Florida Credit Rating Update

August 15, 2019
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Expertise
A comprehensive view of the global markets through our ratings and research.

Credibility
Over 100 years of experience delivering forward-looking, independent, stable and transparent opinions.

Engagement
Meaningful interactions across multiple channels between our analysts and market participants.
Agenda

1. Local governments 2019 outlooks
2. Florida credit overview
3. Cyber risks in the municipal market
4. Environmental, social & governance risks in credit ratings
5. Environmental factors
6. Social factors
7. Scorecard update
Local governments
2019 outlooks
Local governments

2019 outlook remains stable with tax revenue to grow modestly

**NEGATIVE**
What could change outlook to negative

» Property tax revenue growth below 2%

» Revenue growth outpaced by rising fixed costs or increased leverage

» Deteriorating economic conditions, rising unemployment, falling home values

**STABLE**
Drivers of the stable outlook

» Property tax revenue to grow a modest 2%-3%

» Total operating revenue to increase by approximately 3%, helping manage expenses

» Healthy fund balances, which provide a buffer against an economic slowdown or recession

**POSITIVE**
What could change outlook to positive

» Property tax revenue growth above 4%

» Lower fixed costs and reduced debt and pension leverage

» Improving economic conditions that are likely to boost local government revenue

This outlook represents our forward-looking view on credit conditions in the sector over the next 12-18 months. This sectorwide outlook, however, does not imply the likelihood or direction of rating actions for individual issuers.
Local government

Property tax revenue growth of 2%-3% expected in 2019

*2018 includes estimates for second half of year, 2019 is projected

Sources: US Census Bureau, Moody’s Investors Service
Local government

2017 GDP growth strongest in West and Southeast, signaling stronger property tax growth in those regions for 2019

Sources: US Bureau of Economic Analysis, Moody’s Investors Service
Local government

Most local governments continue to handle challenges well, though a small percentage face compounding pressures

» Growing pension costs

» Uncertain or weak state funding

» Exposure to federal policy changes, including tax reform and escalating trade tensions

» Climate risks

» Aging or declining populations
Pensions driving rising per-unit operating costs, threaten service “crowd-out”

- Significant contribution hikes relative to payroll over past decade
  - Example public safety & teacher plans (right)

- Favorably, last two years of investment returns will provide contribution certainty through fiscal 2020 for many

- Strong revenue growth has also improved some governments’ capacity to shoulder rising fixed costs

Sources: Plan actuarial valuations
ANPLs have declined from 2016 peak

Favorable returns and rising market interest rates drove lower ANPLs in our 56-plan representative sample

![Graph showing ANPLs over time](image)

Source: Moody’s Investors Service 56-plan sample
Local government

ESG RISKS

Wildfires, hurricanes, droughts, tornadoes and other climate shocks present credit risks, including damaged infrastructure, economic disruptions, and population loss.

Credit stress from disasters is generally mitigated through FEMA assistance, private insurance, and individual issuers’ liquidity.

Climate change presents other risks nationwide, including extreme heat, more severe and prolonged drought conditions, larger and more frequent wildfires, rising sea levels and more frequent and severe flooding.
Florida local government overview
## Florida counties

Florida counties are larger, have less debt than national medians

<table>
<thead>
<tr>
<th></th>
<th>Florida Medians - Counties</th>
<th>National Medians - Counties</th>
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<tbody>
<tr>
<td><strong>Debt Statistics &amp; Ratios</strong></td>
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<tr>
<td>Debt Burden (Overall Net Debt as % Full Value)</td>
<td>0.9</td>
<td>2.3</td>
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<td>Overall Net Debt Per Capita ($)</td>
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<td>2,294</td>
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<td><strong>Financial Statistics &amp; Ratios</strong></td>
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<td>Operating Funds Balance as % of Revenues</td>
<td>39.0</td>
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<td><strong>Demographic Statistics</strong></td>
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<td>Population 2010 Census</td>
<td>322,177</td>
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<td><strong>Tax Base Statistics and Ratios</strong></td>
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<td>Total Full Value ($000)</td>
<td>37,277,602</td>
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<td>Full Value Per Capita ($)</td>
<td>111,847</td>
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Source: Moody's Investors Service
Florida cities are larger, have less debt than national medians

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<th>Demographic Statistics</th>
<th>Florida Medians - Cities</th>
<th>National Medians - Cities</th>
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<td>Population 2010 Census</td>
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<td>Overall Net Debt Per Capita ($)</td>
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<td>Full Value Per Capita ($)</td>
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Source: Moody’s Investors Service
3 Cyber risks in the municipal market
Moody’s Approach to Assessing Cyber Risk

Factors

Vulnerability
- Business size and profile
- Sensitivity of data collected
- Services and essential products

Impact
- Brand impact
- Legal regulations and consequences
- Manage crisis and recover
- Financial impact

Levels of Vulnerability
Local governments have low-medium cyber risk exposure

**Main Risks:**
- Business disruption stifles operations
- Data disclosure of citizens’ personal information
- Reputational risk could erode political support and impact governance

**Strengths:**
- Monopoly providers of services
- Ability to provide services manually
- Possibility for federal assistance
- Ample reserves and liquidity to absorb financial impact and remediation

**Challenges:**
- Need to protect critical infrastructure and sensitive data
- Lack of in-house technical expertise
- Inability to financially compete for top IT talent
- Loss of taxpayer/public confidence
- Lack of awareness by some municipalities
Environmental, social & governance risks in credit ratings
Increasing Transparency on How ESG Affects Credit Risks

**Analytics**
- New analytical tools
- Cross-sector ESG methodology

**Research**
- Dedicated ESG research hub
- Language in credit opinions

**Outreach**
- Engaging investors & issuers on ESG issues
- Market partnerships (PRI, IIGCC)
Credit relevant ESG “Taxonomy” created

**ENVIRONMENTAL**
- Air pollution
- Carbon regulations
- Natural & man-made hazards
- Soil/water pollution & land-use restrictions
- Water shortages

**SOCIAL**
- Consumer relations
- Access to basic services
- Demographic & Societal Trends
- Education
- Human Capital
- Health & safety
- Responsible Production
- Labor & income

**GOVERNANCE**
- Board of Director Oversight & Effectiveness
- Compliance, Controls & Reporting
- Financial Oversight & Capital Allocation
- Management Structure & Compensation
- Ownership & Control

*Environmental subcategories from heat map. Carbon regulation exposures provide starting point for carbon transition series; natural & man-made hazards for physical risks series.

* Categories are for private sector (left) and public finance (right).

* Categories for corporates (left) and sovereign (right).
5 Environmental factors
Physical Effects Manifest as Climate Trends and Climate Shocks

Credit implications of climate trends and shocks will vary depending on time frame and magnitude of impact.

Source: Moody’s Investors Service, Intergovernmental Panel on Climate Change
We identify the primary public sector issuer credit risks of climate change as:

**Climate Trends**
- Source: Moody's Investors Service
- e.g. Property loss, supply chain disruption, declining agricultural production
- e.g. Physical loss of roads, utilities, buildings, communication networks, transportation assets

**Climate Shocks**
- e.g. Loss of life, jeopardization of critical emergency provisions (medical care, food, water, shelter, power)
- e.g. Short-term forced displacements, long-term population loss

**Climate Change Credit Risks for Public Sector Issuers**
- Economic disruption
- Economic damage
- Health and public safety
- Population Displacement

Source: Moody’s Investors Service
Analysis of key credit factors captures local government resilience

Credit impact of climate risks captured in Local Government General Obligation methodology

**Economy and Tax Base**

» (30%): Issuers with economies concentrated in sectors exposed to climate risks face higher credit vulnerability. Small economies that can be disproportionately impacted by climate events are at a heightened risk.

**Finances**

» (30%): Fiscal flexibility can be challenged by unanticipated emergency response costs, infrastructure repair costs, the loss of revenue or the cost of adaptive strategies. Issuers with healthy overall financial positions and strong liquidity are best positioned to service these risks with minimal credit impacts.

**Management**

» (20%): Issuers with established and well-developed emergency management, financial, capital and debt plans will be best suited to overcome climate stressors.

**Debt/Pensions**

» (20%): Entities with low, manageable debt profiles will benefit from having capacity to incorporate obligations to finance capital improvements.
US states' exposure and overall susceptibility to climate change

Exposure to climate change risks

Source: Moody's Investors Service
Local, state and federal tools for immediate response and long-term recovery enhance resilience to credit risks of climate shocks

» The availability of resources at multiple layers of government is an important element that broadens the response capabilities of local issuers and their ability to mitigate credit impacts.

» State governments monitor and evaluate the effectiveness of local response efforts and, if needed, provide both immediate response and long-term recovery assistance.

» Under FEMA, the federal government coordinates the provision of essential emergency response services through a variety of federal agencies. These services include, among others, transportation, communications, public works and engineering, mass care, food, energy, and search and rescue.
Social factors
Six broad social factors with representative subcomponents

Each broad factor could have multiple additional subcomponents

- **Demographics**
  - Age distribution
  - Immigration
  - Birth rates
  - Racial & ethnic composition/trends

- **Labor & income**
  - Labor force participation, broadly and by segment
  - Income equality/income inequality

- **Education**
  - Access to primary/secondary/tertiary
  - Educated populace
  - Literacy

- **Housing**
  - Availability and access ability of housing
  - Condition of housing

- **Health and safety**
  - Healthcare
  - Food security
  - Environmental quality
  - Personal safety & well-being

- **Access to basic services**
  - Water
  - Sewer
  - Electricity
  - Financial services
  - Transportation
  - Telecom/Internet
Social factors affect credit in 3 primary ways

Source: Moody's Investors Service
Social considerations impact governmental analysis via multiple channels

- **Social Factors**
  - Demographics
  - Labor & Income
  - Education
  - Housing
  - Health & Safety
  - Access to Basic Services

- **Credit Analysis**
  - Economic strength
  - Governmental spending and leverage
  - Stability of institutional framework

- **Assess material impact on:**
  - **METHODOLOGY SCORECARD**
    - Sovereign Governments
      - Economic Strength
      - Institutional Strength
      - Fiscal Strength
      - Sustainability to Event Risk
    - Sub-Sovereigns
      - Economic Fundamentals
      - Institutional Framework
      - Financial Performance
      - Governance and Management
    - State Governments
      - Economy
      - Finances
      - Governance
      - Debt and Pensions
    - Local Governments
      - Economy/Tax Base
      - Finances
      - Management
      - Debt/Pensions

- **Other Credit Considerations**

- **Credit Rating**

*Source: Moody’s Investors Service*
Scorecard update
Florida School District

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<tr>
<th>Rating Factors</th>
<th>Measure</th>
<th>Score</th>
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<tr>
<td>Economy / Tax Base (30%)</td>
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<tr>
<td>Tax Base Size: Full Value (in 000s)</td>
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<td>Full Value Per Capita</td>
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<td>Median Family Income (% of US Median)</td>
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<td>Finances (30%)</td>
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<td>Fund Balance as a % of Revenues</td>
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<td>5-Year Dollar Change in Fund Balance as % of Revenues</td>
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<td>5-Year Dollar Change in Cash Balance as % of Revenues</td>
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<td>Management (20%)</td>
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<td>Institutional Framework</td>
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<td>Operating History: 5-Year Average of Operating Revenues / Operating Expenditures</td>
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<td>Debt and Pensions (20%)</td>
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<tr>
<td>Net Direct Debt / Full Value (%)</td>
<td>1.0%</td>
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<td>Net Direct Debt / Operating Revenues (x)</td>
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<td>3-Year Average of Moody’s Adjusted Net Pension Liability / Full Value (%)</td>
<td>2.0%</td>
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<tr>
<td>3-Year Average of Moody’s Adjusted Net Pension Liability / Operating Revenues (x)</td>
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Scorecard now included in rating reports
<table>
<thead>
<tr>
<th>Name</th>
<th>Email</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valentina Gomez</td>
<td><a href="mailto:Valentina.Gomez@moodys.com">Valentina.Gomez@moodys.com</a></td>
<td>(212) 553-4861</td>
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<td>Greg Lipitz</td>
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<td>(212) 553-7782</td>
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<td>(404) 942-2600</td>
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