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CREDIT OPINION
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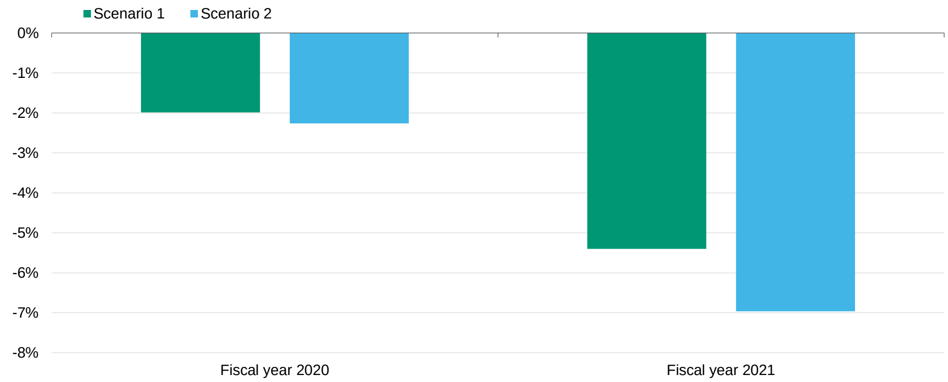
New York (City of) NY

Update to analysis following outlook revision to negative

Summary

On April 1 we revised New York City's (Aa1) outlook to negative from stable to reflect the impact of the coronavirus crisis on the city's budget. The rapid and widening spread of the outbreak, deteriorating global economic outlook, falling oil prices and financial market declines are creating a severe and extensive credit shock across many sectors, regions and markets. The combined credit effects of these developments are unprecedented. We regard the coronavirus outbreak as a social risk under our ESG framework, given the substantial implications for public health and safety. The sudden and severe decline in the city's sales and income taxes results from the negative economic effects of efforts to stem coronavirus. Spending cuts and other measures will balance the current year, which ends June 30, but more significant spending reductions will be needed for fiscal 2021 to match lower revenue and will be a challenge even with the mitigating impacts of substantial federal emergency assistance.

Exhibit 1
The sudden economic stop leads to sizable budget gaps
Estimated revenue shortfalls as a percentage of total city tax revenue



Total city tax revenue is from the January financial plan (the "preliminary budget"). Scenarios reflect the moderate and heavy downturn presented in the comptroller's March 23 estimate.
Source: New York City comptroller

The city's general obligation credit reflects the strong and diverse New York City economy before the coronavirus crisis. The city's competitive advantages include a young and highly skilled labor pool, access to higher education and medical centers, strong domestic and international transportation links and low crime rates. Those fundamentals position New York City for strong future growth, especially in media, medical research and technology, while maintaining its deep strength in financial services.

The rating also reflects the city's ongoing strong budgetary and financial management and the breadth and diversity of its revenue base. The rating also reflects that the city's financing responsibilities are broader than most local governments, since it is a city, five counties and the nation's largest school district and its debt burden is above-average because of this operational scope. Still, the city's fixed costs for debt service, pensions and retiree healthcare are below the median for the largest local governments and in the bottom five among the nation's largest cities.

Credit strengths

» Exceptionally large and diverse economy driven by city's position as an international center of financial services, media, hospitality and a growing high tech sector

» Strong governance and financial best practices, including conservative revenue forecasting, tested through periods of fiscal stress and strong liquidity

» Strong pension funding practices

Credit challenges

» Fixed costs that require continued long-term economic and revenue growth to remain affordable

» Potential for cyclical changes in the financial services industry to impact the broader economic base

» Ongoing need to close forecast future year budget gaps

» Growing susceptibility to climate risks especially from storms and rising sea levels

Rating outlook

The negative outlook reflects the sudden and severe decline in the city's sales and income taxes as the negative economic effects of efforts to stem coronavirus take hold, and the significant actions the city will need to take to balance the budget in the next year and possibly beyond.

Factors that could lead to an upgrade

» Stronger reserves, at levels similar to higher-rated peers or establishment of formal policies to increase reserves

» Reduction of debt burden or further reduction in fixed costs

Factors that could lead to a downgrade

» Divergence from well-established fiscal practices and strong budgetary management

» Emergence of significant liquidity strain, especially that results in the need for large cash-flow borrowing

» Negative change in economic fundamentals outside normal economic fluctuations

Key indicators

Exhibit 2

	2015	2016	2017	2018	2019
Economy/Tax Base					
Total Full Value ($000)	$906,273,800	$969,430,400	$1,064,244,500	$1,149,208,800	$1,250,706,900
Population	8,426,743	8,461,961	8,560,072	8,398,748	8,398,748
Full Value Per Capita	$107,547	$114,563	$124,327	$136,831	$148,916
Median Family Income (% of US Median)	89.8%	90.4%	91.1%	91.1%	91.1%
Finances					
Operating Revenue ($000)	$77,849,799	$79,646,272	$83,287,642	$87,822,094	$95,497,737
Fund Balance ($000)	$7,571,621	$8,883,440	$8,763,029	$9,346,799	$9,155,551
Cash Balance ($000)	$13,459,490	$14,244,372	$12,156,339	$11,154,797	$9,702,413
Fund Balance as a % of Revenues	9.7%	11.2%	10.5%	10.6%	9.6%
Cash Balance as a % of Revenues	17.3%	17.9%	14.6%	12.7%	10.2%
Debt/Pensions					
Net Direct Debt ($000)	$69,071,880	$69,457,542	$72,620,832	$76,014,854	$77,297,205
3-Year Average of Moody's ANPL ($000)	$100,395,898	$115,064,989	$125,773,986	$131,353,822	$128,596,834
Net Direct Debt / Full Value (%)	7.6%	7.2%	6.8%	6.6%	6.2%
Net Direct Debt / Operating Revenues (x)	0.9x	0.9x	0.9x	0.9x	0.8x
Moody's - ANPL (3-yr average) to Full Value (%)	11.1%	11.9%	11.8%	11.4%	10.3%
Moody's - ANPL (3-yr average) to Revenues (x)	1.3x	1.4x	1.5x	1.5x	1.3x

Source: City of New York audits, Bureau of the Census, Bureau of Economic Analysis, Moody's Investors Service

Profile

New York City, the largest city in the US, is large and diverse, with a population of 8.4 million people and above average wealth levels: personal income per capita is 141% of the US level. The size and scope of the city's operations are broader than most local governments: in addition to the city government, New York City is five counties and the nation's largest public school system, with 1.1 million students. New York City's GDP is larger than all but four states.

Detailed credit considerations

Economy and tax base: large, robust & diverse

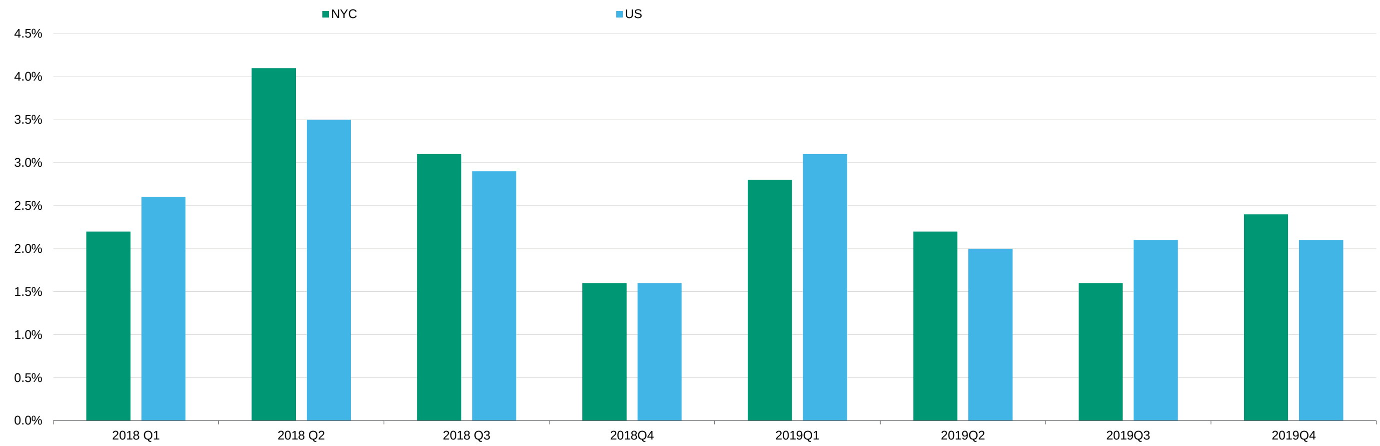
New York City's economy is the largest local economy in US with GDP larger than all but four states. The MSA's GDP is larger than Australia's and nearly as large as Canada's. Until the coronavirus crisis the city's economy was performing strongly: GDP growth outpaced the nation's for five of the last seven quarters (see Exhibit 3). The city's employment situation also was very strong. Job growth in the past five years well outpaced the nation and that trend continued through February 2020, although at a slower pace (see Exhibit 4). The city's unemployment rate similarly was at a record low 3.4% in February (see Exhibit 5).

The coronavirus outbreak has had a severe but temporary negative impact on New York City and its economy. Our macroeconomic outlook for the US reflects a 2% decline in national GDP in 2020 followed by a 2.3% increase in 2021. The decline will likely be greater in New York City and job losses larger than other parts of the nation because the city is the current center of the outbreak in the US. We expect the impact on the New York City economy to follow our national V-shaped recovery scenario. Until the crisis ends and the recovery starts elements of the $2 trillion federal economic stabilization measure will help support incomes and consumption, especially direct cash payments to individuals, small business loans and expanded unemployment benefits.

Exhibit 3

Growth in New York City economy generally outpacing the US

Annual percentage growth in real GDP

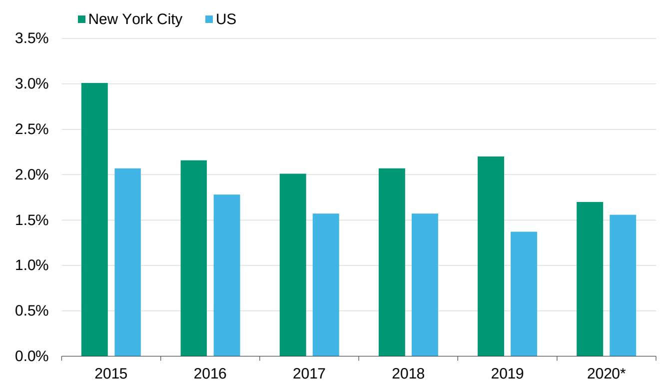


Source: New York City comptroller, US Bureau of Economic Analysis

Exhibit 4

New York City job growth has outpaced the nation for five years

Year-over-year percentage increase in NYC & US employment



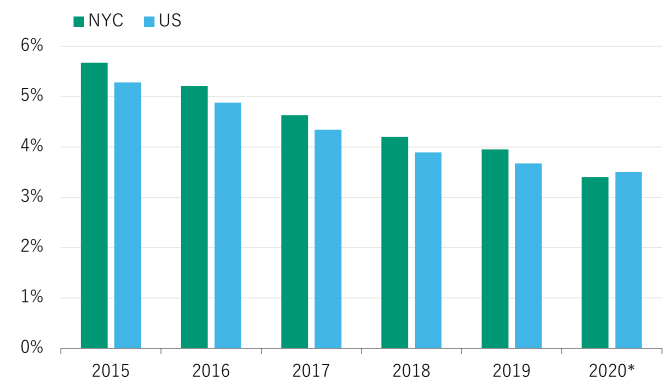
2020 data reflect February

Source: US Bureau of Labor Statistics

Exhibit 5

New York City's unemployment rate was at a record low in February

Annual NYC & US unemployment rate



2020 data reflect February

Source: US Bureau of Labor Statistics

Financial operations and reserves: closing sudden budget gaps will be a challenge

The coronavirus crisis has opened gaps that range from 2.0% to 2.3% of the January revenue forecast in the current fiscal year (ending June 30), and 5.4% to 7.0% in fiscal 2021. Sales and personal income taxes—about 33% of city tax revenue—are most directly effected by the economic pause and by recent stock market volatility (see Exhibit 6).

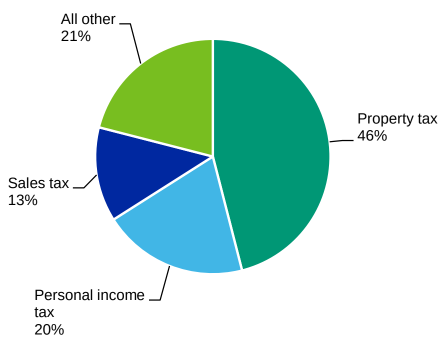
The fiscal 2020 budget gap is most difficult because of its suddenness, opening with roughly 90 days left in the city's fiscal year. The mayor has already requested $1.3 billion of cuts in the current and next fiscal year, and the size will likely grow when a revised financial plan is issued toward the end of April. The 2021 budget gap is larger than ones the city has had to confront recently over a short period. Typically, later years in the city's financial plan show spending pressures that the city then reduces over time until the budget is balanced. For example, the January plan forecast gaps in fiscal years 2022, 2023 and 2024 equal to 2.5%, 2.6% and 2.7% of estimated revenue. The city's budget is broader than most local governments because of the scope of its operations (see Exhibit 7) and closing the gaps will test the city's willingness and ability to ratchet spending down. Beyond immediate revenue declines the city also faces an uncertain state budget environment. The state budget for the fiscal year that started April 1 allows the governor to make rolling adjustments as necessary depending on state revenue, which will be an additional challenge for the city's budget and liquidity if state aid payments are cut or deferred.

In addition to the indirect economic stimulus of federal relief enacted so far, the city will benefit directly from aid enacted to be help states and local governments. The increase of the federal Medicaid sharing ratio, the FMAP, to 6.2% will save the city about $800 million it estimates for the quarters that the federal major disaster declaration remains in place. Most the $3.4 billion allocated to New York local governments as part of the $150 billion Coronavirus Relief Fund will likely come to New York City to reimburse it for extraordinary costs related to the crisis. There are also additional federal funds allocated to schools and hospitals that will help reimburse the city for coronavirus-related spending.

Exhibit 6

New York City tax revenues are broad...

Sources of taxes as a percentage of total tax revenue, fiscal 2019

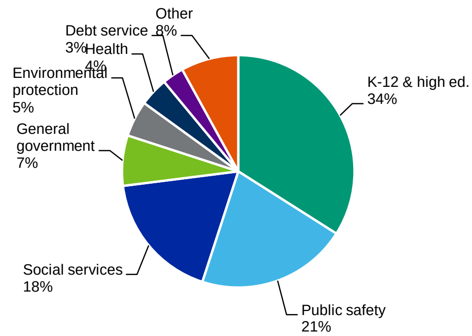


Source: City of New York

Exhibit 7

... and so are its operations

Spending by category, fiscal 2019



Source: City of New York

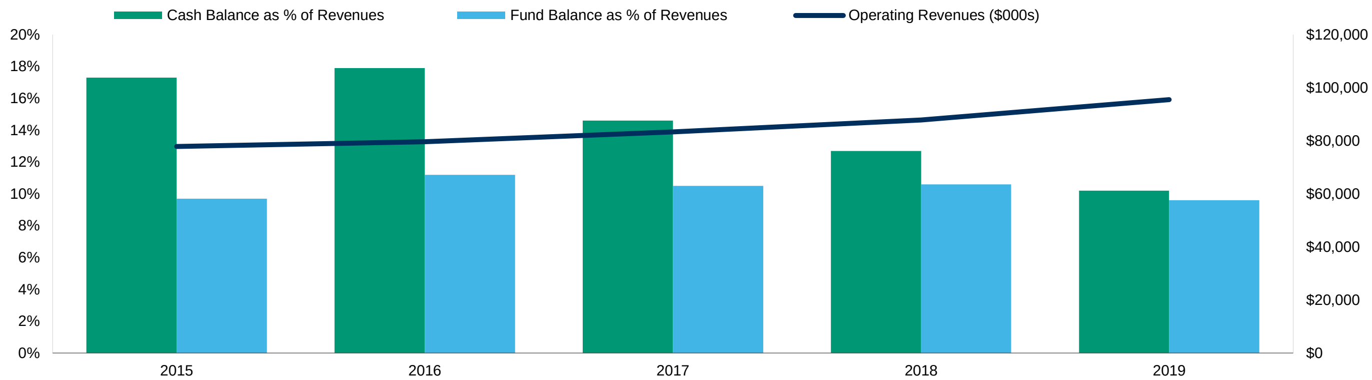
Reserves in the city's GAAP-basis four-year financial plan have increased although as a percentage of revenue they are smaller (see Exhibit 8). Budgeted fiscal 2020 reserves included $1 billion in the General Reserve and $250 million in a pay-as-you-go capital reserve. The Retiree Health Benefits Trust also holds $4.7 billion, about two times the city's annual retiree healthcare benefits payment and can be used to help relive budget pressure. The financial plan also included the expected use of $2.7 billion of budgetary surplus to prepay fiscal 2021 debt service costs, the normal "surplus roll" the city makes each year since on a GAAP-basis it cannot hold surplus revenue as a balance. That amount was trending higher through calendar 2019 amid strong revenue performance and could be used to help offset revenue losses, although that would make the fiscal 2021 budget gap larger.

The city's generally accepted accounting principles (GAAP) expenditure reserve is currently discretionary and creating a more formal savings mechanism would allow the city to betteraccess its tremendous economic capacity to manage future slowdowns. Although many local governments have the ability to set a substantial amount of increased revenue aside for rainy days, state law does not allow New York City to do the same. City voters approved a ballot measure in November 2019 to create a formal rainy day fund but state legislative action is still needed to implement it.

Exhibit 8

Reserves have increased by revenue has grown faster

Cash and fund balance as a percentage of operating revenue



Source: City of New York audited financial statements, Moody's Investors Service

LIQUIDITY

The city's cash was healthy coming into the current period of constrained revenue related to coronavirus economic impact. Average daily balances were forecast to be a healthy $7.2 billion through the end of the current fiscal year, or 7.5% of full year all funds expenditures (see Exhibit 9). Balances have almost certainly trended lower as revenue has fallen but the city received the full amount of state school aid it was due at the end of March. The shift in timing of income tax filing and payment date from April 15 to July 15 will shift about $1.5 billion of revenue from the current fiscal year into the next, a slightly negative impact but a manageable one. Those funds are shifting on a cash basis but on an accrual basis the city plans to account for them in fiscal 2020 for budget balance purposes.

Debt and pensions: leverage is moderate overall

Unlike most other large cities, no separate school district or county government exists that also finances New York City's capital costs, which results in a higher bonded debt load when compared to some other local governments. New York City's net debt as a percentage of full value is 6.2%, compared to 2.6% for Aa1-rated cities. However, New York City's tax base is broader than just its real estate value: unlike most property tax-dependent local governments, the city's revenue base also includes personal income taxes, sales taxes and other taxes.

DEBT STRUCTURE

The city's outstanding debt is nearly evenly split between general obligation bonds and bonds issued by the New York City Transitional Finance Authority (TFA, Aaa senior, Aa1 subordinate negative) secured by personal income taxes (and if necessary, sales taxes) (see Exhibit 9). It also has a small amount of appropriation-backed debt outstanding, issued by the Hudson Yards Infrastructure Corporation (Aa2 negative) to finance extension of a subway line and smaller amounts issued by Health + Hospitals for healthcare facilities, the Educational Construction Fund for schools and the Industrial Development Agency for land acquisition. General obligation debt issuance is subject to a limit based on a five-year average of taxable full value. TFA issuance is limited by a cap in state statute, but can exceed that subject to an equivalent amount being subtracted from the general obligation limit. At the end of calendar 2019, the city's combined debt incurring authority was $38 billion.

Exhibit 9

Outstanding bonds evenly split between GO and TFA, small amount of appropriation debt

Credit	Amount outstanding	% of outstanding
General obligation	$38,063	47%
Transitional Finance Authority future tax secured	$39,580	48%
Appropriation-backed	$4,491	6%
Total	**$82,134**	**100%**

Data are as of December 31, 2019

Source: City of New York offering documents

Most outstanding GO debt is fixed rate, with less than 20% in various floating rate modes (see Exhibit 10). In addition, 11% of outstanding TFA debt is floating rate. Counterparty risk is managed through a diverse array of liquidity providers: 14 banks provide liquidity support for general obligation variable rate debt and 12 support TFA variable rate demand debt.

The city manages its variable rate portfolio proactively to renew or replace expiring liquidity facilities or to convert variable rate bonds to fixed rate or other interest rate modes if necessary. In an effort to reduce its overall borrowing costs and mitigate bank exposure, the city has converted some variable rate demand bonds to floating rate index modes (all of which are based on SIFMA). Those bonds do not have the put risk associated with demand debt but the city must refinance most of them at specific dates or interest rates will step up to higher levels. Those risks are highly manageable given the city's record of market access. There is one GO letter of credit-supported transaction that will need to be renewed, substituted or converted in May and one in June (both with the same bank). There are no additional step-up dates for the city's GO index mode bonds until 2022. The city has no LIBOR-based debt, mitigating the need to do refinancings before that rate's termination in 2021.

Exhibit 10

Floating rate debt is a small portion of total outstanding and poses minimal credit risks

	Fixed Rate	VRDBs	Index Rate	Fixed rate stepped coupon	ARRS	Auction Rate	Total
Outstanding	$31,849	$4,654	$625	$197	$100	$635	$44,277
% total	84%	12%	2%	0.5%	0.3%	2%	100%

ARRS are adjustable rate remarketed securities, which have remarketing and basis risk but no hard put risk.
Source: City of New York Offering documents

DEBT-RELATED DERIVATIVES

The city has seven outstanding interest rate swap agreements associated with its general obligation bonds, with four separate counterparties. The swap portfolio's potential risks to the city are minimal: rating triggers that would cause the agreements to terminate early or post collateral are low, ranging between Baa1 and Baa3. As of December 31, 2019 the combined outstanding notional amount of the swaps was $511 million, with a mark-to-market value of -$63 million. Two of the city's swaps will be outstanding when Libor is terminated, and the payments the city receives are LIBOR-based. The city expects the transition to a new common swap reference rate will not pose much risk.

PENSIONS AND OPEB

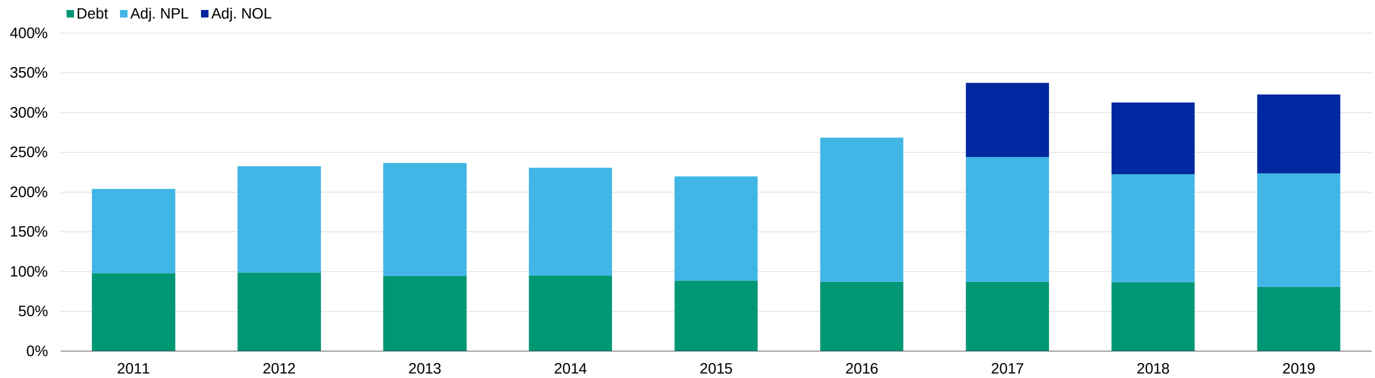
New York City's adjusted net pension liability (ANPL) is in the lower half of the 50 largest local governments equaling 143% of operating revenue in fiscal 2019. Strong pension funding practices include routinely contributing in excess of the “tread water” amount needed to keep the city's net pension liability from growing, under reported assumptions: in fiscal 2019, the city contributed 135% of the tread water amount. The city's pension system includes three multiemployer cost-sharing plans (the New York City Employees Retirement System, Teachers Retirement System and Board of Education Retirement System), and separate plans for fire and police.

Recent US public pension investment losses stand to severely compound the pension liability challenge already facing many governments. As of a March 20 snapshot, we estimated that US public pension systems are generally on pace for an average investment loss of about 21% in the fiscal year that will end on June 30. From a point-in-time balance sheet perspective, New York City’s susceptibility to pension investment volatility is lower than many other local governments because the city’s pension assets are not that large relative to the size of the city's governmental revenue (168%). On the other hand, like other local governments, New York City will almost certainly face higher contribution requirements to its pension systems as a result of fiscal 2020 investment performance, although the precise magnitude remains uncertain. Like most US public pension systems, several of New York City’s pension systems have negative non-investment cash flow (NICF), meaning benefit outflows exceed contributions from employees and the city. If the city does not respond to investment losses by increasing its contributions quickly, negative NICF could constrain future pension asset accumulation. As such, the city’s adherence to its strong contribution track record will be a focus of future credit reviews.

Retiree healthcare liabilities (OPEB) are a challenge for New York City. The city's adjusted net OPEB liability is 99% of operating revenue and nearly 7.6% of full value. While the city has OPEB assets equal to nearly two years' pay-as-you-go amount, they serve more as a budget reserve than as true pre-funding of its liability and we do not expect that to change. OPEB benefit outflows—as opposed to the city’s contributions—amounted to $2.8 billion in fiscal 2019, and are growing at a compound average annual growth rate of 7.6% since fiscal 2016.

Nonetheless, New York City's fixed costs for debt service, pensions and OPEB contributions (see Exhibit 11) are in the bottom one-third of the 50 largest local governments and the bottom five of the largest cities. Using our tread water metric, New York City's fixed costs were 18% of fiscal 2019 revenue.

Exhibit 11
Overall fixed costs are low relative to some local governments but will increase especially as OPEB costs grow
Debt, ANPL and adjusted net OPEB liability as a percentage of operating revenue



Source: City of New York audited financial statements, Moody's Investors Service

ESG considerations

Environmental considerations

Regional and local governments have low overall exposure to environmental risks because of their relatively wealthy and diverse economies, reserves that help offset climate related impacts and because of federal government support for disaster recovery costs.

Of the physical climate risks Moody's affiliate Four Twenty Seven evaluates, New York City's most significant exposures are to hurricanes and sea level rise. While the local government sector overall has low exposure to environmental risks, New York City's risks are more elevated because of its location on the Eastern Seaboard and its position in between two tidal estuaries. While only 6.2% of the city's housing stock is in the flood plain, those data understate its storm risks. In addition, all 14 of its wastewater treatment facilities, 12 of 27 power plants, 16% of all hospital beds and a significant portion of public housing are in the flood plain. Superstorm Sandy in 2012 caused an estimated $47 billion in damage across the region it hit (which was broader than just New York City) and $26 billion in lost economic output. New flood maps that reflect the Sandy experience and other scientific and technical improvements are expected in 2021 and likely will show more of the city at flood risk. That, in turn, will require more property owners to buy flood insurance and could also slow growth in property values.

In addition to economic loss, Sandy cost the city an estimated $10.4 billion for emergency response and capital repair (including the New York City Housing Authority and NYC Health + Hospitals). To mitigate its environmental risks, the city is undertaking a 10-year $20 billion plan to protect infrastructure against natural disasters, especially coastal flooding, which will mostly be paid for with federal funds.

Social considerations

Social issues, such as demographics, labor force, income and education, are key influencers of New York City's economy, governance stability and financial and leverage trends. New York City is a major business and leisure tourism destination. The rapid and widening spread of the coronavirus outbreak, deteriorating global economic outlook, falling oil prices and asset price declines are creating a severe and extensive credit shock across many sectors, regions and markets, especially the travel and tourism sector. The combined credit effects of these developments are unprecedented. We regard the coronavirus outbreak as a social risk under our ESG framework, given the substantial implications for public health and safety.

Governance considerations

Governance is a material credit consideration for the local government sector. New York City's financial management is characterized by strong, institutional financial management practices that emerged from the 1970s fiscal crisis and substantial transparency of its financial operations. The hallmark of these practices is quarterly updates to the city's five-year financial plan, including consistently conservative revenue estimates, which gives a clear forward-looking view to potential budget challenges. By law, changes in property tax billable assessed value are phased-in over five years, which evens out ups and downs in the city's real estate markets and helps minimize swings in the city's tax revenue. State law that limits the amount of real property tax that a municipality may levy in any year —a factor in our institutional framework for New York cities—does not apply to New York City. Proposals from time to time would extend the limitation to the city and if enacted, would significantly constrain the city's financial flexibility.

Rating methodology and scorecard factors

The US Local Government General Obligation Debt methodology includes a scorecard, a tool providing a composite score of a local government's credit profile based on the weighted factors we consider most important, universal and measurable, as well as possible notching factors dependent on individual credit strengths and weaknesses. Its purpose is not to determine the final rating, but rather to provide a standard platform from which to analyze and compare local government credits.

Exhibit 12

New York City

Rating Factors	Measure	Score
Economy/Tax Base (30%) [1]		
Tax Base Size: Full Value (in 000s)	$1,250,706,900	Aaa
Full Value Per Capita	$148,123	Aa
Median Family Income (% of US Median)	91.9%	Aa
Notching Factors:[2]		
Regional Economic Center		Up
Finances (30%)		
Fund Balance as a % of Revenues	9.6%	A
5-Year Dollar Change in Fund Balance as % of Revenues	5.0%	A
Cash Balance as a % of Revenues	10.2%	Aa
5-Year Dollar Change in Cash Balance as % of Revenues	-2.3%	Baa
Management (20%)		
Institutional Framework	A	A
Operating History: 5-Year Average of Operating Revenues / Operating Expenditures	1.0x	A
Notching Factors:[2]		
Unusually Strong or Weak Budgetary Management and Planning		Up
Other Analyst Adjustment to Management Factor (specify): Revenue flexibility not reflected in inst. framework score		Up
Debt and Pensions (20%)		
Net Direct Debt / Full Value (%)	6.2%	Baa
Net Direct Debt / Operating Revenues (x)	0.8x	A
3-Year Average of Moody's Adjusted Net Pension Liability / Full Value (%)	10.3%	Baa
3-Year Average of Moody's Adjusted Net Pension Liability / Operating Revenues (x)	1.3x	A
Notching Factors:[2]		
Unusually Strong or Weak Security Features		Up
	Scorecard-Indicated Outcome	Aa1
	Assigned Rating	Aa1

[1] Economy data are based on data from the most recent year available.
[2] Notching Factors are specifically defined in the US Local Government General Obligation Debt methodology.
[3] Standardized adjustments are outlined in the GO Methodology Scorecard Inputs publication.
Source: US Census Bureau, Moody's Investors Service

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