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Florida Credit Rating Update

August 15, 2019

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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

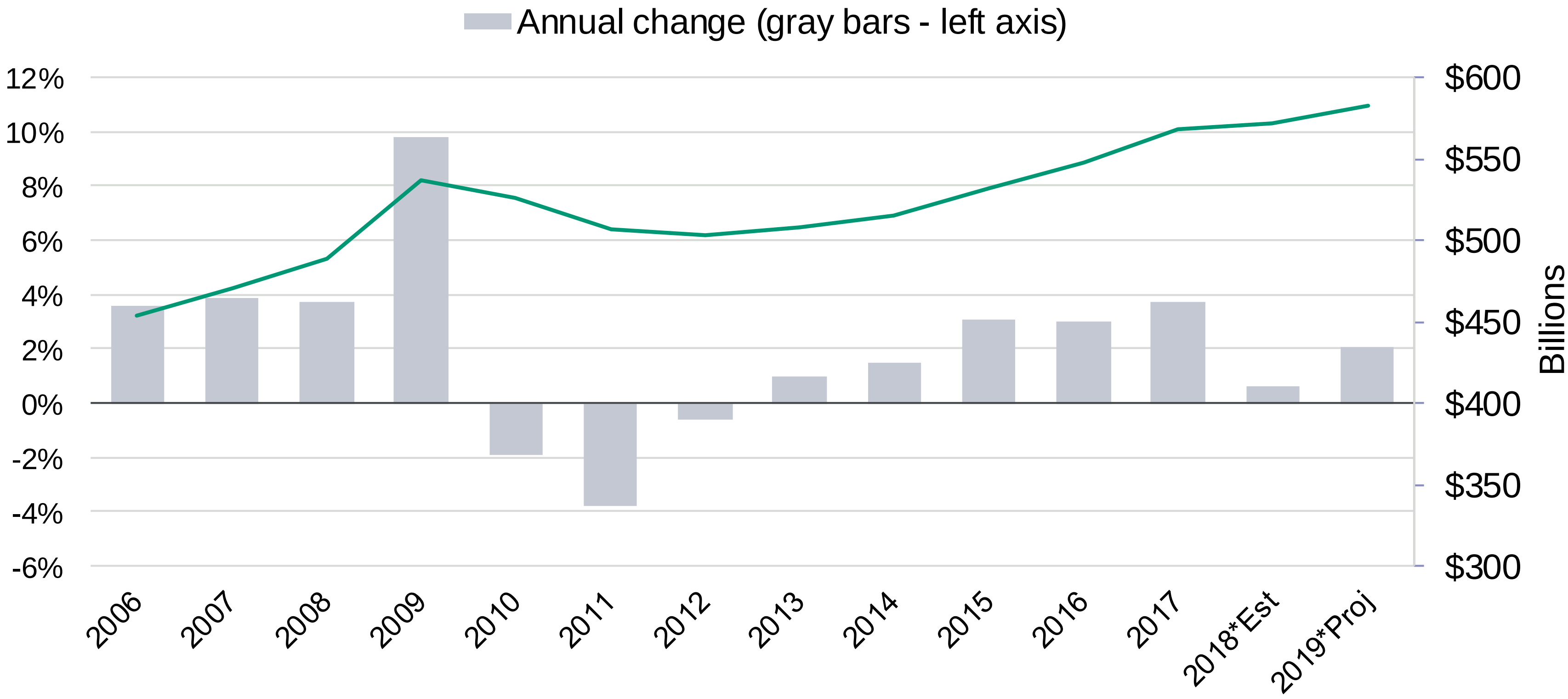
What could change outlook to positive

- 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

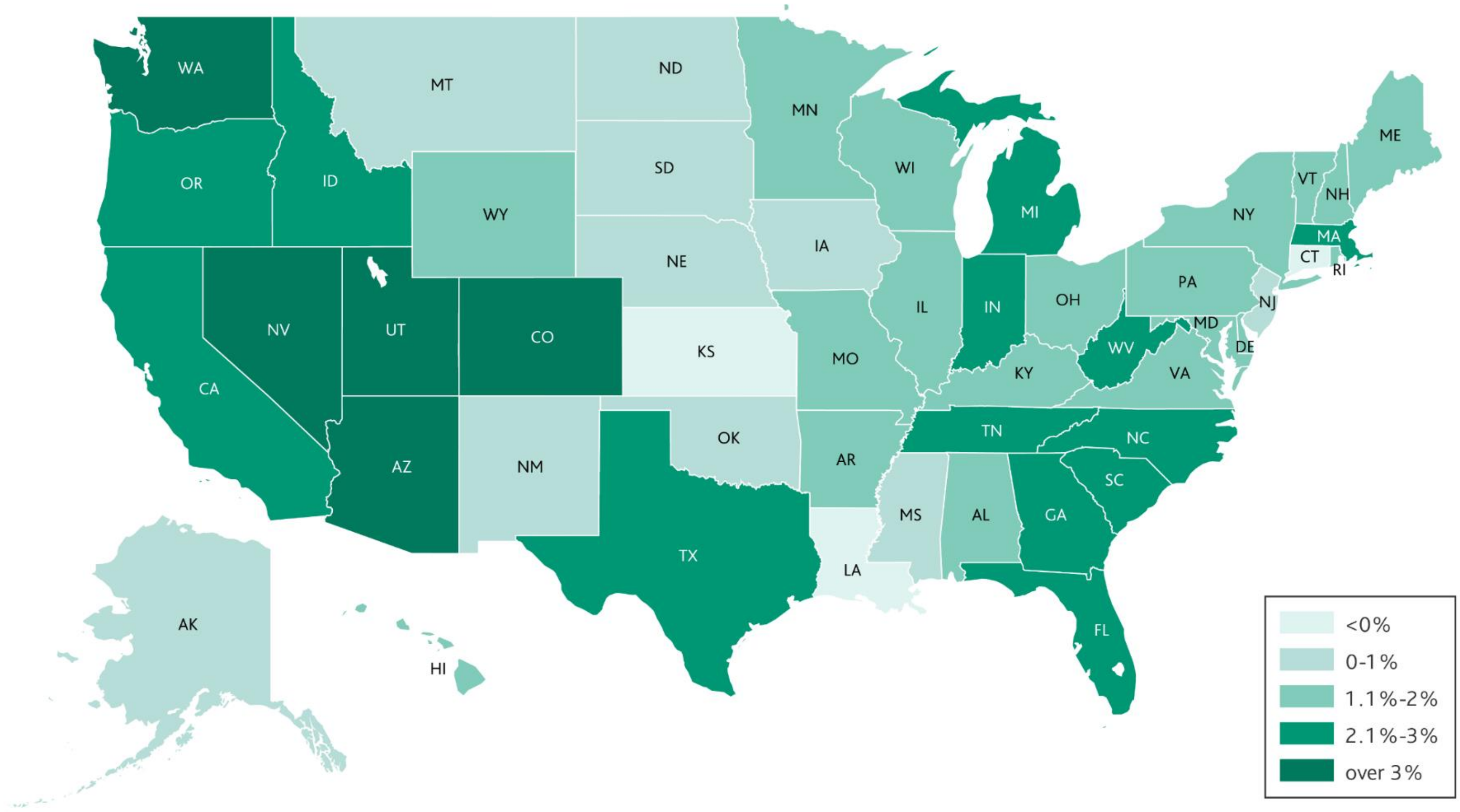


*2018 includes estimates for second half of year, 2019 is projected

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 or Economic Analysis, Moody's Investors Service

Local government

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

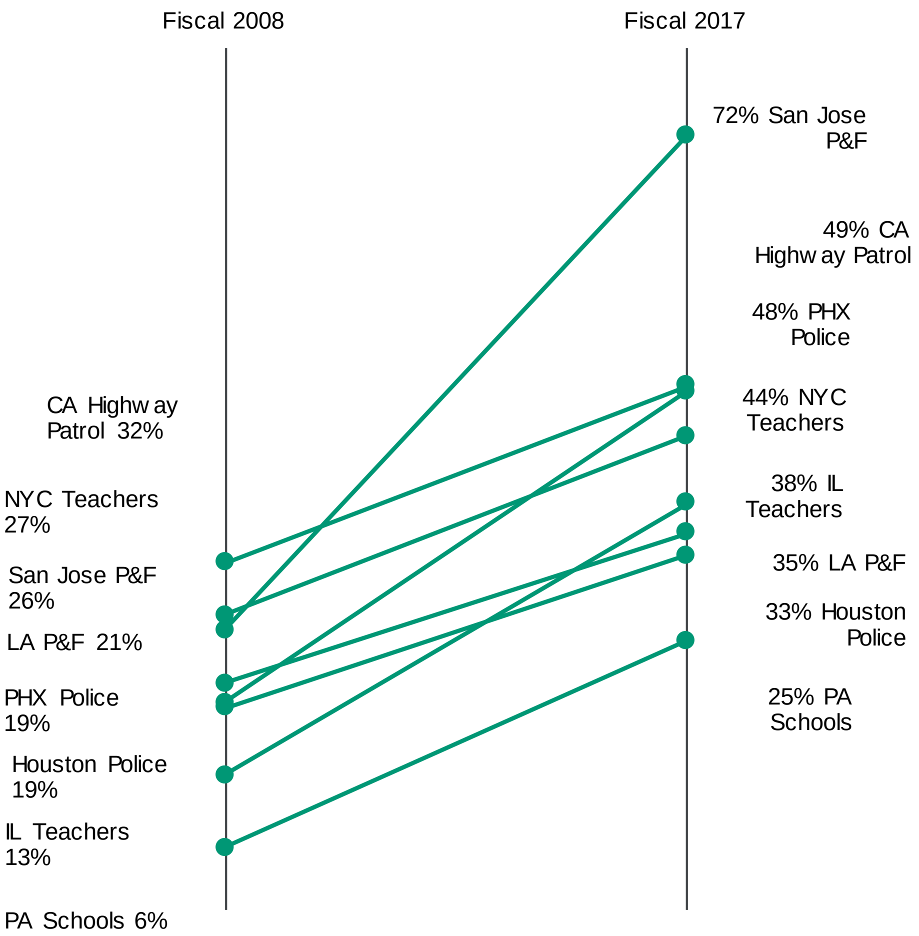
- Growing pension costs
- Uncertain or weak state funding
- Exposure to federal policy changes, including tax reform and escalating trade tensions
- Climate risks
- Aging or declining populations

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

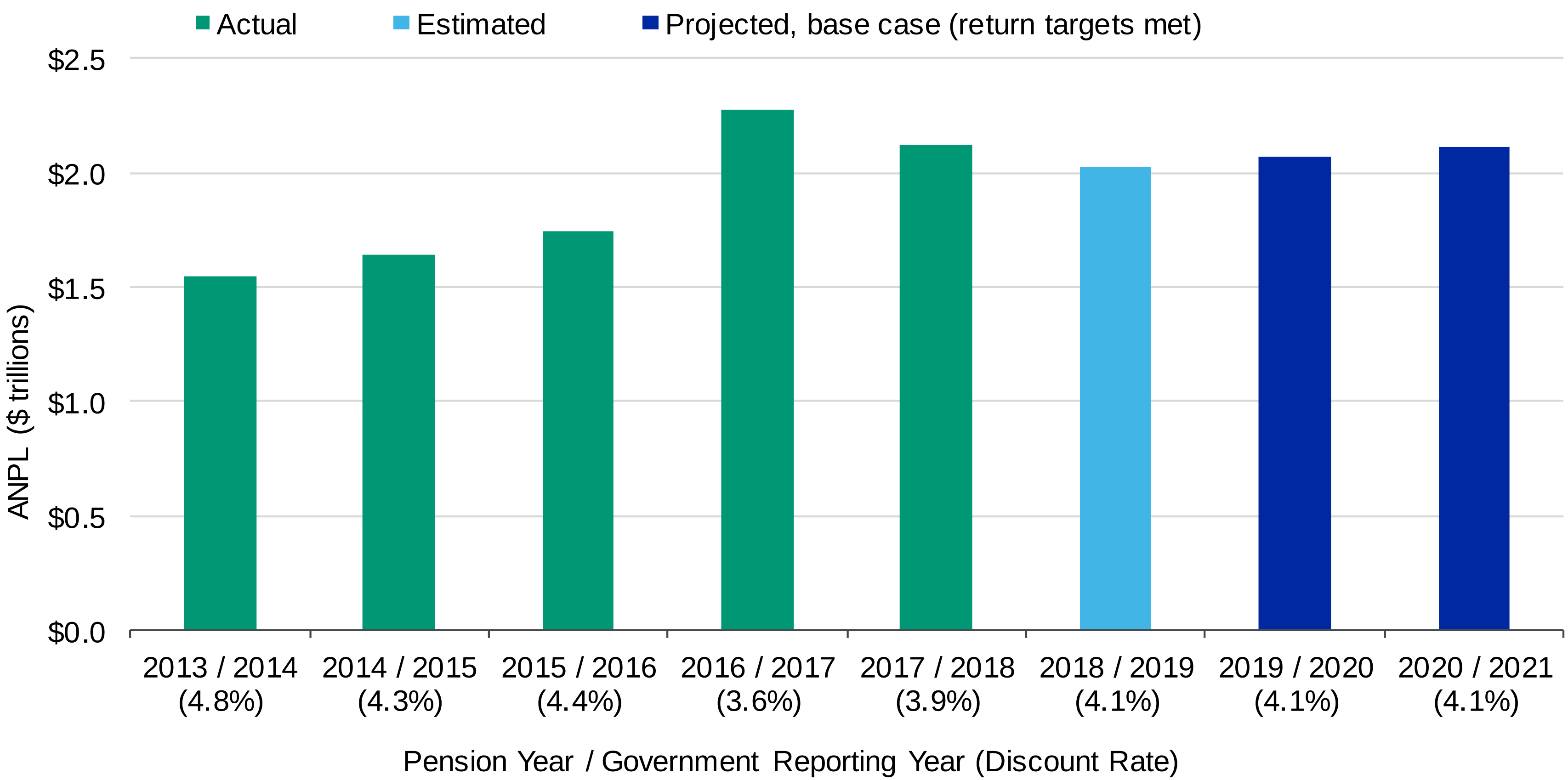
- » Strong revenue growth has also improved some governments’ capacity to shoulder rising fixed costs



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



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.

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Florida local government overview

FL counties

Florida counties are larger, have less debt than national medians

	Florida Medians - Counties	National Medians - Counties
Debt Statistics & Ratios		
Debt Burden (Overall Net Debt as % Full Value)	0.9	2.3
Overall Net Debt Per Capita ($)	1,056	2,294
Financial Statistics & Ratios		
Operating Funds Balance as % of Revenues	39.0	38.6
Demographic Statistics		
Population 2010 Census	322,177	89,606
Tax Base Statistics and Ratios		
Total Full Value ($000)	37,277,602	10,511,686
Full Value Per Capita ($)	111,847	90,918

Source: Moody's Investors Service

FL cities

Florida cities are larger, have less debt than national medians

	Florida Medians - Cities	National Medians - Cities
Demographic Statistics		
Population 2010 Census	55,602	18,799
Financial Statistics & Ratios		
Operating Funds Balance as % of Revenues	45.3	41.1
Debt Statistics & Ratios		
Debt Burden (Overall Net Debt as % Full Value)	1.2	3.1
Overall Net Debt Per Capita ($)	1,571	3,200
Tax Base Statistics and Ratios		
Total Full Value ($000)	7,324,112	2,482,596
Full Value Per Capita ($)	113,057	99,957

Source: Moody's Investors Service

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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

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Environmental, social & governance risks in credit ratings

Increasing Transparency on How ESG Affects Credit Risks

Analytics	**Research**	**Outreach**
New analytical tools	Dedicated ESG research hub	Engaging investors & issuers on ESG issues
Cross-sector ESG methodology	Language in credit opinions	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

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

SOCIAL

Consumer relations	Access to basic services
Demographic & Societal Trends	Demographics
	Education
Human Capital	Health & safety
Health & safety	Housing
Responsible Production	Labor & income

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

GOVERNANCE

Board of Director Oversight & Effectiveness	Corruption
	Rule of law
Compliance, Controls & Reporting	Political representation
Financial Oversight & Capital Allocation	Data transparency
Management Structure & Compensation	Credibility & effectiveness
Ownership & Control	

* Categories for corporates (left) and sovereign (right).

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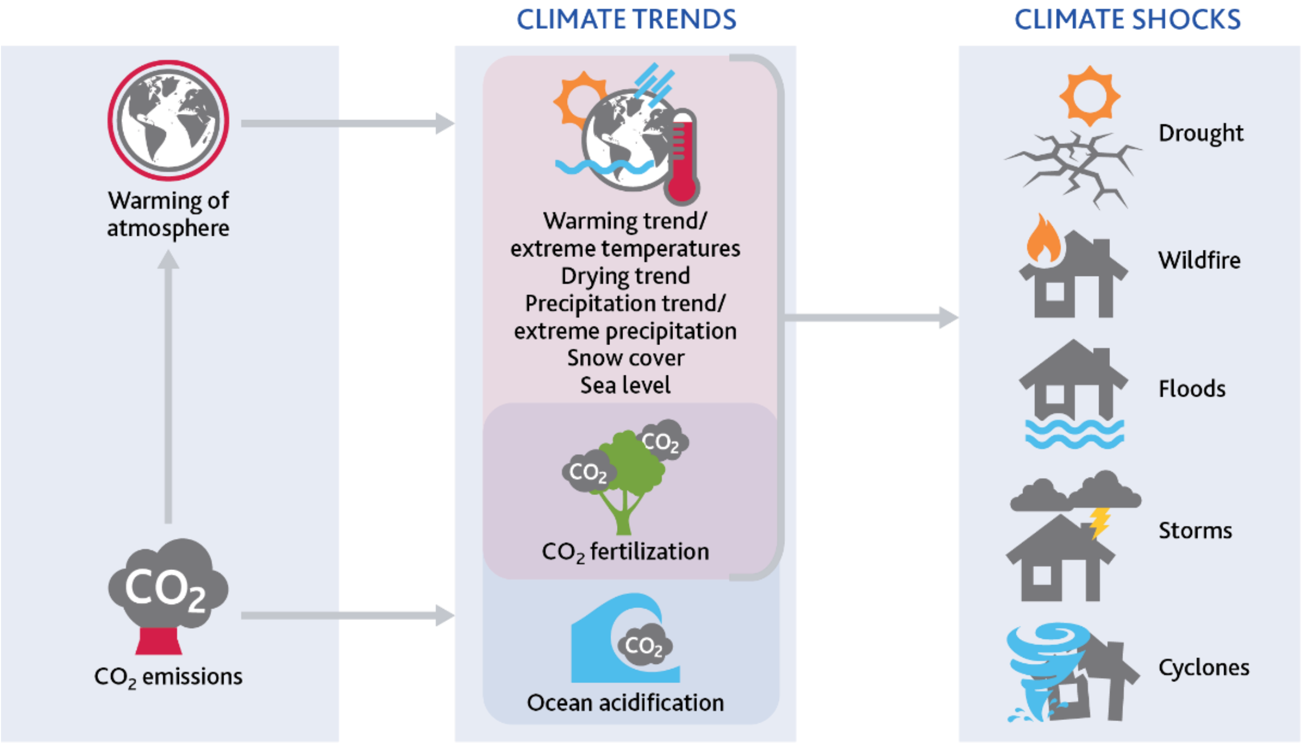
Environmental factors

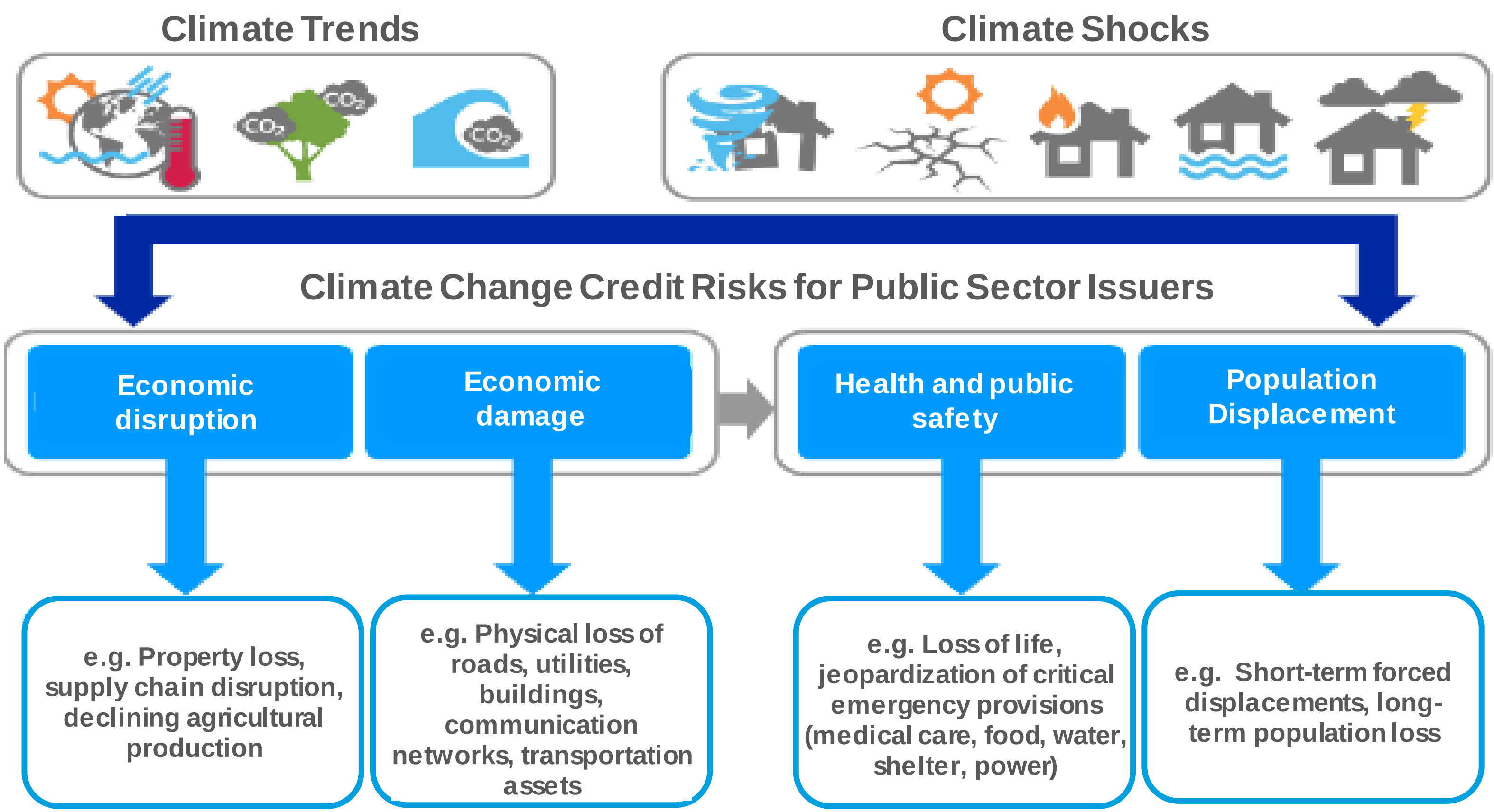
Physical Effects Manifest as Climate *Trends* and Climate *Shocks*

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:



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

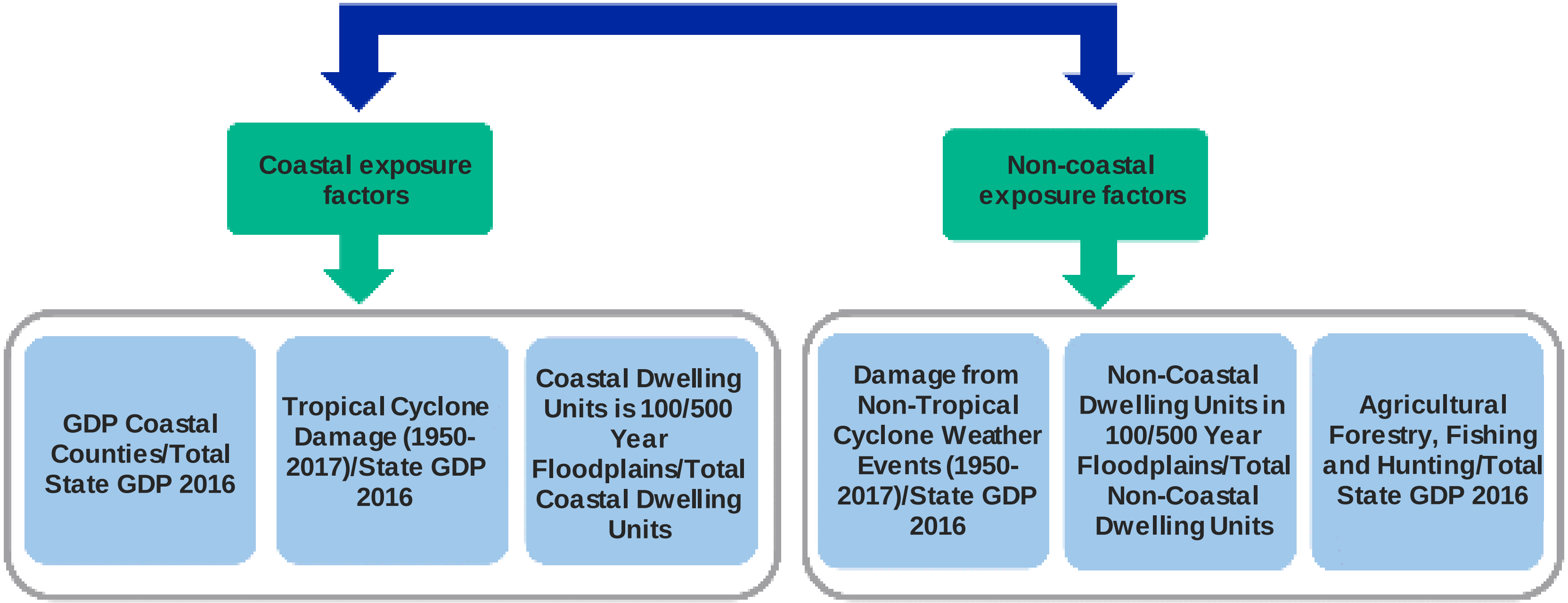
- (20%): Issuers with established and well-developed emergency management, financial, capital and debt plans will be best suited to overcome climate stressors.

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.

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Social factors

Six broad social factors with representative subcomponents

Each broad factor could have multiple additional subcomponents

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

Demographics

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

Labor & income

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

Education

- Availability and access ability of housing
- Condition of housing

Housing

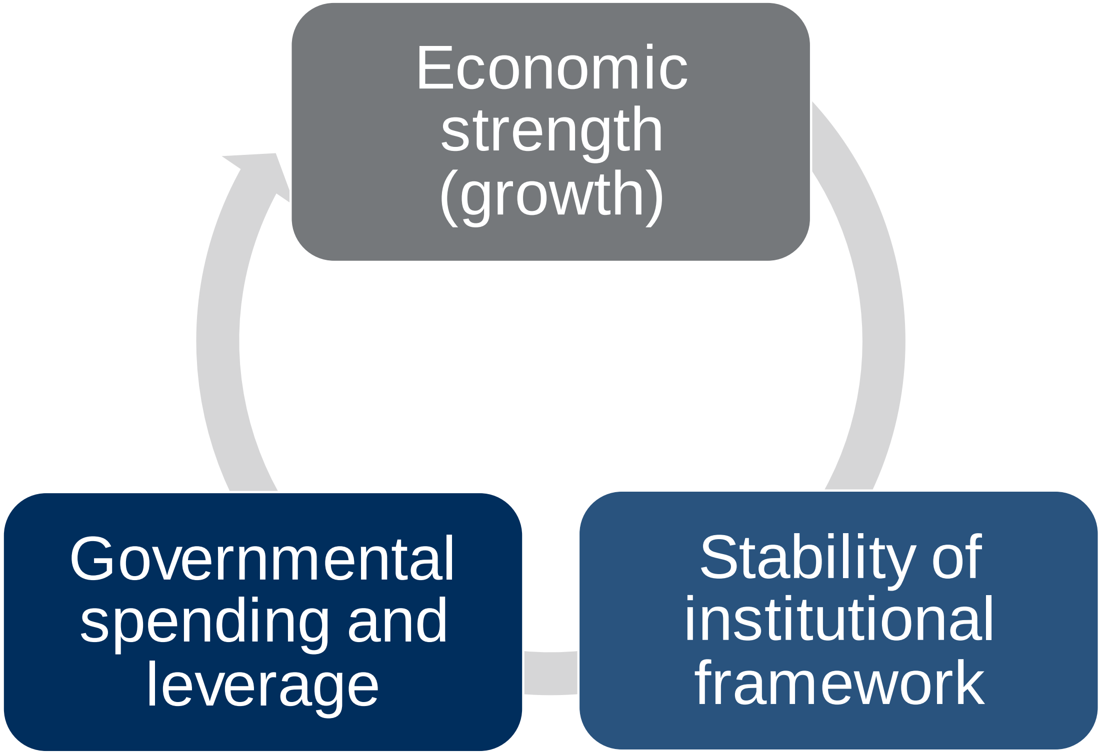
- Healthcare
- Food security
- Environmental quality
- Personal safety & well-being

Health and safety

- Water
- Sewer
- Electricity
- Financial services
- Transportation
- Telecom/Internet

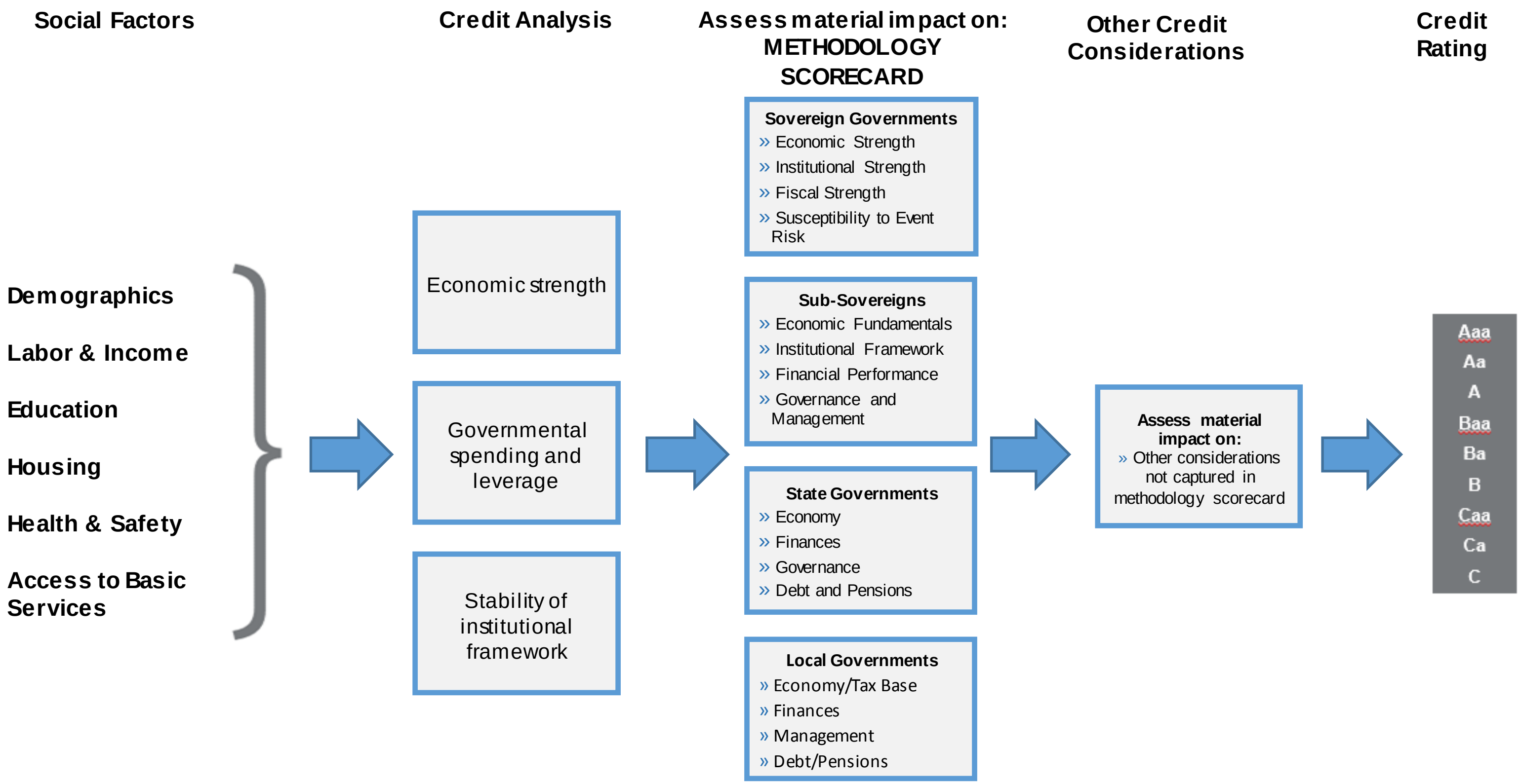
Access to basic services

Social factors affect credit in 3 primary ways



Source: Moody's Investors Service

Social considerations impact governmental analysis via multiple channels



Source: Moody's Investors Service

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Scorecard update

Scorecard now included in rating reports

Florida School District

Rating Factors	Measure	Score
Economy/Tax Base (30%) [1]		
Tax Base Size: Full Value (in 000s)	$10,000,000	Aa
Full Value Per Capita	$125,000	Aa
Median Family Income (% of US Median)	100.0%	Aa
Finances (30%)		
Fund Balance as a % of Revenues	12.0%	Aa
5-Year Dollar Change in Fund Balance as % of Revenues	1.0%	A
Cash Balance as a % of Revenues	15.0%	Aaa
5-Year Dollar Change in Cash Balance as % of Revenues	1.0%	A
Management (20%)		
Institutional Framework	A	A
Operating History: 5-Year Average of Operating Revenues / Operating Expenditures	1.0x	A
Debt and Pensions (20%)		
Net Direct Debt / Full Value (%)	1.0%	Aa
Net Direct Debt / Operating Revenues (x)	1.0x	A
3-Year Average of Moody's Adjusted Net Pension Liability / Full Value (%)	2.0%	Aa
3-Year Average of Moody's Adjusted Net Pension Liability / Operating Revenues (x)	2.0x	A
	Scorecard-Indicated Outcome	
	Assigned Rating	

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