Loop Capital

Municipal Strategy Report

A Monthly Analytical Services Division Publication | February 2020

Coronavirus Creates Global Economic Uncertainty, Threatens Financial Stability

Perhaps now is the time for the city of Corona, California to consider a name change. This Riverside County city of over 168,000 (2018) must now consider whether being identified with a global viral epidemic of the same name could dent its tourist trade. Maybe the Corona City Council should consider "Crown City", since Corona is Spanish for "crown", or maybe "Gas, Food, and Lodging", would be a practical choice. Regardless, the coronavirus is here to stay as an economic and financial market game-changing event of the first order. What matters most for market participants is not the eventual cost, calculated after all is over, of the loss of lives and the economic costs spread across the globe; but the highest "credible threat" level attributed to the virus by the market and by economic agents as events unfold. Investors must make decisions made upon incomplete information. When the possible set of outcomes includes scenarios that are severely negative for financial markets and the economy, investors must incorporate these possibilities, however small, into their risk analysis.

By Chris Mier, CFA | Strategist

Under the best of all possible scenarios, the number of coronavirus cases would begin to peak relatively soon, and the spread of the virus would slow with the number of cases subsiding. Actions taken to limit the spread of the virus—containments, embargoes, quarantines, flight restrictions, "lockdowns", etc.—would be concluded as rapidly as prudent. Unfortunately, even if the coronavirus turns into another dud like President Ford's Swine Flu epidemic, investors and businesspeople must respond to the yet uncertain magnitude of its impact. Even if life should return to normal in the city of Hunan by the Ides of March, the path by which we get from where we are today and where we will be then, will be a volatile one with several likely twists and turns. The financial and economic damage will be done, and will not be completely reversible, even if the virus peters out less eventfully than anticipated.

There are two hard realities about this epidemic. This first is that the ultimate severity of the virus is detached from the imperative for agents—global health organizations, governments, corporations—to consider the worst-case scenarios when considering today's best response to how to deal with the crisis. The second hard truth is that countries may face significant financial market disruption and lost economic output even though they may personally be spared the human cost by being fortunate to not have the virus pay a visit to their country. The

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Coronavirus Creates Global Economic Uncertainty, Threatens Financial Stability

coronavirus epidemic is a market event significant for, among a number of things, its ability to exact economic damage based upon the need to anticipate the worst, despite the possibility that an outcome in the other tail of the distribution may be minimal.

So far, the market and economic ripples from Coronavirus include:

1. Commodities prices – Sharp declines in industrial metals, agriculture (soybeans, in particular) and energy (The nearby futures contract fell more than 21% over 20 days); which suggests an expectation of global slowdown with a reduction in the demand for commodity inputs.

2. Flight to quality – The previous movement to low-risk assets has not even ended and now another dose of risk aversion is tossed on the market. The 2-Year Treasury yield have fallen 15 basis points since January 13th and the 10-year has fallen 21 bps.

3. Earnings announcements – A significant percentage of reporting companies have mentioned "Coronavirus" in their announcements or on their calls.

4. Travel into and out of China has been severely restricted.

5. Closure of a major industrial, financial and agricultural region of the world's second largest economy has been closed. Hunan, a city with 11 million people, and the surrounding region have been shut down with manufacturing and assembly plants, and the service sector closed with workers furloughed, and trade flows disrupted.

6. The S&P500 fell about 3% over 6 days before recovering recently.

Recent trade data for the U.S. for the full year 2019 showed the trade gap narrowing to $616.8B, the first drop in six years. The merchandise trade deficit with China narrowed almost 18% after achieving a record in 2018. China fell to third place among the nation's top trading partners. The Phase 1 trade deal will challenge China to keep promises on U.S. imports. The expected increase in export growth will be delayed because of the virus. The impact of lost export growth in 2020 will constrain the GDP boost from export growth to only about 20 basis points, according to Bloomberg Economics.

The Federal Reserve and global Central Banks will have to develop polices to combat the deflationary effect of the virus from the sharp decline in aggregate demand. Most central banks have already moved to a highly accommodative policy at present, and the prospect of greater risk to the downside economically places central banks in the uncomfortable position of potentially needing tools developed during the financial crisis that have been gradually set aside when growth stabilized in 2018 and 2019. The Fed likely has put at least one potential reduction in the fed funds rate back on the radar screen for 2020.

The virus will be over before the full damage to the global economy can be measured. In the meantime, the added uncertainty will generate more volatility in financial markets in what has already promised to be an event-filled year with the general election, and new fronts in the trade war.

Economic and Interest Rate Forecast — February 2020

Factors Supportive of Lower Rates

The coronavirus epidemic has severely impacted Chinese economy causing supply chain disruptions, decline in country's economic output and US-China trade, a development that represent a drag on global growth.

The leading economic index fell 0.3% in December, its fourth decline in the last five months.

Factors Supportive of Higher Rates

Real GDP growth in the fourth quarter was solid 2.1% with final demand rising 3.2%, while trade balance improved.

ADP employment report came in at 291K in January vs. 157K forecast, which bodes well for nonfarm payrolls to be released tomorrow.

U.S. factory activity unexpectedly rebounded in January, with ISM Manufacturing index increasing 3.7 points to 50.9, indicating expansion in the sector. Durable goods orders jumped 2.4% in December on strong defense spending.

Auto sales rose 0.8% to 16.84 million (annualized) in January, only 0.2% less than last year, boosted by sales of luxury vehicles.

ISM Non-manufacturing index rose 0.6 points to 55.5 in January, an indication that service sector of the economy continues to expand at a solid pace.

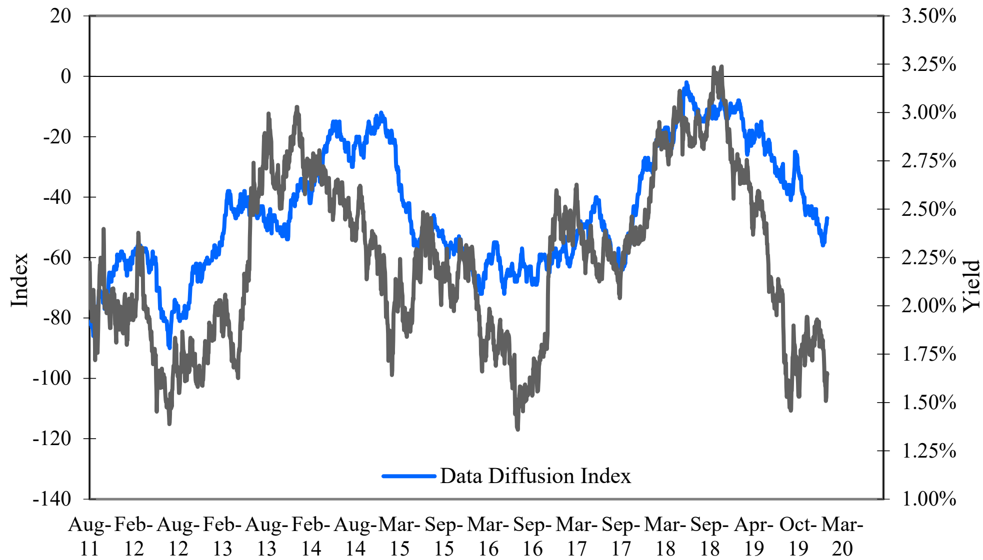
Figure 1 **Economic and Interest Rate Forecast — February 2020**

	3Q'18	4Q'18	1Q'19	2Q'19	3Q'19	4Q'19	1Q'20	2Q'20	3Q'20	4Q'20	1Q'21	2Q'21	3Q'21	4Q'21	Avg'18	Avg'19	Avg'20	Avg'21
Economic Forecasts																		
Real GDP	2.9	1.1	3.1	2.0	2.1	2.1	1.5	1.0	2.4	2.0	2.1	2.2	2.2	2.1	2.9	2.3	1.8	2.1
Core PCE Deflator	2.0	1.9	1.6	1.6	1.7	1.6	1.8	1.8	1.7	1.9	1.9	2.0	2.0	2.0	1.9	1.6	1.8	2.0
Unemployment Rate*	3.8	3.8	3.9	3.6	3.6	3.5	3.5	3.6	3.5	3.5	3.5	3.5	3.6	3.6	3.9	3.7	3.5	3.6
Nonfarm Payrolls (1000s)	568	700	521	456	578	553	525	485	455	420	410	345	280	225	2,679	2108	1,885	1,260
S&P 500*	2,850	2,699	2,721	2,882	2,958	3,035	3,281	3,322	3,362	3,404	3,445	3,488	3,531	3,574	2,746	2,899	3,342	3,509
Short-Term Interest Rates*																		
Fed Funds Target (%)	1.92	2.18	2.40	2.40	2.20	1.65	1.55	1.63	1.63	1.63	1.63	1.62	1.63	1.63	1.82	2.16	1.61	1.62
3-Month LIBOR (%)	2.34	2.62	2.69	2.51	2.20	1.93	1.81	1.82	1.81	1.79	1.78	1.79	1.77	1.78	2.31	2.33	1.80	1.78
7-Day SIFMA (%)	1.35	1.63	1.54	1.70	1.37	1.23	1.15	1.20	1.15	1.20	1.20	1.25	1.25	1.25	1.41	1.46	1.18	1.24
Treasury Interest Rates*																		
2-Year Treasury (%)	2.66	2.80	2.49	2.13	1.69	1.59	1.50	1.72	1.76	1.79	1.79	1.80	1.81	1.82	2.52	1.97	1.69	1.80
3-Year Treasury (%)	2.74	2.84	2.46	2.09	1.63	1.59	1.50	1.73	1.78	1.81	1.83	1.85	1.86	1.88	2.62	1.94	1.71	1.85
5-Year Treasury (%)	2.81	2.88	2.46	2.12	1.63	1.61	1.53	1.74	1.83	1.86	1.90	1.93	1.94	1.98	2.75	1.96	1.74	1.94
7-Year Treasury (%)	2.88	2.97	2.52	2.22	1.71	1.71	1.64	1.79	1.89	1.95	1.98	2.02	2.03	2.05	2.85	2.04	1.82	2.02
10-Year Treasury (%)	2.92	3.04	2.65	2.34	1.80	1.79	1.72	1.82	1.96	2.02	2.07	2.11	2.14	2.19	2.91	2.14	1.88	2.13
30-Year Treasury (%)	3.06	3.27	3.01	2.78	2.29	2.25	2.18	2.31	2.46	2.52	2.57	2.61	2.65	2.69	3.11	2.58	2.37	2.63
Municipal Interest Rates*																		
30-Year MMD (%)	3.04	3.27	2.95	2.47	2.08	2.07	1.90	2.05	2.19	2.28	2.34	2.41	2.46	2.53	3.05	2.39	2.10	2.44
Muni Yield Curve Slope (%)	1.47	1.40	1.34	1.03	0.98	0.97	1.03	0.85	1.04	1.08	1.14	1.16	1.21	1.28	1.44	1.08	1.00	1.20

P: Preliminary Data
* 3-month average
Source: Loop Capital Markets' Analytical Services Division and Short-Term Desk. Black Text: Actual Blue Text: Forecast as of February 6, 2020

Market Review *Data Diffusion | ADS Index*

Figure 2 **Data Diffusion Index vs. 10-Yr Treasury Yield**

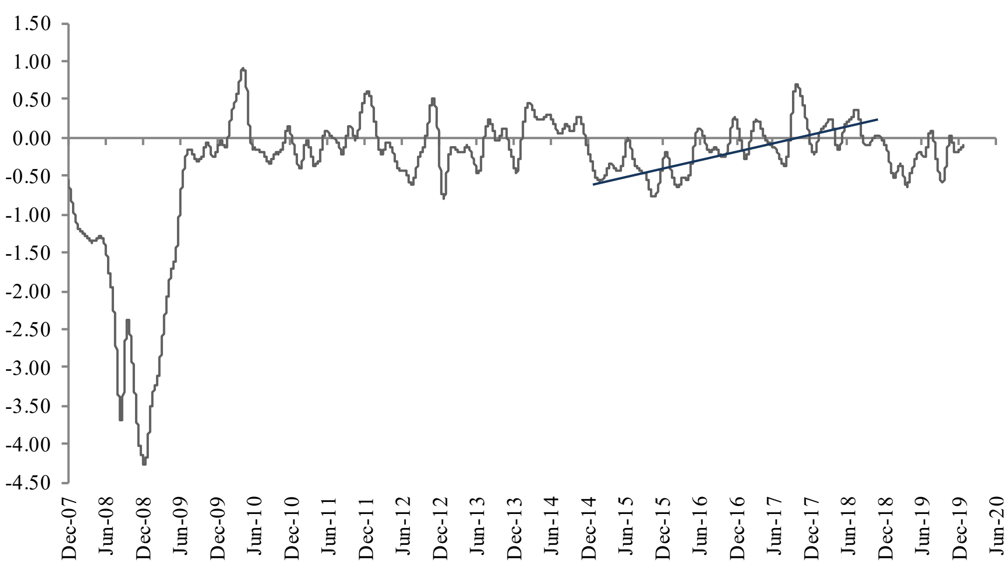


Sources: FRED, Loop Capital Markets

As economic releases came in weaker than expected from mid-December through the end of January, Treasury yields slumped. The effect reversed in February, which is reflected in both indicators.

Data Diffusion Index: We calculate the Data Diffusion Index based on 30 different weekly, monthly and quarterly economic releases, such as construction spending, capacity utilization and new home sales. If the number came above the consensus estimate (which is positive for economic growth) the index would increase by one, and vice versa. The Treasury yield is expected to track the data diffusion index (the yields would increase as the economy exceeds expectations and vice versa).

Figure 3 **Aruoba-Diebold-Scotti Business Conditions Index (12/31/2007—1/25/2020)**



Source: Federal Reserve Bank of Philadelphia

The index briefly turned positive in late November, but subsequently dipped back into negative territory. The comparison is relative to trend growth of about 2%, represented by the flat line.

Reading the ADS Index: The index is designed to track real business conditions at high frequency. Its underlying (seasonally adjusted) economic indicators (weekly initial jobless claims; monthly payroll employment, industrial production, personal income less transfer payments, manufacturing and trade sales; and quarterly real GDP) blend high and low-frequency information and stock and flow data.

Coronavirus Will Extract Large Human, Economic Costs

By Chris Mier, CFA | Strategist

Before the ink dried on most 2020 Outlook presentations, strategists had to scramble to re-rewrite their views to incorporate the sudden appearance of Novel Coronavirus (2019-nCoV), or Coronavirus. While the virus has been identified for many years, on January 8th there were less than 1,000 mentions of coronavirus over the web. By January 15th, one week later, there were 3,000, and by January 22nd there were over 200,000 mentions. The explosion of activity across the internet parallels the explosion in the outbreak of Coronavirus.

The World Health Organization's (WHO) Situation Report from February 2nd disclosed 14,557 confirmed cases in 24 countries, including China. The Report updated the number of new cases and confirmed cases and deaths in China, and globally excluding China, over the last week as well as the last 24 hours. Both the 24-hour and the weekly data confirmed a continued exponential rise in cases of confirmed illness, and deaths.

In the business press, attention has widened from disclosures about quarantines, flight restrictions, and the hasty exodus of foreigners from the Wuhan, to the broader issue of the magnitude of the epidemic's economic impact. Economic forecasts are complicated by the fact that the virus is not yet under control. Daunting questions are not yet answered regarding the transmission rate, fatality risk, and vulnerability to anti-viral vaccination. Expect economic forecasts to be revised frequently.

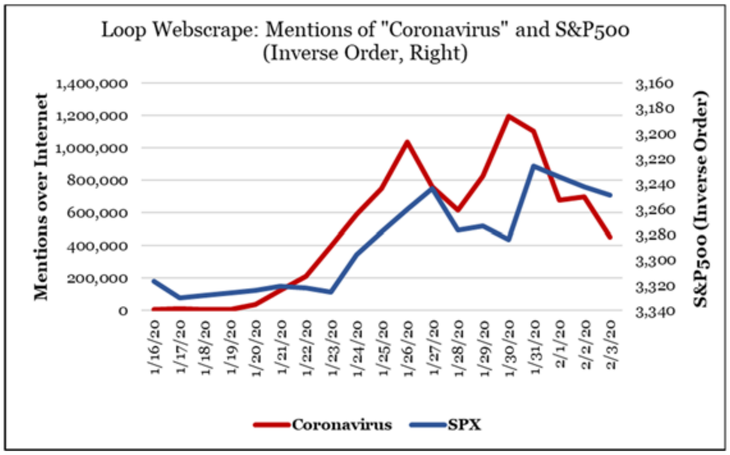
Background

According to the CDC, "Coronaviruses are a large family of viruses that are common in many different species of animals, including camels, cattle, cats, and bats. Rarely, animal coronaviruses can infect people and then spread between people such as with MERS and SARS."* The Coronavirus as a global financial and economic event began in mid-January this year. The first internet mentions began in early January and have grown exponentially on a daily basis since.

The epicenter of the Coronavirus is Wuhan, the capital city of Hubei province, People's Republic of China. The city of Wuhan is one of the Nine National Central Cities of China, and is the cultural, financial, and economic center of the region. With a population of 11 million and a wide range of goods and service producing activities, Wuhan presents challenges in terms of the containment of the virus. Currently, Wuhan is under strict "lockdown".

The WHO declared the novel Coronavirus outbreak to be a public health emergency of international concern last week. The action categorizes the epidemic as "an extraordinary event" constituting a "public health risk to other States through the international spread of disease".

Figure 1. Internet Mentions of "Coronavirus" Spike Over a Hundredfold in 7 Days



Sources: Bloomberg, Loop Capital

The Impact of Public Health Events on Economic Growth

In order to estimate the impact of Coronavirus, the impact on the host country, which is ground zero, must be gauged. The key mechanisms by which the contagion will spread economically is likely to be as follows:

1. Shutdowns and closures of businesses result in lost production, the reduction in wage payments, spending reductions, and the loss of goods for foreign trade.
2. Limits on the movement of people in and out of affected areas in China and elsewhere will disrupt supply chains, complicate the execution of business decisions, and cause interruption in the production, sales and distribution of goods and services.
3. Reduced transportation availability and increased costs.
4. Government public health costs and diversion of resources towards battling the virus.

Oxford Economics has estimated the 1Q20 cost to China as a full 2ppts, averaging out to an annualized 2020 decline in China's GDP of 0.60%. This would bring full year growth down to a low 5.4% from the anticipated, but already disappointing, expectation of 6% annual growth that was consensus just a few weeks ago.

From revised expectations about China, economic growth estimates are then made for the rest of the world (ROW) by assuming a less intense impact based upon the economic dependency of various nations on China's trade. An implicit assumption about the spread and severity of the epidemic is clearly baked into ROW estimations. At present, 16 cities in China's Hubei Province are in "lockdown". This number could double or triple before the virus begins to ebb. China will bear the economic brunt of the virus, which is expected to influence a host of other nations, on balance, less than the impact on China.

Oxford estimates the ROW impact at 0.4% for the APAC region. It is important to note that real economy impacts and the financial market impact on the real economy will be operating simultaneously. The degree of exposure of country's own citizens to the virus does not directly link to the magnitude of economic loss. The European economies could suffer from a tightening of financial market despite their own low infection rate.

Finally, the global impact is estimated at 0.25% for all of 2020.

These estimates benefit from the use of the SARS data from the epidemic of 2002- 2003, and to a lesser extent, MERS in 2013. A sample of two does not make for robust determinations of changes to economic output from a significant health threat, however. The fluid nature of events is illustrated by the revised view that Coronavirus is more contagious than initially thought.

Industries Impacted

With current headlines dominated by announcements of closures, quarantines, containment efforts, and travel suspension, industries likely to feel an immediate pinch include airline travel, shipping, and other transportation modalities. The immediate slowing in trade, even if only temporary, should be met with announcements of suspended employment activity, which reduces aggregate disposable income and spending. The loss in employment is met with a decline in consumer confidence. If the process continues, precautionary savings may rise, causing a further drop in consumption.

As a practical matter, China has 2 shorter workweeks in 1Q due to New Year's celebrations. Further shortening of the workweek to limit movement of the population may be necessary for public health reasons, but it will further contain spending.

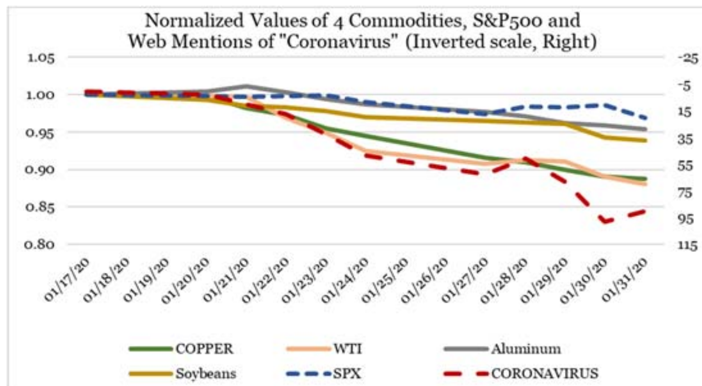
Ultimately, supply chains, export and import activity, travel for business and vacation, transportation services, incomes, and aggregate demand will suffer. These impacts will be closely followed by rising risk aversion, declines in investment spending, lower confidence and less consumption.

Multinationals that produce goods in Wuhan, China—automakers General Motors, Peugeot, Citroen, Nissan, Renault, and Honda—and a significant tech and health care sectors of Fortune 500 companies, will be impacted by lost production and declining domestic demand, creating earnings headaches for those companies that are U.S.-based.

Macro and Monetary Policy Implications

Immediate impacts are being felt in commodities markets, interest rates, global stock markets and measures of volatility. As shown in Figure 2, copper, aluminum, soybeans and oil have all been hammered since the start of the epidemic. The S&P500 has come under increasing pressure.

Figure 2. Markets Tank in Wake of Coronavirus

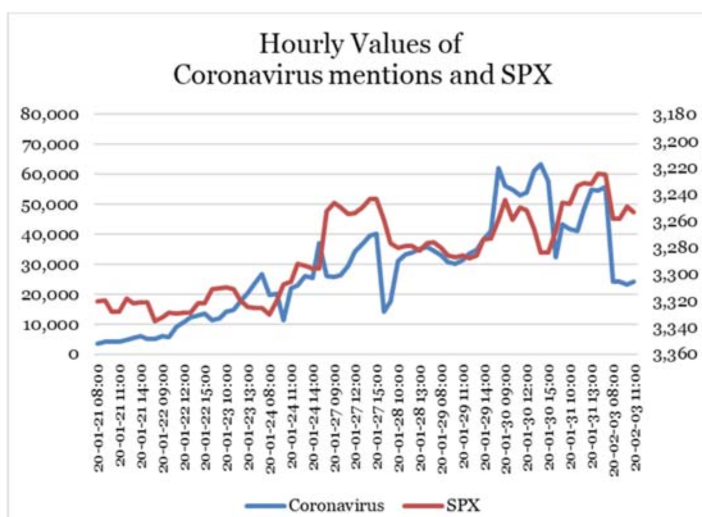


Sources: World Health Organization, Bloomberg, Loop Capital

The Equity Market is already captive to Coronavirus.

The number of mentions of Coronavirus captured hourly by Loop's web-scraper explains over 60% of the hourly movement in the S&P500. The data start January 21st at 8AM.

Figure 3. Over 60% of the Movement of the S&P500 is Explained by Movement in Coronavirus Mentions



Macro impacts such as risk aversion, precautionary savings, loss of consumer and business confidence, flight to quality and reduced investment and consumption will compel changes in monetary policies across the globe that are intended to quell financial market disruption, maintain ample liquidity and the efficient functioning of financial markets. Central banks may have to lean hard towards greater accommodation as a result of the epidemic at a time when central banks are acutely aware of the lack of traditional monetary policy tools at their disposal. Is the global financial system prepared to deal with this challenge?

As a result of Coronavirus, the odds of a rate cut by central banks has increased in 2020 as a result. The hit to aggregate demand and the suspension of economic activities in afflicted areas will result in a more suppressed inflation response, complicating the Fed's goal of reaching the 2% inflation target.

The Trump Administration's Response

Commerce Secretary Wilbur Ross said Thursday that the coronavirus outbreak in China will help "accelerate the return of jobs to North America."

"But the fact is, it does give businesses yet another thing to consider when they go through their review of their supply chain," Ross said during an interview with Fox Business Network's Maria Bartiromo.

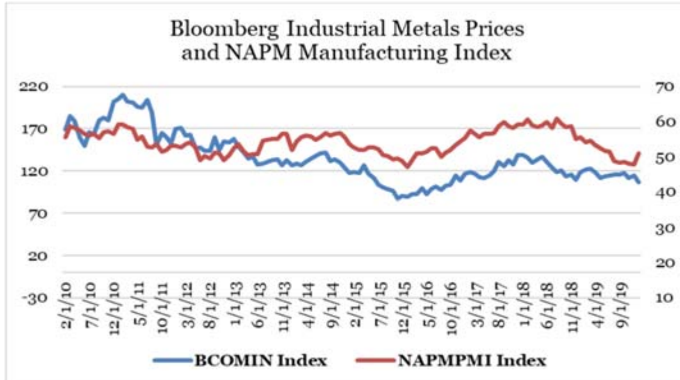
U.S. Economic Outlook

1. Reduced trade with China, with declines in exports due to lower Chinese demand, and a decline in imports due to reduced availability and a scaling back of consumption.
2. A drop in confidence encourages a precautionary build-up in consumer savings, and a reduction in discretionary expenditures.
3. Housing activity benefits from lower mortgage rates, but traffic slows with the increase in risk aversion.
4. Business investment resumes its sharp decline as businesses see rising risk, softening aggregate demand, and little reward for expanding output.
5. Manufacturing slows with growth in the employment rolls slowing and turning negative.
6. Government spending rises slightly due to increasing public health costs.

Loop Outlook

Declining industrial metals prices have been shown to be closely correlated with declining values of the NAPM Manufacturing Index. The huge declines seen in copper, aluminum, oil and soybeans (as a representative sample of industrial metals, energy, and agriculture) suggest declining NAPM manufacturing activity in the months ahead.

Figure 4. Industrial Metals Price Declines Suggest Manufacturing Weakness Ahead



Sources: Bloomberg, Loop Capital

Loop believes that 1Q20 U.S GDP growth will fall from our expectation of 2.1% to 1.5% with the 2Q20 growth falling to 1.0% before recovering in the second half of the year. The approximate full-year effect will be a 0.40% reduction in GDP due to the Coronavirus.

Figure 5. Loop Revision to Economic Forecast

	Baseline			Coronavirus		
Time	GDP	QoQ	SAAR	GDP	QoQ	SAAR
	20,000			20,000		
1Q	20,105	0.52%	2.10%	20,075	0.37%	1.5%
2Q	20,216	0.55%	2.20%	20,125	0.25%	1.0%
3Q	20,317	0.50%	2.00%	20,246	0.60%	2.4%
4Q	20,413	0.48%	1.90%	20,347	0.50%	2.0%
4Q/4Q	2.1%			1.7%		

Source: Loop Capital

Coronavirus' Impact on States and Local Governments

Like the overall economy, state and local governments will be adversely affected by the impacts of Coronavirus on the U.S. economy. Slower economic growth will reduce tax collections. The initial impact may be felt on sales tax revenues. If consumers slow their spending, sales tax collections will fall. As the virus begins to slow in the wake of the global public health efforts, sales tax revenues may bounce back from consumption that was previously delayed during the virus-induced risk aversion, but lost sales tax collections probably won't be fully recovered. Income tax collections will be also be lower due to the slower pace of job growth and loss of upward pressure on wages. A decline in income tax collections will show up after a sales tax decline because the cycle for collection of income taxes is longer and the taxpayer can adjust the timing of the realization of taxable income. Property taxes may eventually decline, but this is likely only in a protracted coronavirus induced economic slowdown. Capital gains taxation represents a significant source of revenue for many states. The timing of capital gains realizations is difficult to predict, however. A sustained decline in the equity market may induce increased asset sales, generating additional capital gains taxes for states, or it may have the effect of reducing the amount of sales, depending on whether investors expect a quick recovery in asset values or not.

With local governments relying heavily on property tax collections, the slowest category of tax revenue to react to an economic shock, locals should not be unduly fiscally stressed. The main exception is that falling state revenues may threaten the amount of state-shared revenues to local units. States will be more directly impacted than locals, with tax revenue falling and state healthcare spending rising. Healthcare costs are likely to increase while resources may be diverted to airports and other areas of need. State credit ratings are not expected to be negatively impacted due to their strong reserve levels, diverse economies, and significant flexibility in managing their finances.

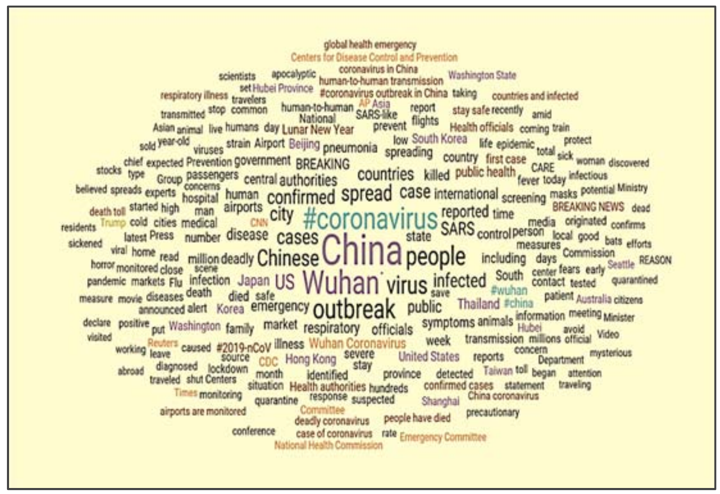
The diversity of local units of government across the nation assures that there will be a few who may be disproportionately negatively impacted. Risk factors for local governments include the degree of economic reliance on tourism from China, the extent to which the local manufacturing sector relies on imported inputs from China, the degree of sales tax dependency. A local unit with significant overall economic exposure to China, along with low liquidity levels, may require additional surveillance.

Airports will be the Most Affected Public Sector Enterprise

Enplanements to China accounted for 0.3% of total U.S. enplanements in 2018. Travel to and from China is highly concentrated among airports, with 12 airports accounting for 85% of the total in the U.S. LAX has the highest concentration of enplanements to China at 2.5%. JFK is slightly over 1% and Dulles is below 1%. Airports with residual AUAs are insulated from revenue loss due to their ability to charge back underperformance in enplanements and revenues at the end of every year. Some airports, like The Port Authority of New York and New Jersey facilities, are further insulated due to diversity of revenue streams.

Fitch and Moody's have stated they currently expect the impact to be manageable for most airports.

Figure 6. Mention Cloud Shows Breadth of Institutions and Activities Associated with Coronavirus



Source: Loop Capital

** Centers for Disease Control and Prevention, Situation Report, February 2, 2020*

State of the States Update

By Rachel Barkley | Senior Vice President

Governors have begun delivering their annual State of the State addresses. Below we discuss common themes and innovative proposals for 15 states: Alaska, Arizona, Colorado, Florida, Georgia, Illinois, Indiana, Kentucky, Massachusetts, Michigan, New Jersey, New Mexico, New York, Virginia, and Washington.

States are, overall, entering the year in a strong economic and fiscal position. This has been reflected in State of the State addresses thus far, with states focused less on budgetary issues and focused more on making strategic investments to ensure long-term economic viability, such as education and infrastructure. Environmental protection has been of increased focus this year.

Economic Development

Discussion of economic development in most State of State addresses so far have focused on the current economic recovery's effect on the respective state, with fewer states proposing significant economic development initiatives than in prior years.

Alaska's administration is working to attract companies to locate in the state, including seeking **international investment**. Investment continues to be focused on the state's natural resources, with $5.5B in private investment in the North Slope last year. While the state is working to diversify its economy away from the oil and gas industry, it remains concentrated in natural resources, with recent efforts to expand its timber industry.

Illinois and New Mexico see **cannabis** as an opportunity for economic expansion. While Illinois legalized adult recreational marijuana use effective the beginning of the current calendar year, New Mexico's Governor is calling for legalization this year. In addition to sales and distribution jobs, legalization would aid the New Mexico's agricultural industry. In a similar vein, Kentucky's Governor Beshear is advocating for the legalization of gaming.

New Jersey and New Mexico are revamping their **economic incentives** program, while Arizona is concentrating economic development efforts in rural areas. Both Indiana and New Mexico are targeting certain sectors for development, which they see as particularly suited for their states as areas of growth. Indiana aims to triple federal defense investment in the state, while New Mexico will focus on manufacturing, IT, engineering, tourism, and outdoor recreation sectors.

Education

Education remains a ubiquitous issue in State of the State addresses, being featured by each state so far.

K-12 education has been the main focus for states, with fewer highlighting early childhood and higher education efforts. In fiscal 2021, Arizona, Colorado, Florida, Georgia, Indiana, Kentucky, New Mexico and Virginia will increase their investment on K-12 schools, including raising teacher pay. This will be the second consecutive year with an increase in teacher pay in New Mexico, equal to a 10% aggregate increase over the period. Massachusetts will provide an $1.5B of new state funds for education this year, while Washington will also increase its investment, although no specific details were given. **Apprenticeships** programs were emphasized by Colorado, Florida, Illinois, New York, and Washington in order to prepare students for the workforce.

States are working to make **higher education** more affordable. New Mexico had the most notable new proposal, which would provide free college tuition for all residents. The State is working to improve its public university system and increase the ratio of in-state students who choose to attend under the assumption those graduates will then remain in New Mexico after graduation. On a similar note, New York plans to expand its free college program, the Excelsior scholarship, by raising the eligibility threshold of adjusted gross family income from $125,000 to $150,000. Colorado will increase its higher education funding and make it more affordable for students by expanding its concurrent enrollment programs to allow high school students to earn college credit. Additionally, Colorado has begun opening college savings accounts for all children born or adopted in the state. Each account will receive $100 in state funding. Kentucky, which had reduced its state funding for higher education in recent years, plans to stop this cycle and at least hold state funding stable for the year.

For **early childhood education**, Colorado will expand preschool this year to 6,000 additional children. Governor Polis is committed to expanding the program over the course of his first term to provide universal preschool access for all 4-year-olds. Michigan and New York will also expand universal preschool programs.

Environment and Climate Change

Environmental and climate change initiatives have been focused on three broad categories: protection from natural disasters, promoting clean energy, and safeguarding the area water supply.

New York has the most extensive **climate change** related proposals for the year. It plans to pass a $3B 'Restore Mother Nature' **Bond Act**. Proceeds will be used for habitat restoration and flood reduction efforts. Massachusetts is working with local communities to protect infrastructure from effects of climate change. By 2022, the Administration's total investment will total $1B to expand this program. This will include creating a trust that will generate roughly $130M annually. Additionally, Florida is working to fortify itself against flooding risk.

Multiple states are promoting **clean energy** standards, which they also see as a vehicle for economic development. To encourage the development of clean energy in the state, Virginia will create a new Office of Offshore Wind. Governor Northam is asking for $40M in funding to upgrade the Portsmouth Marine Terminal to accommodate the project. New York plans to make itself the hub of the U.S. offshore wind industry. NYSERDA, NYDOT, and NYESD will initiate a competitive process to award $200M in public investment for port infrastructure improvements. The state also plans to invest $100M through the New York Green Bank to attract electric vehicle manufacturers and related manufacturers. It will have some competition in clean energy economic development from Massachusetts, among other states, which has two offshore wind projects that await federal approval.

Illinois Governor Pritzker called for clean energy legislation to be crafted and passed this year that would reduce carbon pollution and promote renewable energy. Governor Murphy of New Jersey will unveil the state's new Energy Master Plan, which will serve as a comprehensive roadmap for the state to achieve an 100% clean energy economy by 2050. Colorado plans to operate on 100% renewable energy by 2040, while Virginia aims to have 3,000 megawatts of renewable energy underway during the Governor's term and have the state be carbon-free by 2050. New Mexico is looking to continue its clean energy efforts, while Washington, which is among the leaders in clean energy, aims to establish a clean fuel standard this year.

Arizona, Colorado, Florida, and Indiana are working to address their **water supply**. Arizona passed its Drought Contingency Plan last year. However, Governor Ducey wants to go further to address water supply needs that will impact the state in future generations. In Colorado, Proposition DD, which voters approved in November 2019, authorized the state to levy a 10% tax on sports betting operations in the state to fund water projects. In addition to Proposition DD funding, the Governor is calling for an extra $10M investment to the Colorado Water Plan. Florida's Governor DeSantis has proposed $625M in water resource funding, which would recur every three years. Indiana is working to facilitate the investment of $436M in local community water infrastructure projects. Kentucky has a more regional focus as it works to increase access to clean drinking water in the eastern portion of the state.

Alaska is taking a slightly different tack when approaching environmental protection compared to other states as it is working to balance its economic reliance on harvesting its natural resources with a desire to protect the environment.

Finances

States are well positioned fiscally, which has led to the majority of states not making finances a main focal point of their State of the State addresses. Many which did highlight their recent **surpluses** and efforts to increase **reserve levels**. Massachusetts has had two consecutive years of $1B surpluses, allowing it to increase its Rainy Day Fund to a record high $3.5B. Virginia's proposed budget will increase reserves to a total of $1.9B. Colorado's Governor Polis called for an additional $118M to state reserves this year.

Illinois' Governor Pritzker touted the fact that the state passed a **balanced budget** on time last year, something that hadn't happened under the prior Rauner Administration.

A handful of states are working to establish **structural balance**. Alaska's Governor Dunleavy introduced a fiscal 2021 budget that is flat to the current year, after enacting significant cuts a year earlier. The state wants to use the year to draw upon a long-term sustainable plan, which may include changes to the state's tax structure and Permanent Fund Dividend (PFD). Residents would be able to vote on notable changes, including a potential spending cap, changes to the PFD, and the imposition of new taxes.

Healthcare

Florida, Kentucky, Massachusetts, New York, New Jersey, and Virginia are all working to reduce **prescription drug costs**. A Medicare Savings Program will take effect this month in Massachusetts, allowing approximately 40,000 low-income senior citizens to save on out-of-pocket prescription costs, while Virginia will establish a reinsurance program. New Mexico's proposed Senate Bill 1 would allow for the importation of wholesale prescription drugs from Canada in order to lower costs.

Containing **insurance premiums** and preventing surprisingly large medical bills has also been a focus of multiple states this year. New Jersey's Governor Murphy is establishing an Office of Health Care Affordability and Transparency to work to reduce consumer health care costs, improve price transparency, and make health insurance more affordable.

Kentucky's Governor Beshear advocates for a state law protecting those with pre-existing conditions from losing healthcare coverage.

The **opioid epidemic** was a focus for Illinois, Indiana, Kentucky, Michigan, New Jersey, and New York. However, some progress is being made. New Jersey's opioid-related deaths fell 3% in 2019 YoY, after three years of over 10% annual increases. Kentucky plans to continue its lawsuits against opioid manufacturers and distributors.

Housing Affordability

Housing affordability has taken on an increased emphasis this year. Alaska aims to make public lands available for purchase as well as allowing residents to exchange their annual PFD payment for a certificate which could be leveraged to purchase land. Virginia will triple the available revenues for the Virginia Housing Trust Fund to increase housing affordability. New York and Washington also plan to address the issue, partially through state funding.

Infrastructure

Arizona, Kentucky, Illinois, Indiana, Michigan, and Virginia all plan on funding projects focused on **roads** this year. Arizona's road needs are partially driven by its population growth. It will concentrate on widening I-10 between the state's two largest cities, Phoenix and Tucson. Michigan noted that it plans to issue state road **bonds** to fund necessary repairs.

Colorado is still working on how to fund its infrastructure needs as voters have rejected three consecutive **ballot initiatives** in the past two years to fund road projects.

Public transportation efforts were concentrated on eastern states with large cities. New York's Governor Cuomo has proposed redeveloping and expanding the Penn Station area to add rail capacity. Under the plan, the New York MTA would receive $5.2B to increase accessibility in its subway stations. Phase 2 of the New Second Avenue Subway is also expected to continue. On the other side of New York City, NJ Transit will soon announce a new 10-year strategic plan and a five-year capital plan. Massachusetts is working on renovating the MBTA, which serves the Boston area, with $1B in investment this year in its Build a Better T program.

Virginia is deepening the Port of Virginia to allow it to accommodate larger ships. Governor Northam called for a new transportation funding mechanism but did not provide details.

Pensions

Pension-related proposals have been featured in only three State of the State addresses so far, likely at least partially driven by strong investment returns in recent years leading to improved funded ratios. Kentucky aims to fully fund its teachers' pension plan while Indiana will use $250M of its annual surplus to fund teacher pension liabilities. In Illinois, Governor Pritzker plans to implement public safety pension reform.

Taxes

Tax initiatives remain split. While most states are currently focusing on lowering current tax rates, a few states are suggesting new taxes.

Massachusetts has reduced its state **income tax** rate to 5% beginning January 1, 2020. This comes 20 years after a voter approved ballot measure to do so. The State Legislature had phased the reduction in by 0.05% annually if certain economic triggers were met to protect it from a drastic reduction in revenue. The reduction from the 2019 rate of 5.05% is expected to result in a $88M reduction in income tax collections for fiscal 2020, which ends June 30th, and $185 million for fiscal 2021. New York plans to lower the corporate tax rate for small businesses from 6.5% to 4% and lower personal income tax rates for middle-class residents.

Colorado also will have a reduction in its state **income tax** year, with the rate for both residents and corporations moving to 4.5%, a historic low, from its current rate of 4.63%. The reduction is currently set to be a temporary reduction in the form of a Taxpayer's Bill of Rights (TABOR) rebate. However, Governor Polis plans to work to eliminate tax loopholes in order to broaden the tax base, allowing for the lower rate to be made permanent without a loss of revenue to the state.

Property tax relief was a focus for Illinois and New Jersey. Under Governor Pritzker's plan to reduce local property taxes in Illinois, the state would change incentives for local governments to maximize their annual levies, encourage local units of governments to consolidate, and implement pension reform. New Jersey also is working on reducing its property tax burden. It is taking a different tack, with Governor Murphy suggesting a millionaire's tax may be used to offset any revenue loss, although this proposal has previously failed to be passed by the Legislature.

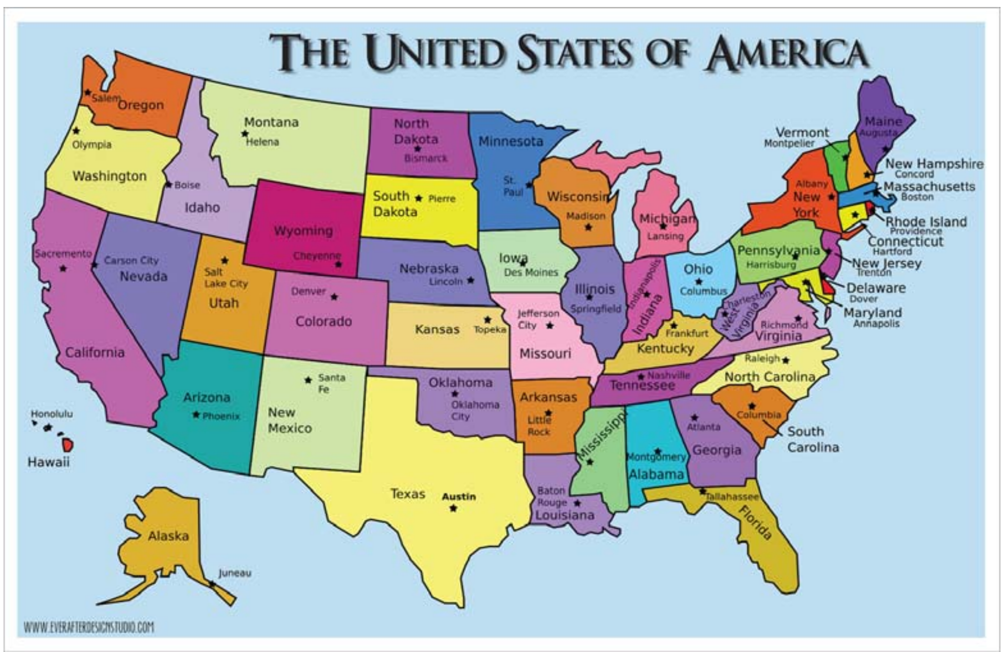
Some states remain committed to not introducing new taxes. Arizona's Governor Ducey noted that he was opposed to introducing any new taxes in his address, while Florida's Governor DeSantis remains committed to the state not having an income tax or a death tax.

Alaska had the most unique tax proposal so far this year as it plans to institute a state **lottery**, which would make it the 46th state to do so. Governor Dunleavy noted the potential to institute broad-based taxes, although he didn't go into detail whether this would be in the form of an income or sales tax.

Upcoming Events

While not directly discussed in most State of the State addresses, eleven states will hold gubernatorial elections this November, along with Puerto Rico. Of the states featured above, Indiana's Governor Holcomb and Washington's Governor Inslee are both running for re-election. Looking across all states, Montana's Governor Steve Bullock (D) and American Samoa's Governor Lolo Moliga (Nonpartisan) are term-limited, while Utah's Governor Gary Herbert (R) has chosen to retire. The remaining incumbents are running for re-election.

Loop will continue to track and report on State of the State speeches as they occur.



House Infrastructure Plan and Muni Market

Ivan Gulich, CFA | Senior Vice President

House Democrats released an ambitious infrastructure plan on January 29. While the plan deals primarily with investments in infrastructure, it also includes several important muni-related provisions, such as the reinstatement of Build America Bonds (BABs) and tax-exempt advance refundings. In this piece we analyze and provide legislative outlook for the infrastructure proposal and its muni-related provisions.

House Plan

House Democrats proposed a 5-year $760 billion comprehensive framework to invest in U.S. infrastructure. This is the summary of proposed spending:

House 5-Year Infrastructure Spending Proposal

Transportation	***$ Billion***	***Share***
Highways and bridges	319.0	42.0%
Transit investments	105.0	13.8%
Transportation safety	10.0	1.3%
Rail	55.0	7.2%
Airports	30.0	3.9%
Ports	19.7	2.6%
Sub-total	538.7	70.9%
Broadband & Communications	98.1	12.9%
Climate Agenda	62.4	8.2%
Water	60.5	8.0%
TOTAL	759.7	100.0%

Source: House Committee on Ways & Means

The plan would improve and expand existing transportation infrastructure, expand broadband internet access in underserved communities, combat climate change and upgrade water resources. However, House Democrats have not identified the sources of funding for their sweeping infrastructure plan. New transformational projects would create an estimated 10 million jobs, based on calculation by Congressional staffers.[1] In announcing the framework, House Ways & Means Committee Chairman Richard Neal (D-Mass) said that Democrats would not propose revenue source for the program until they have an agreement with the White House.[2]

[1] Moving Forward Framework by House Democrats, released January 29, 2020
[2] Chairman: Democrats won't propose infrastructure funding source without White House agreement, The Hill, January 29, 2020

GOP Stance

House Republicans are prepared to work with Democrats on infrastructure bill in the spirit of bipartisanship, but want to make sure that GOP principles are incorporated. Those principles involve finding a long-term funding solution for the Highway Trust Fund, funneling more transportation dollars to rural communities and giving state and local governments more control over transportation spending.

Republican focus is on securing funding for highways and bridges, while Democrat proposal envisions infusion of federal dollars into programs and areas that reflect their ideological priorities, such as mass transit and reduction in greenhouse emissions.

Congress is facing a September 30, 2020 deadline to reauthorize transportation legislation that would keep highway funding at current levels. There is an estimated $18-$20 billion annual revenue shortfall in the Highway Trust Fund, which relies on motor fuel taxes, which have remained at 18.3 cents per gallon of gasoline and 24.3 cents per gallon of diesel since 1993.[3]

Senate Finance Committee Chairman Chuck Grassley (R-Iowa) is working on a package of transportation "pay-fors" to address the revenue shortfall that would raise $113 billion.[4] House Republicans, including House Transportation and Infrastructure ranking member Rep. Sam Graves (R-Missouri) are opposed to raising motor fuel tax and prefer charging motorists based on miles travelled. Democrats are not opposed to per-mile charge, but point out that the technology to implement such proposals is not yet available.

White House

The future of Democrats' infrastructure initiative depends on the White House, since GOP-controlled Senate will not entertain legislation that does not enjoy the support of President Trump. In April 2019 he held a meeting with House Speaker Nancy Pelosi and Senate Minority Leader Chuck Schumer. The participants agreed on a $2 trillion infrastructure package but did not decide how to pay for it and instead agreed to reconvene in three weeks to discuss

[3] Jessica Wehrman: Ambitious infrastructure plan hits reality check: How to pay for it, Roll Call, January 29, 2020
[4] Associated General Contractors of America: Positive Statements on AGC 2020 Priority – FAST Act Reauthorization, December 20, 2019

funding.[5] The follow-up meeting was cut short after 3 to 5 minutes, as Trump refused to deal with Democrats until they dropped multiple investigations of his administration. Trump made clear he would not consider any substantive legislation as long as he was under investigation.[6]

As a result, House Ways & Means Committee Chairman Neal wrote in his proposal: "President Trump must come to the table with real proposals to raise the necessary revenue and resume a bipartisan pay-for conversation with Congress."[7]

Municipal Provisions in House Framework

While it is unclear how Democrats plan to pay for new spending, Chairman Neal has identified the following "key needs to address" as part of securing durable infrastructure funding revenue:

1. Highway Trust Fund solvency
2. User-based fees for port and airport projects
3. Sustainable source of water infrastructure funding
4. Reinstating the Superfund tax, and
5. Strengthening new and existing infrastructure financing tools, specifically:
    a. **Reinstating BABs** and other debt financing mechanisms can create efficiencies in infrastructure investment for a wide range of public-private partnerships (P3).
    b. Expanding the national volume cap for qualified **private activity bonds (PABs)** to fund surface transportation P3 projects.
    c. **Restoring tax-exempt advance refunding** to allow state and local governments to invest in infrastructure projects with favorable financing terms.
    d. **Tax Credit Bonds** issuance by state and local governments to finance surface transportation projects, where the bondholder receives a tax-credit, instead of tax-exempt income.
    e. **Tax Credits** for community development projects, low-income housing and rehabilitation of historic buildings.

Legislative Outlook

Congress must authorize additional funding for Highway Trust Fund before the end of 2020 fiscal year to avoid disruption in highway construction. Due to Republican opposition, raising fuel tax is improbable, which suggests that funding shortfall will most likely be covered from the federal budget, as was the case in the past. We see this as a default outcome.

House infrastructure proposal is about eight times more expensive than shoring up the Highway Trust Fund. It includes a wish list of Democrats' priorities of dubious merit, which many Republicans are opposed to. Authorizing so much additional spending at a time when federal budget deficit pierced a symbolic $1 trillion barrier despite a healthy economy[8] would be challenging in the best of times. In addition, reaching an agreement on a substantive legislation in the middle of a presidential election is very difficult, especially in the wake of impeachment and resulting toxic relationship between House Democrats and the White House.

Muni provisions in the House proposal have a chance of passing only as part of a large package of programs and funding sources. To the extent that this grand bargain may not materialize, the outlook for muni proposals is not very good.

If there is a serious, bi-partisan legislative work on the infrastructure bill, expanding the volume cap for PABs would be a muni provision most likely to pass because it is relatively uncontroversial. Since PABs have survived tax-reform and are seen as a tool to boost P3 projects, Republicans would probably not stand in the way of volume cap expansion. For example, top Republican on the Ways and Means Committee Kevin Brady (R-Texas), the author of many TCJA provisions, warned against raising taxes to pay for infrastructure and instead urged private capital investments in infrastructure, facilitated by PABs.[9]

Reinstating BABs would be much more difficult, because they require an explicit federal budget subsidy vs. implicit subsidy of the tax-exemption. The yields on taxable munis are currently lower, on average, than corresponding tax-exempt yields in 2009-10, when BABs were issued. It is not unreasonable to question if subsidizing fiscally sound state and local governments by deeply indebted federal government, under current market conditions, represents sound public policy. The sequestration fiasco reduced the allure of BABs as well.

Restoring tax-exempt advance refundings would be even more difficult to pass legislatively considering that many issuers are currently taking advantage of low interest rates to advance refund tax-exempt debt by issuing taxable munis. Why would muni issuers require another tool to accomplish the same objective by allegedly

[5] Brian Naylor: Trump And Democrats Agree On $2 Trillion For Infrastructure, But Not On How To Pay, NPR, April 30, 2019
[6] Holland, Mason, Cowan: Trump torpedoes meeting with Democrats, blasts Pelosi's 'cover-up' accusation, Reuters, May 22, 2019
[7] Moving Forward Framework by House Democrats, released January 29, 2020
[8] Andrew Taylor: Budget deficit to break $1 trillion despite strong economy, Associated Press, January 28, 2020
[9] Naomi Jagoda: Chairman: Democrats won't propose infrastructure funding source without White House agreement, The Hill, January 29, 2020

"double-dipping" in the tax-exemption? In addition, there is no direct link between refunding existing bond series and funding infrastructure investments.

Tax-credit bonds represent a relatively small portion of the muni market due to their restricted use.

Conclusions

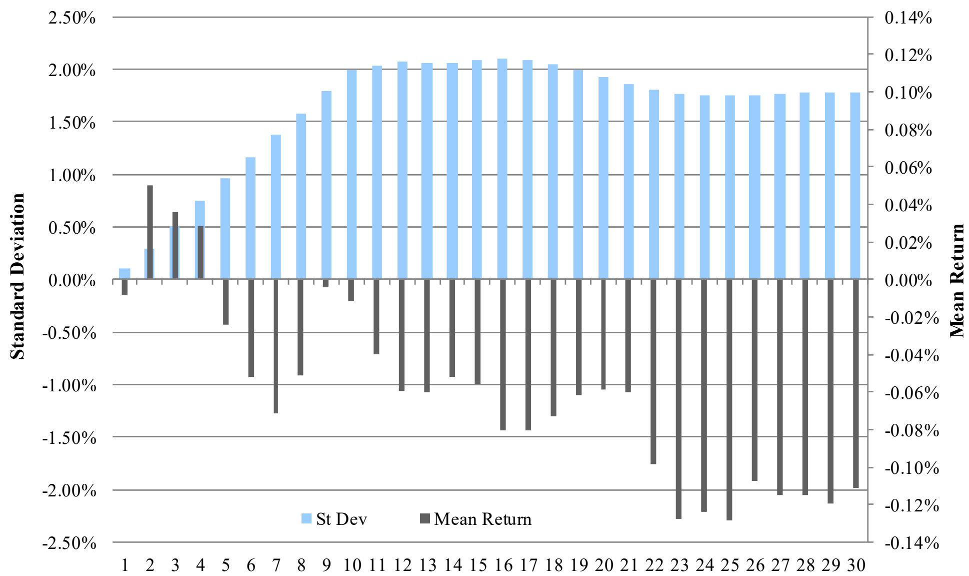
In our opinion, infrastructure related legislation will likely be limited in this session of Congress to shoring up the Highway Trust Text

Fund, similarly to the way it was done in the FAST Act of 2015 and would exclude muni-related provisions favored by market professionals.

Under all scenarios, expanding the volume cap on PABs is more probable than reinstating BABs, while tax-exempt advance refunding is unlikely to be reinstated.

Market Review *Historical Monthly Bond Price Changes*

Figure 4 **Muni Benchmark Callable Scale — Average Bond Price Changes (February)**



Sources: Loop Capital Markets, TM3

We show historical bond price changes for each point on the muni benchmark callable curve during the month of February for the last 19 years.

The returns in February were positive 2/3 of the time. However, due to outsized losses in 2008 and 2015, average returns were modestly negative, on average.

Figure 5 **Muni Benchmark Callable Scale — Average Bond Price Changes (February)**

AAA MMD - MONTHLY PRICE CHANGE

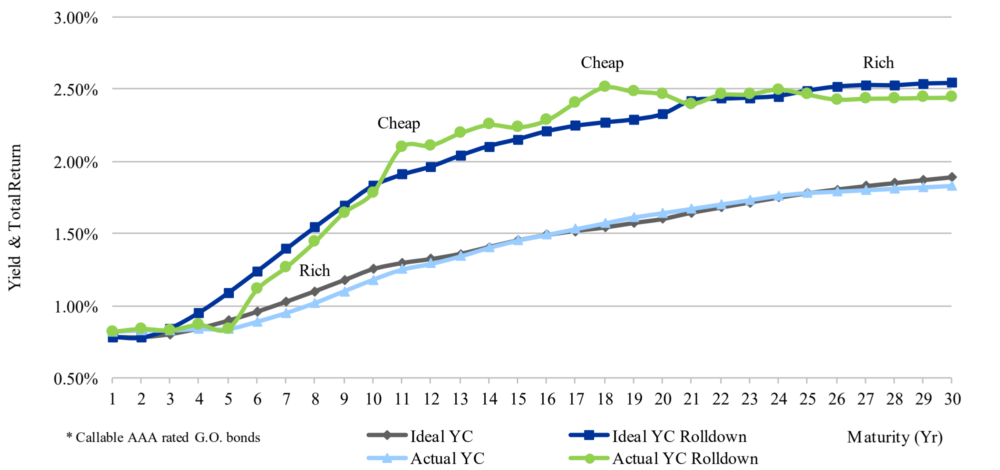
Maturity	5	10	15	20	25	30
Feb-01	-0.09%	0.00%	-0.15%	-0.08%	0.08%	0.15%
Feb-02	1.02%	1.57%	1.32%	0.85%	0.69%	0.62%
Feb-03	0.90%	2.34%	1.91%	1.26%	1.18%	1.18%
Feb-04	1.03%	1.86%	1.76%	1.51%	1.27%	1.26%
Feb-05	-0.89%	-1.35%	-1.10%	-1.02%	-0.63%	-0.63%
Feb-06	-0.18%	0.24%	0.56%	0.87%	1.19%	1.19%
Feb-07	0.62%	1.52%	1.68%	1.68%	1.68%	1.60%
Feb-08	-2.59%	-5.87%	-6.77%	-6.23%	-5.78%	-5.92%
Feb-09	-1.64%	-1.28%	0.87%	1.34%	1.10%	1.26%
Feb-10	0.72%	1.22%	0.88%	0.16%	0.32%	0.55%
Feb-11	0.40%	2.77%	2.32%	2.39%	0.71%	0.71%
Feb-12	0.14%	-1.38%	-1.29%	-0.72%	-0.80%	-0.72%
Feb-13	0.09%	0.08%	-0.41%	-0.24%	-0.32%	-0.40%
Feb-14	0.45%	1.06%	1.05%	1.04%	0.96%	1.04%
Feb-15	-1.12%	-2.43%	-2.96%	-2.88%	-2.95%	-2.95%
Feb-16	0.32%	-0.41%	-0.65%	-0.73%	-0.48%	-0.40%
Feb-17	0.59%	0.24%	0.32%	0.24%	0.24%	0.24%
Feb-18	-0.63%	-0.97%	-0.89%	-0.96%	-1.20%	-1.20%
Feb-19	0.40%	0.57%	0.49%	0.40%	0.32%	0.32%
Mean	-0.02%	-0.01%	-0.06%	-0.06%	-0.13%	-0.11%
St Dev	0.96%	1.99%	2.09%	1.93%	1.75%	1.78%

Sources: Loop Capital Markets, TM3

The 12 to 20-year range was most volatile, with standard deviation of monthly bond price changes of 2.04%.

Market Review *The Yield Curve*

Figure 6 **1-Year Forward Roll-down—Muni Benchmark Curve* (January 28, 2020)**

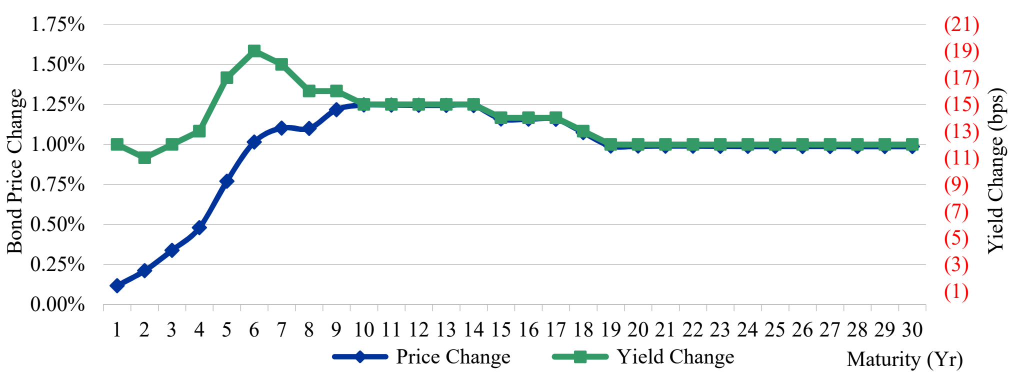


Sources: Loop Capital Markets, TM3 | *Callable AAA-rated G.O. bonds

The yield curve shows rich (4 to 8-yr and 26+ yr) and cheap (11 to 20-yr) points on the AAA MMD curve, based on one year holding period returns and assuming no change in the yield curve. The 18-yr maturity offers highest expected total return.

Actual returns will depend on the level and shape of the yield curve a year from now.

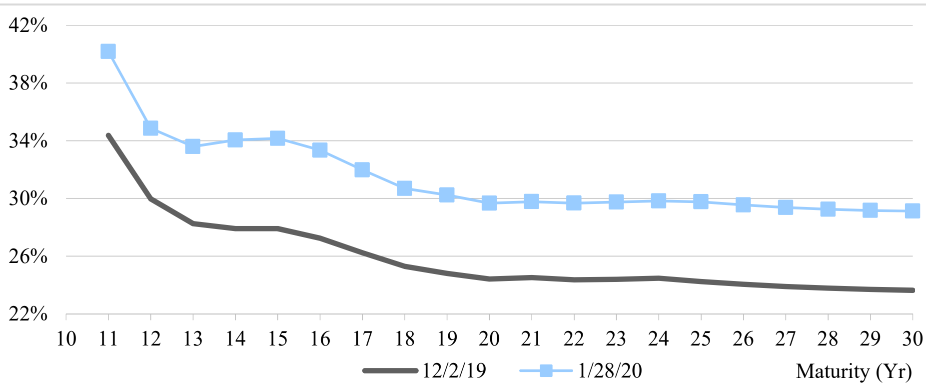
Figure 7 **Monthly Price Change — AAA GO Bonds* (1/6/20 — 2/5/20)**



Sources: Loop Capital Markets, TM3 | *Price Change Only

Yields fell 14 bps, on average, across the curve last month, resulting in solid bond returns.

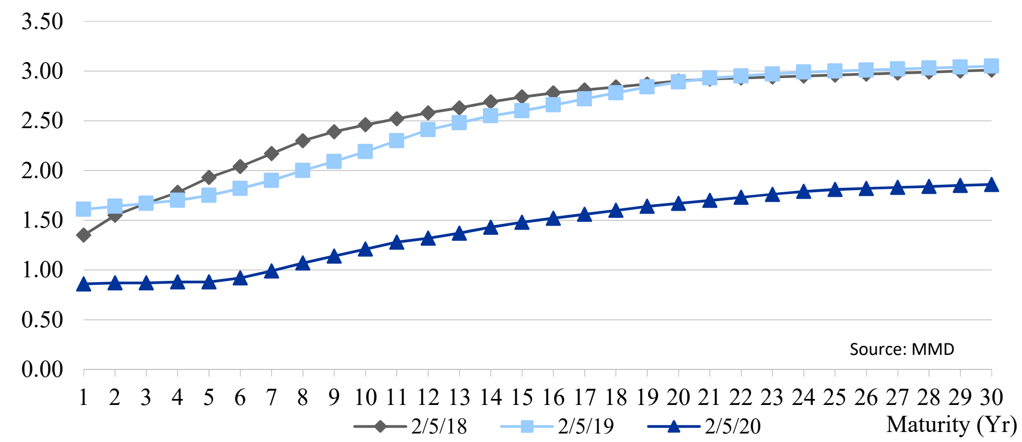
Figure 8 **Implied Municipal Volatilities**



Sources: Loop Capital Markets, TM3 | *10-year call

Implied volatilities jumped across the curve last month as yields fell. Since non-callable bonds appreciate faster in falling interest rate environment than their callable counterparts, the price differential between the two, and the respective implied volatilities, increased as a result.

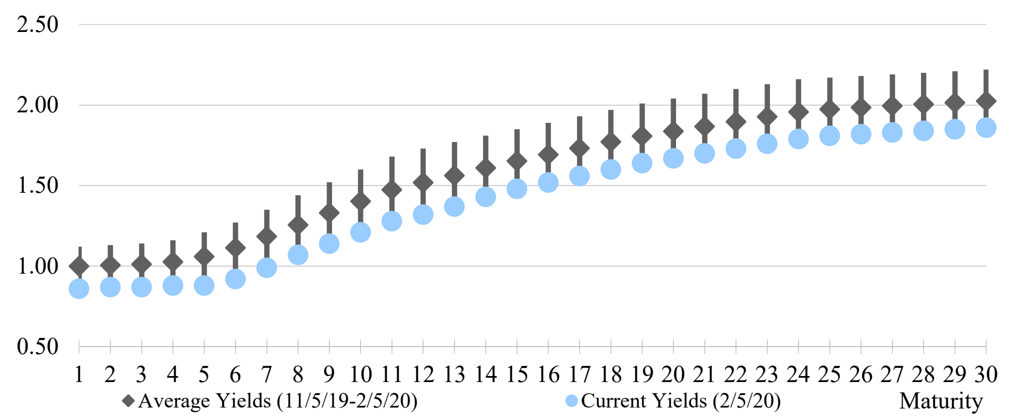
Figure 9 **Current vs. Historical Municipal Yield Curves (%)**



Source: TM3

Yields are more than 100 bps lower across much of the curve vs. 1- and 2-years ago.

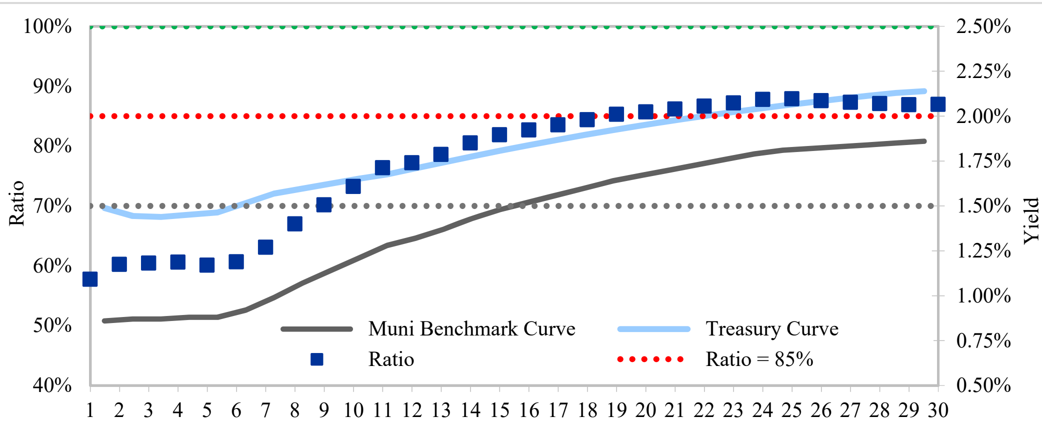
Figure 10 **3-Month Average Benchmark Muni Curve Yield**



Source: TM3

The yields are close to their 3-month lows across the curve.

Figure 11 **Muni and Treasury Yield Curves and Ratios**

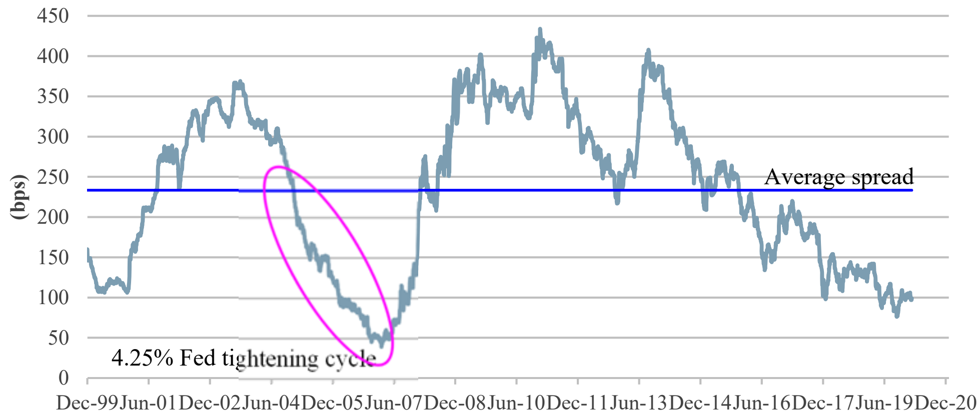


Sources: Eikon, TM3

Ratios are unusually low on the front end of the curve by historical standards.

Market Conditions

Figure 12 **2 to 30-Yr Muni Spread (bps)**



Source: TM3

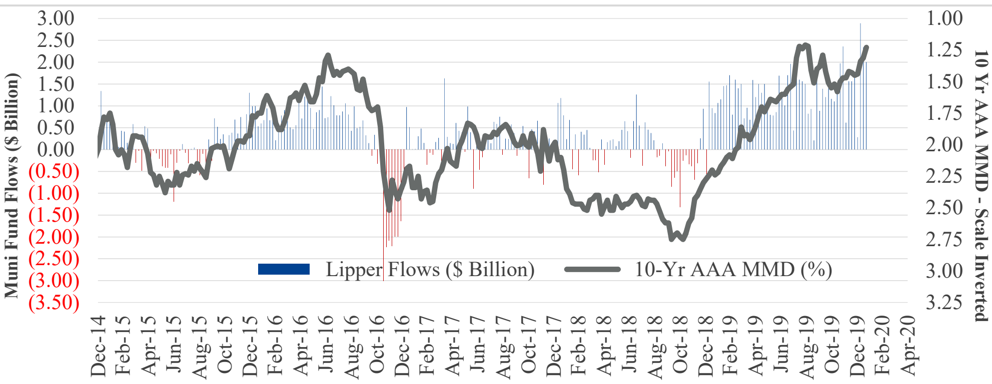
The slope of the curve has stabilized around 100 bps in 2020.

Figure 13 **Inflation Expectations**

Source: FRED

Fed's five-year forward breakeven inflation rate, derived from TIPS and regular Treasury yields, is currently 1.68%.

Figure 14 **Lipper Weekly Municipal Mutual Fund Flows ($ Billion)**



Source: Lipper

Lipper reported net inflows of $1.8 billion into muni funds in the last week of January. Fifty-six consecutive weeks of net inflows boosted fund assets by about $74.3 billion.

Loop Capital Markets Upcoming Negotiated Calendar

Date	Par Amount ($ mil)	Issue	Loop Capital's Role
2/12/20	55.5	School District #131 Kane County (East Aurora) General Obligation School Bonds	Sole Manager
2/11/20	45.4	Grand Parkway System First Tier Toll Revenue Refunding Bonds Taxable Series	Co-Manager
2/11/20	652.0	Grand Parkway System Subordinate Tier Toll Revenue Refunding Bonds Taxable Series	Co-Manager
2/11/20	809.3	Grand Parkway System First Tier Toll Revenue Refunding Bonds	Co-Manager
2/13/20	43.6	City of Greensboro General Obligation Refunding Bonds (Forward Delivery)	Co-Manager

"Since the state legalized recreational marijuana, I find myself gradually feeling less concerned about the state's burgeoning liabilities."

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