MOODY'S

OUTLOOK

4 December 2019



Property tax revenue will grow by

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Local government – US

2020 outlook stable with revenue set to grow despite slowing economic growth

The outlook remains stable for the credit conditions driving the local government sector (cities, counties and school districts) over the next 12 to 18 months. Property tax revenue will grow for the eighth consecutive year in 2020, providing a buffer against slower economic growth. Local governments heavily dependent on sales and income taxes, however, will experience an immediate impact with the slowing economy, hindering their ability to continue growing reserve levels. Pension liabilities will remain a constraint for many local governments, while environmental risks, social challenges and cyberattacks are emerging risks that will continue to pose challenges for some.

- » Property tax revenue will grow by a strong inflation-adjusted 4.5% in 2020.

 Property tax revenue will be largely shielded from the immediate effects of any economic slowdown because changes lag behind weakening economic activity. GDP growth will slow to 1.7% in 2020 from 2.3% in 2019, according to our projections. Sales and income tax revenues are more economically sensitive and the slowdown will immediately hurt local governments heavily reliant on these revenue streams. State aid, which is key for school districts, will have a lag period before any state cuts have a budgetary impact.
- » Liquidity will provide a cushion against slowing economic growth. Liquidity is at a five-year high, providing financial flexibility even during periods of slower economic growth. Yet these levels will be difficult to maintain in light of slower growth.
- » Pension burdens will continue to pose a challenge. The number of local governments with high adjusted net pension liabilities (ANPLs) relative to revenue will continue to rise. Pension contributions generally remain below our tread water indicator, meaning that reported unfunded liabilities will grow unless offset by strong investment performance.
- » Environmental threats, social challenges and cyber risk will mount. Environmental risks will increase in severity, though federal aid will remain an important mitigant. Demographic changes, including an aging population, will continue to curb the economy in much of rural America. Cyber attacks will likely grow and necessitate strong governance, though states will increasingly provide assistance.
- » What could change the outlook. A positive outlook could result from continued property tax growth in conjunction with a healthy economy. A moderation in pension liabilities could also support a positive outlook. A negative outlook could result from property tax revenue growth below 2%, materially weaker economic growth than our forecast, or reduced willingness of local governments to pay debt service.

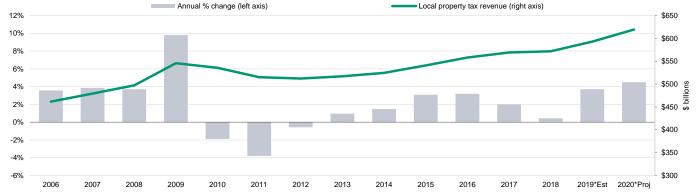
This outlook represents our forward-looking view on credit conditions in the sector over the next 12 to 18 months. This sectorwide outlook, however, does not imply the likelihood or direction of rating actions for individual issuers.

Property tax revenue will grow by a strong inflation-adjusted 4.5% in 2020

Property tax revenue, the principal revenue stream for most local governments, will reach its highest point in over a decade in 2020 with a 4.5% inflation-adjusted growth rate (see Exhibit 1). The growth comes on top of a stronger-than-anticipated 3.7% increase in 2019 (estimated and inflation-adjusted). The surge in property tax revenue will provide a cushion against slowing economic growth because declines lag behind changes in economic activity, as measured by GDP. GDP growth will fall to 1.7% in 2020 from 2.3% in 2019, according to our projections.²

While property tax revenue generally provides a buffer during the early part of an economic slowdown because of a lag period, local governments feel the effect after the delayed impact. For example, property tax collections soared in 2009 during the recession, but plummeted the following year. The projected drop in GDP growth to 1.7% in 2020 will materially impact property tax revenue growth in 2021, outside the outlook period.

Exhibit 1
Property tax revenue will increase 4%-5% in 2020, marking an eighth straight year of growth



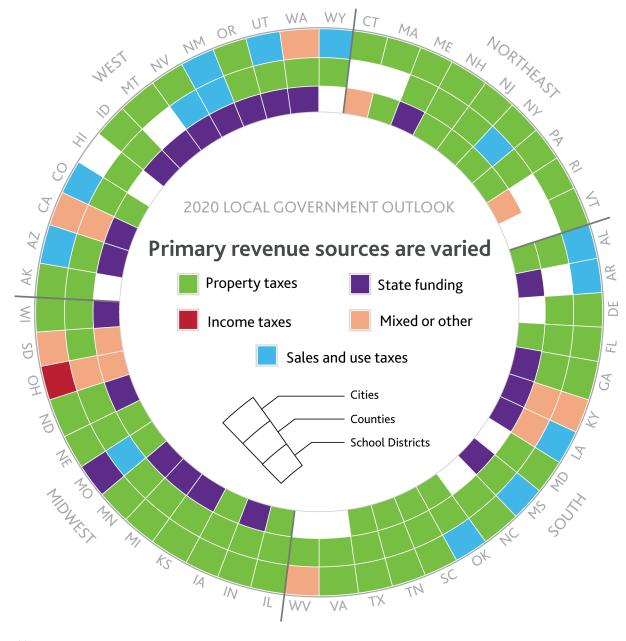
^{*2019} includes estimates for second half of year, 2020 is projected Sources: US Census Bureau, Moody's Investors Service

Local governments heavily reliant on sales and income taxes are more susceptible to an economic slowdown

Sales and income tax revenue is closely linked to economic performance, meaning both revenue streams tend to decline once the economy takes a hit. This dynamic leaves local governments heavily reliant on the two revenue streams vulnerable to a slowing economy. For example, incomes taxes are the largest revenue stream for Ohio cities, placing them at heightened risk from a 2020 economic slowdown (see Exhibit 2 on following page), while the principal revenue source for cities in 10 states, and counties in four states, is sales and use taxes. Sales tax revenue has grown by 3% to 5% annually in recent years.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moodys.com for the most updated credit rating action information and rating history.

Exhibit 2
Property taxes dominate, but local governments' primary revenue sources differ by state and sector Empty spaces indicate the absence, or very limited number, of rated entities in those sectors



Source: Moody's Investors Service

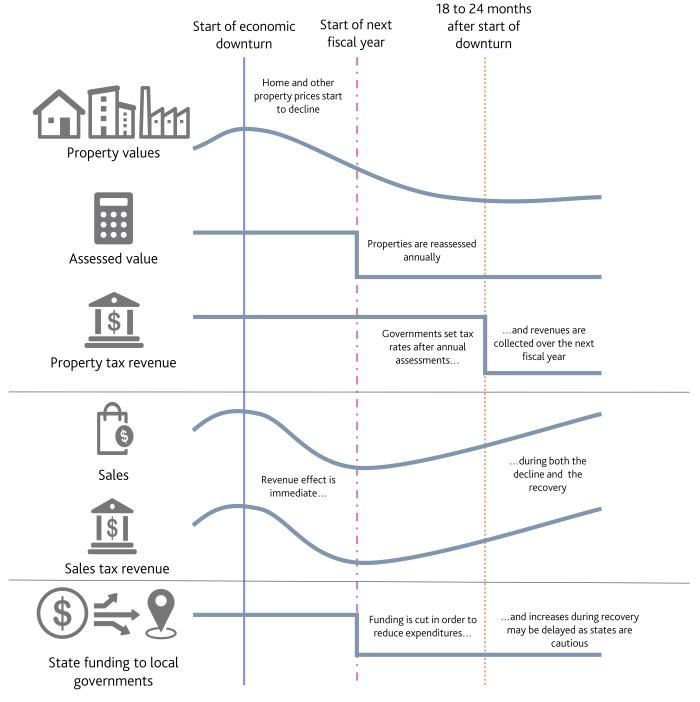
Cuts in state aid rooted in a slowing economy take time to have an effect

As with property taxes, local governments heavily dependent on state aid, predominantly school districts, will benefit from a lag period before an economic slowdown affects their budgets (see Exhibit 3). The strain generally settles in at the beginning of the next fiscal year as states reduce spending (or cut expenses) in response to a slowdown, curtailing certain local governments' financial flexibility. State income tax revenues are flush, but the economic slowdown threatens to lower them, reducing aid to local governments. However, states have shown a commitment to maintaining public education spending during economic trouble spots.

Exhibit 3

The timing of the impact of an economic downturn is dependent on revenue sources

Local governments heavily dependent on property taxes and state aid benefit from a lag before a revenue decline, while sales- and income-tax reliant local governments feel the impact immediately



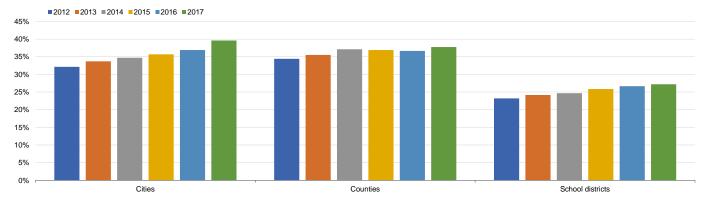
Source: Moody's Investors Service

Liquidity will provide a cushion against slowing economic growth

Robust liquidity will temper the effect of slower economic growth over the next 12 to 18 months, providing financial flexibility. Across the local government sector, liquidity, as measured by median cash and investments as a percent of operating revenues, has grown to

a five-year high (see Exhibit 4). Still, a prolonged economic downturn would weaken liquidity as local governments use their cash to maintain services and cover fixed costs.

Exhibit 4
Liquidity climbs to five-year high for cities, counties and school districts
Median cash and investments as a percent of operating revenue



Full 2018 and 2019 data is not available. Source: Moody's Investors Service

Strong levels of liquidity will enable local governments to withstand slowing economic growth and avoid immediate distress if a moderate recession takes hold. With the current healthy liquidity, local governments will likely continue to operate without reducing services, while making debt payments, as the economy slows. That said, it will be increasingly difficult for local governments to continue growing liquidity, let alone maintain current levels, in the event of a recession.

Some local governments are facing weakening liquidity

While liquidity has grown across the sector, there are pockets of weakness that will persist. Some counties and school districts with weak credit quality have experienced declines in the last five years, making them particularly vulnerable to a slowing economy. Specifically, of the 15 counties we rate at Baa1 or below, three saw significant declines in general fund liquidity over the last five years. Mercer County, North Dakota (Baa2 negative) saw an 83% decline in cash and investments as a percent of operating revenue, while Sumner County, Kansas (Baa2 negative) and Bacon County, Georgia (Baa2 negative) experienced declines of 47% and 43%, respectively. Additionally, the three school districts rated Ba1 or below with the largest declines in liquidity each saw a drop by 10% of revenue or more. McKeesport Area School District, Pennsylvania (Ba2 negative), Cook County Community School District 147 (Dixmoor), Illinois, (Ba3 stable) and Lake County Community School District 187 (North Chicago), Illinois (Ba1 positive) saw declines in cash and investments of 70%, 37%, and 11%, respectively. The cause of weak liquidity for the counties and school districts varies and is idiosyncratic.

Most large local governments prepared to manage a moderate recession, largely due to liquidity

Of the 25 largest cities in the nation by population, most are adequately prepared to handle a recession of similar magnitude to the most recent one without a material adverse credit impact, largely due to liquidity and reserve positions. Based on current cash reserves, the vast majority of the 25 cities have more than ample cash reserves to cover a recession similar to the one that occurred between 2007 and 2011.

Pension burdens will continue to pose a challenge

Many local governments will remain challenged with respect to their pension burdens, some significantly so. Rising adjusted net pension liabilities (ANPLs) relative to revenue will continue to rise, and recent market interest rate declines suggest that the trend will not reverse through at least fiscal 2020. Similarly, a widening tread water gap (see blue box on page 7 for explanation) indicates that reported pension liabilities will continue to grow unless offset by strong investment performance.

While certainly not all, some local governments in states such as Connecticut (A1 stable) and Illinois (Baa3 stable) remain exceptionally challenged by pension obligations due to a number of factors, including inflexible legal frameworks governing pension reform and

maturing pension system demographics. In some cases, contribution requirements are escalating after years of payment shortfalls. As the ratio of active employees to retirees continues to decline in many public pension systems, the growth in benefit outflows renders asset accumulation more difficult without corresponding increases in government contributions.

As growth in ANPL continues to outpace revenue growth, the share of local governments with ANPL topping 100% of revenue will continue to increase markedly, maintaining a trend since at least 2010 (see Exhibit 5). This trend has persisted despite a 10-year economic expansion and robust revenue growth, and will continue in part because of recent declines in interest rates. In many cases, ANPL will increase by 20%. Between fiscal years 2010 and 2018, the percentage of cities, counties and school districts with ANPL over 100% has increased by 31, 39 and 34 percentage points, respectively.

Exhibit 5

Many local governments will continue to struggle to curb liabilities, constraining financial flexibility
Proportion of local governments with ANPL greater than 100% of revenue has grown significantly over time

Cities' ANPL as % of revenue	Fiscal year		Change between 2010 and 2018	
	2010	2015	2018	
<100%	54.3%	26.6%	23.2%	-31.1%
100% - 200%	34.6%	43.7%	41.5%	6.9%
200% - 350%	9.6%	23.9%	25.7%	16.1%
350% - 500%	1.1%	5.5%	8.8%	7.6%
>500%	0.4%	0.3%	0.8%	0.4%
Sample size	2416	2580	2397	-19

Counties' ANPL as % of revenue	Fiscal year			Change between 2010 and 2018
	2010	2015	2018	
<100%	62.9%	27.0%	24.3%	-38.5%
100% - 200%	30.9%	53.7%	50.1%	19.2%
200% - 350%	4.8%	17.7%	23.2%	18.4%
350% - 500%	1.3%	1.5%	2.2%	0.9%
>500%	0.3%	0.1%	0.3%	0.0%
Sample size	797	855	785	-12

School districts' ANPL as % of revenue	Fiscal year			Change between 2010 and 2018
	2010	2015	2018	
<100%	57.2%	26.3%	23.2%	-34.0%
100% - 200%	25.8%	36.3%	32.9%	7.1%
200% - 350%	8.2%	34.3%	39.9%	31.6%
350% - 500%	8.3%	3.1%	3.5%	-4.8%
>500%	0.5%	0.0%	0.5%	0.0%
Sample size	2998	3325	3241	243

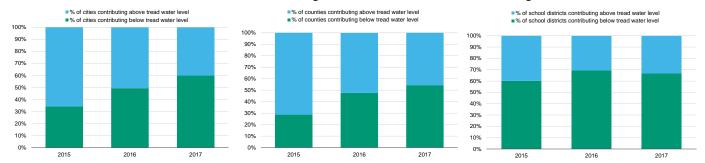
Source: Moody's Investors Service

Tread water gaps persist

Tread water gaps indicate that pensions will remain a challenge for local governments. Because local governments as a sector are not contributing at the tread water level, reported pension liabilities will continue to grow until contributions meet the tread water level.

The proportion of cities, counties and school districts with tread water gaps has grown over the last three years (see Exhibit 6). This points to continued growth in pension contribution requirements for local governments in order to address their unfunded liabilities. Stronger-than-expected investment performance would, however, otherwise slow the growth in pension contribution requirements.

Exhibit 6
The number of cities, counties and school districts contributing below the tread water level continues to grow



Full 2018 and 2019 data is not available. Source: Moody's Investors Service

What is a tread water gap?

The tread water indicator provides an indication of the strength or weakness of an issuer's pension contributions relative to reported pension plan funding needs. It represents our estimate of the pension contribution necessary to prevent unfunded pension liabilities from growing, year over year, in nominal dollars, if all actuarial assumptions are met.

Contributions that exceed the tread water indicator translate into a decline in unfunded liabilities. In contrast, contributions that lag the tread water indicator signal the presence of an ongoing structural budgetary imbalance, as the contribution made does not cover the cost of implied interest on unfunded liabilities. We consider this a "tread water gap."

Ongoing contribution weakness signals that government pension costs may rise in the future and shift from an implicit deferred cost to an actual budgetary cost that may compete with other spending priorities.

The tread water indicator is the sum of two components: the employer portion of the service cost and the implied interest on the net pension liability at the beginning of the plan's fiscal year. We calculate the tread water indicator using the reported discount rate.

To calculate the employer portion of the service cost, we subtract employee contributions from total service cost. To calculate the implied interest on the net pension liability, we multiply the net pension liability at the beginning of the plan's fiscal year by the discount rate from the prior year, or in other words, at the beginning of the plan's fiscal year.

Environmental threats, social challenges and cyber risk will mount

Environmental and social risks as well as cyberattacks will become increasingly troublesome for local governments. Natural disasters such as hurricanes, wildfires and floods will likely continue to increase in severity, which will drive up unforeseen costs. Federal aid and other mitigants, however, will help over time. Population loss in much of rural America will curb tax revenue there, while the opioid crisis is a growing financial and social risk nationally. Cyber risk will increase, necessitating sound governance to make investments to reduce the threat.

Natural disasters will become increasingly costly, though federal aid and liquidity will help manage the damage

As environmental events increasingly wreak havoc, local governments' post-disaster remediation costs will likely continue to rise and many municipalities will make investments in infrastructure to limit future damage. From 2015 to 2018, total damages from natural disasters averaged \$150 billion annually with costs mostly the result of tropical cyclones (hurricanes), wildfires, drought and flooding. Local governments, however, benefit from federal and state assistance and their own liquidity to recover from disasters. There has not been a payment default on Moody's-rated municipal debt directly stemming from a natural disaster since we began tracking municipal defaults in 1970.

California local governments are likely to endure increasing threats from wildfires as climate trends result in warmer, drier conditions. In an attempt to mitigate damage from wildfires, Pacific Gas & Electric Company (PG&E) and other electric utilities in California are implementing blackouts affecting hundreds of thousands of customers, though blackouts also threaten to cause sizable economic losses if their frequency markedly increases. Demonstrating the scale of wildfire damage, PG&E, which serves most of Northern California, announced an agreement in June with 18 local governments to pay a combined \$1 billion to settle claims regarding the company's role in causing recent wildfires.

Flooding will remain a growing financial risk for local governments, particularly in the Midwest. Farmland, where floods and other weather events reduce productivity, will become increasingly exposed if the frequency of environmental risks decidedly increases. In light of recent flooding, portions of a number of Midwest states received federal disaster declarations, making them eligible for Federal Emergency Management Agency (FEMA) assistance.

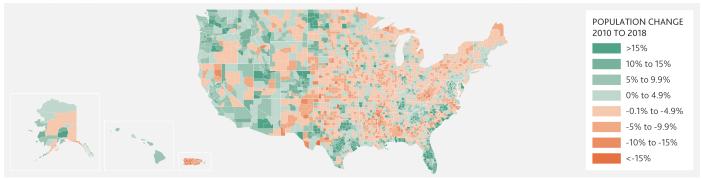
Congress is likely to continue its support of FEMA, which along with liquidity, state assistance and insurance, will help local governments manage unforeseen, post-disaster costs. Local governments in federally declared disaster areas are eligible for FEMA funding to cover at least 75% of certain costs, with states often paying at least some of the balance. That said, any wavering of federal commitment in FEMA funding that shifts costs to local governments would have negative repercussions for municipalities.

Local governments will also increasingly focus on investing to bolster infrastructure to prevent damage, increasing debt issuance in the process. For example, voters in Harris County, Texas (Aaa stable), which suffered from Hurricane Harvey in 2017, approved in mid-2018 the issuance of \$2.5 billion in general obligation bonds for flood control projects. While the issuance is large, it will not materially impact Harris County's debt burden because it will be issued over a period of 10 to 15 years. In that vein, local governments issuing debt for projects to guard against future damage will necessitate sound governance to make sure the burdens are manageable. States are also likely to provide more aid to help strengthen infrastructure. For example, Texas voters recently approved a Flood Infrastructure Fund seeded with \$800 million from the state's rainy day fund to help local governments reduce flood damage.

Rural America will continue to endure economic challenges

Shifting demographic trends will continue to impact many rural local governments, including population loss (see Exhibit 7) and a declining workforce, which hurt the economy. An aging population is also driving up social service costs in many rural areas.





Sources: Moody's Investors Service, US Census Bureau

While rural population loss will continue, farming-dependent local governments will generally maintain credit quality. Farmland will remain a relatively stable source of property tax revenue even in the face of the current rise in Chapter 12 (farm) bankruptcies and trade tensions (see blue box on page 10). In the 1980s, bankruptcies were 10 times higher and exports plummeted by nearly 40%, but property values recovered in the following decades. Manufacturing-reliant municipalities, however, can suffer quickly from a factory closing, while farmland stays and continues to generate revenue.

Opioid crisis will continue to pose risks

The growing opioid epidemic will continue to pose social, economic and financial challenges for local governments. In legal actions against opioid marketers, manufacturers and distributors, thousands of cities and counties allege opioid abuse has driven up public service costs. While many cities and counties are likely to reach settlements with the companies involved, we expect settlements to fund addiction treatment and prevention programs. Since addiction treatment takes time, the social and economic costs of opioids will remain through the outlook horizon. Cuyahoga (Aa2 stable) and Summit (Aa1 stable) counties in Ohio will provide a test case on the impact of settlement funds on opioid addiction, having recently reached agreements with a group of companies worth over \$300 million combined.

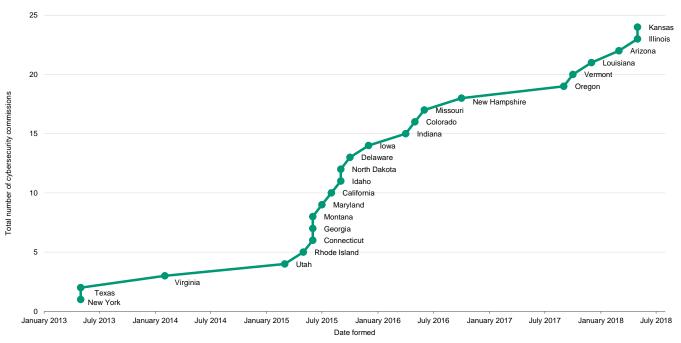
Governance will play an important role in reducing escalating cyber risk

Many local governments will take increased steps to curb their heightened exposure to cyberattacks with strong governance playing a critical role. States will also increasingly take aggressive actions to help their local governments — many of which lack sufficient resources — to cope with attacks and guard against them.

Governance includes decisions about investing in dedicated information technology teams (in-house or via contracts) and cyber insurance. Maintaining financial flexibility to manage an attack is also helpful. Of course, for local governments suffering a ransomware attack, there are also decisions about whether to pay a ransom to restore operations or not.

States' heightened responsiveness to attacks and investments in cyber defense are evident in ransomware attacks affecting three Louisiana school districts in July. The governor declared a state of emergency in response that brought assistance from the Louisiana National Guard and Louisiana State University, among other state entities. The state had also taken steps to prepare for malicious attacks by forming the Louisiana Cybersecurity Commission in 2017. At least 24 states have launched state commissions since 2011 (see Exhibit 8). New approaches to cyber security continue with Ohio launching a civilian cybersecurity reserve force that is part of the state National Guard.

Exhibit 8
The formation of state-level cybersecurity commissions is a growing trend



Sources: National Conference of State Legislators, Moody's Investor's Service

Uncertainty regarding trade tensions will continue

Trade tensions and the corresponding uncertainty will continue to have ramifications for some local governments. Midwest local governments reliant on farming, in particular, are exposed to the current trade dispute between the US and China. But farming has served as a reliable source of property tax revenue going back more than six decades, which covers 10 recessions. Some local governments involved in cross-border trade stand to benefit from the United States-Mexico-Canada Agreement (USMCA), though the US is yet to ratify it. If the USMCA is enacted and leads to US factories shifting to Mexico, there is the potential for economic challenges in certain areas. If there is a boost in manufacturing in the US, however, some areas would potentially benefit.

What could change our outlook

Any of the following three trends could drive a positive outlook:

- » Continued property tax revenue growth in line with recent trends alongside improved economic growth
- » Improved national economic conditions that are materially stronger than our current projections, including above average GDP growth
- » Moderation of pension liabilities and total leverage relative to revenue and tax bases

Any of the following five trends could drive a negative outlook:

- » Materially weaker national economic conditions, particularly affecting property values or leading to changes in GDP that increase unemployment
- » Property tax revenue growth of less than 2%
- » Property tax revenue growth of more than 2% that is outpaced by rising fixed costs or growth in leverage from debt and pensions
- » Materially increased challenges from trends such as pension cost increases, growing environmental risks, rising healthcare costs and changing demographics that begin to have more immediate effects on sector stability
- » Evidence of reduced willingness of local governments to pay debt service, as indicated by a significant increase in the number of issuers resorting to bankruptcy or default in the face of financial challenges, or a reduced willingness of states to support distressed local governments

Moody's 2020 global credit themes affecting the US local government sector



RECESSION RISKS

Recession risks will rise amid a pronounced global economic slowdown.

- » Most local governments are prepared to manage a moderate recession, largely due to liquidity.
- » Local governments heavily reliant on economically sensitive sales and income taxes will feel the impact of slowing economic growth immediately.



TRADE TENSIONS

An enduring US-China trade deal will remain elusive and trade disputes will weigh on credit conditions.

- » Uncertainty regarding trade tensions will continue.
- » Midwest local governments reliant on farming are exposed to the trade dispute between the US and China.
- Some local governments involved in cross-border trade stand to benefit from the United States-Mexico-Canada Agreement (USMCA), though the US has yet to ratify it.



DISRUPTIVE TECHNOLOGIES

Scaling up of digital technologies will accelerate the transformation of traditional businesses.

- » Cyber attacks will likely grow and necessitate strong governance.
- » States will increasingly take aggressive actions to help their local governments – many of which lack sufficient resources – to cope with attacks and guard against them.



ESG IMPACT

Climate risks will constrain the availability of capital for the mostexposed sectors; demographic and social trends will create risks and opportunities.

- Natural disasters such as hurricanes, wildfires and floods will likely continue to increase in severity, which will drive up unforeseen costs.
- » Local governments will invest in infrastructure to prevent damage, increasing debt issuance in the process.
- » Shifting demographic trends will continue to impact many rural local governments, hurting their economies.
- The growing opioid epidemic will continue to pose social, economic and financial challenges for local governments.

Moody's related publications

Sector In-Depth

» Ransomware attacks highlight importance of IT investment and response planning, October 2, 2019

Sector Comment

- » Opioid settlement would be no more than a stopgap for local and state governments, September 20, 2019
- » Louisiana: State-coordinated response improves school districts' outcomes in cyberattacks, August 7, 2019

Six themes will shape global credit in 2020



RECESSION RISKS

Recession risks will rise amid a pronounced global economic slowdown.



POLITICAL RISKS

Domestic policy shifts and geopolitical uncertainty will threaten to undermine credit conditions in many regions.



DISRUPTIVE TECHNOLOGIES

Scaling up of digital technologies will accelerate the transformation of traditional businesses.





LOWER-FOR-LONGER INTEREST RATES

An increasing share of assets globally will yield very low or negative interest rates.



TRADE TENSIONS

An enduring US-China trade deal will remain elusive and trade disputes will weigh on credit conditions.



ESG IMPACT

Climate risks will constrain the availability of capital for the most-exposed sectors; demographic and social trends will create risks and opportunities.

For more information, visit The Big Picture at **tbp.moodys.io**

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Endnotes

- 1 Global Macro Outlook 2020-21
- 2 Global Macro Outlook 2020-21
- 3 National Centers for Environmental Information of the National Oceanic and Atmospheric Administration
- 4 Farm-based local governments will maintain credit quality, though climate risks loom

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