Cash flow/(1+i)
  - \( P_{2011} = \frac{3,000,000}{1.05} = 2,857,000 \)

- 2nd to last year (2010), pay interest on \( P_{2011} \) & \( P_{2010} \)
  - \( I = 0.0495*P_{2011} + 0.05* P_{2010} \)
  - \( CF = P_{2010} + 0.0495 * P_{2010} + 0.05*P_{2011} \)
    \[ = 1.0495* P_{2010} + 0.05*P_{2011} \]
  - \( P_{2010} = \frac{(CF - 0.05* P_{2011})}{1.0495} \)
  - \( P_{2010} = \frac{(3,000,000 - 0.05*2,857,000)}{1.0495} = 2,722,000 \)

\( P_n = \frac{(CF_n - \text{Interest on future principal})}{1 + i_n} \)
### How much debt can be supported?

<table>
<thead>
<tr>
<th>Cash Flow</th>
<th>Rate</th>
<th>Total Interest Payments</th>
<th>Principal</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,000,000</td>
<td>4.80%</td>
<td>$537,974</td>
<td>$1,462,000</td>
</tr>
<tr>
<td>2,250,000</td>
<td>4.85%</td>
<td>$467,798</td>
<td>$1,782,000</td>
</tr>
<tr>
<td>2,500,000</td>
<td>4.90%</td>
<td>$381,371</td>
<td>$2,118,000</td>
</tr>
<tr>
<td>3,000,000</td>
<td>4.95%</td>
<td>$277,589</td>
<td>$2,722,000</td>
</tr>
<tr>
<td>3,000,000</td>
<td>5.00%</td>
<td>$142,850</td>
<td>$2,857,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>$1,807,582</strong></td>
<td><strong>$10,941,000</strong></td>
</tr>
</tbody>
</table>
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 (QECBs); $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
QECBs: 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
QECB 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](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 in 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