Massachusetts Taxpayers Foundation

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March 30, 2020

The COVID-19 Pandemic: Where are we; where are we headed?

This preliminary report addresses some of the economic impacts from the most recent data and explores issues that will shape the scale and duration of this global pandemic. While this report is focused primarily on the national economic impacts, Massachusetts-specific information is included when available. This analysis is the critical first step in completing a revised revenue forecast for the Commonwealth.

Although any review of the impacts of COVID-19 are at best a snapshot – and a blurry one at that – it is incumbent to assess the potential depth and length of the economic downturn in a time of limited visibility by reviewing past instances and analyzing the most recent data. As facts and data change, these assessments will necessarily evolve.

People have struggled to find appropriate historic reference points. Some turn to 9/11; others look back at the Great Recession of 2008-2009. While these provide some guidance of what may lie ahead, Senate Majority Leader Mitch McConnell put the pandemic in perspective describing it as "the most serious threat to Americans' health in over a century[1] and quite likely the greatest risk to America's jobs and prosperity that we've seen since the Great Depression."

Simply stated, COVID-19 is a Cat 5 hurricane hitting global economies simultaneously. The initial impacts are staggering – to people and families, first responders, health care professionals, employers and employees, and the world's economy. The scale and duration of the pandemic are as yet unknown but two key factors will shape the severity of what is to come: 1) the epidemiological path – how long will the virus be around, and 2) whether fiscal and monetary policies are sufficient to blunt the short-term economic impacts in Q2 and ignite a recovery.

The first of several shocks are evident – massive layoffs and an immense loss of wealth. Soon to follow, the damage to businesses – particularly small businesses, that employ approximately 75 million people or half of all jobs in the U.S.

[1] The number of deaths from the 1918 influenza pandemic has been estimated at 50 million worldwide and 675,000 in the United States.

Labor Markets Crater

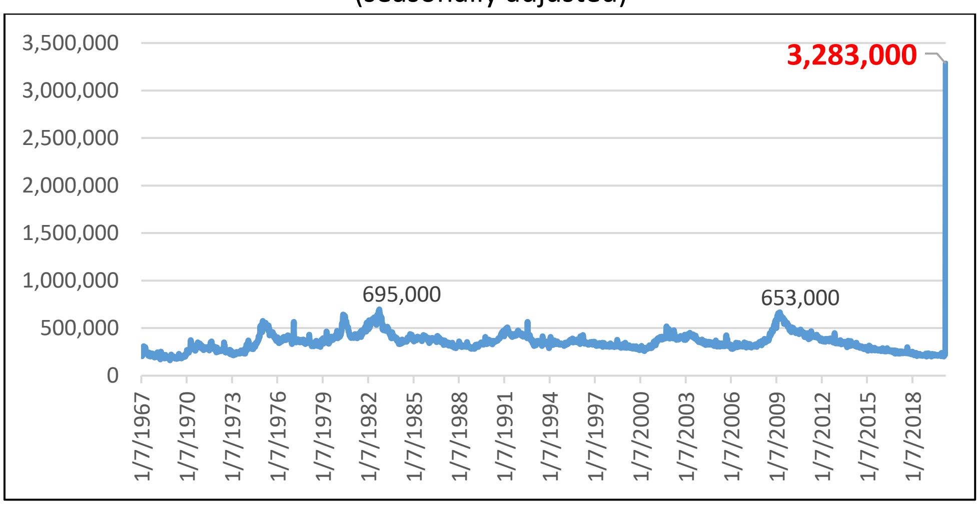
Official March employment data is likely to show only modest impacts due to the timing of the monthly survey[2] but the numbers are projected to explode in April. There are approximately 45 million jobs in in the U.S. in retail, leisure and hospitality, construction, and transportation under threat from COVID-19 as 225 million people, two-thirds of the country's population, is under some form of lockdown. These sectors may be the first to feel the brunt of the pandemic, but losses will cascade through the rest of the economy while hiring is at a standstill in all but a few sectors of the economy.

Unfortunately, policymakers will not discover the true impact on unemployment until April figures are released in early May. In the meantime, unemployment insurance (UI) claims, filed weekly, provide the best view of the scale of employment losses.

And the UI claims numbers for the week ending March 21 stunned.

There were 3.28 million initial claims filed across the country which was substantially higher than worst case projections.[3] For perspective, 3.28 million claims is 15 times greater than the number from two weeks earlier (282,000) before states began shutting down their economies, and 5 times larger than the 653,000 peak during the 2009 fiscal crisis (Figure 1).

Figure 1 – Initial U.S. Unemployment Insurance Claims, 1/7/1967 – 3/21/2020
(seasonally adjusted)



[2] The Current Employment Statistics (CES) program conducts a monthly survey of 145,000 employers and government agencies that represent nearly 700,000 worksites.
[3] Moody's Analytics forecast 1-2.5 million claims for the week ending March 21, Goldman Sachs estimated 2.5 million.

This staggering number of claims shows the speed with which economic activity was shuttered, and yet, it understates dislocations. The data exclude people who do not qualify for UI such as self-employed or undocumented workers. And the data do not include people who were unable to successfully apply for unemployment insurance because state unemployment offices were overwhelmed by the unprecedented number of cases. And the fall-out will likely continue. Moody's Analytics anticipates a comparable number of initial UI claims for the week ending March 28.

While UI claims do not provide precise guidance of total unemployment, two recent estimates indicate the potential size of the problem if a federal relief bill did not pass. Treasury Secretary Steven Mnuchin warned that the unemployment rate could reach 20 percent in Q2 and James Bullard, president and CEO of the Federal Reserve Bank of St. Louis, offered a grimmer estimate of 30 percent. The magnitude of these estimates cannot be overstated as they translate into 25 to 40 million job losses.

Moody's Analytics most recent forecast revision (March 27) expects U.S. unemployment rate to spike to 8.7 percent in Q2 from the 3.6 percent rate that existed immediately prior to when states began shutting their economies. The jump in the unemployment rate means the loss of nearly 8 million jobs nationwide. While Moody's expects a recovery in Q3 2020 (GDP increase of 11 percent), they estimate the U.S. unemployment rate will remain at 6.5 percent through 2021.

Findings from a Washington Post/ABC News poll conducted March 22 – 25, support this scale of job losses. The survey of 1,003 adults found that one-third of Americans say they or a family member has lost their job due to the outbreak and one-half report a cut in work hours or pay.[4]

Massachusetts

Looking to previous downturns, Massachusetts fared worse than the country as a whole in three of the past four recessions (measured by job losses) with the exception of the 2009 financial crisis. The 1989-1991 recession was particularly acute as job losses of 354,000 exceeded 11 percent while U.S. employment increased (Table 1).

Table 1 – Percent Job Losses for U.S. and Massachusetts

	US	MA
1974-1975	-0.14%	-2.88%
1989-1991	1.62%	-11.25%
2001-2003	-1.53%	-5.15%
2008-2009	-6.02%	-3.69%

[4] *Poll finds recession fears high amid layoffs and pay cuts from coronavirus fallout*, The Washington Post, Scott Clement and Dan Balz, March 26, 2020.

There are several reasons to think Massachusetts will once again suffer a greater impact from the pandemic than the country as a whole, suggesting that the state's recovery would be steeper and longer than other parts of the country. Massachusetts has nearly 1 million jobs likely to be affected by the economic shutdown (Table 2).

Table 2 – Massachusetts Employment – Four Sectors

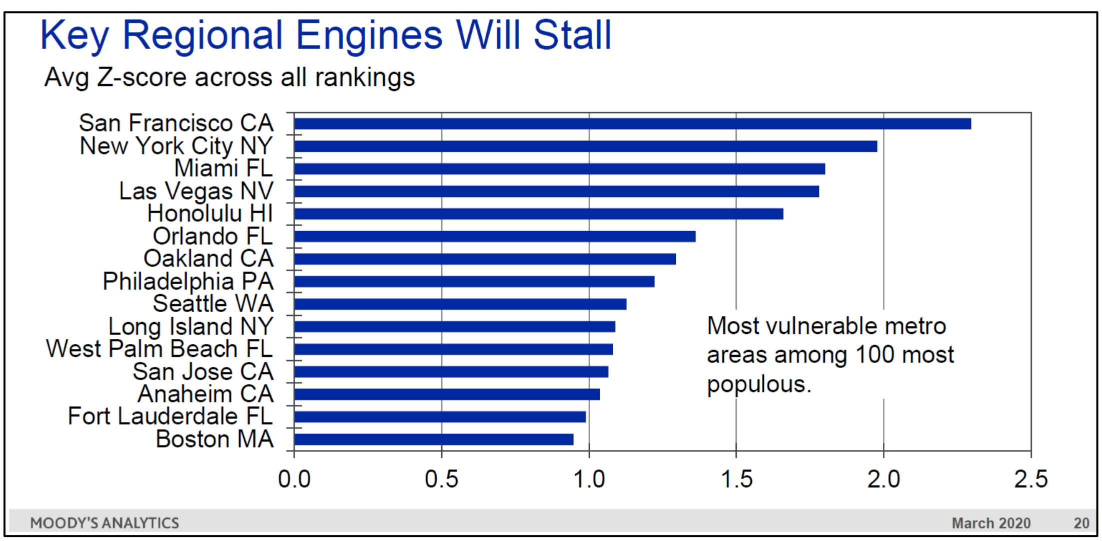
	Dec. 2019
Construction	156
Transportation	97
Leisure	378
Retail	348
Total	**979**

Further, Moody's analysis of key indicators to quantify the disparities in regional risks, evaluated each state's:

- Exposure to the virus – the number of cases and level of international travel
- Demographics – density, the percent of the population age 65+, levels of migration
- Global interconnectedness – the number of airline passengers, percent of export trade
- Tourism – accommodations employment
- Finance - securities industry reliance, investment income share
- Commodities - reliance on oil, agriculture

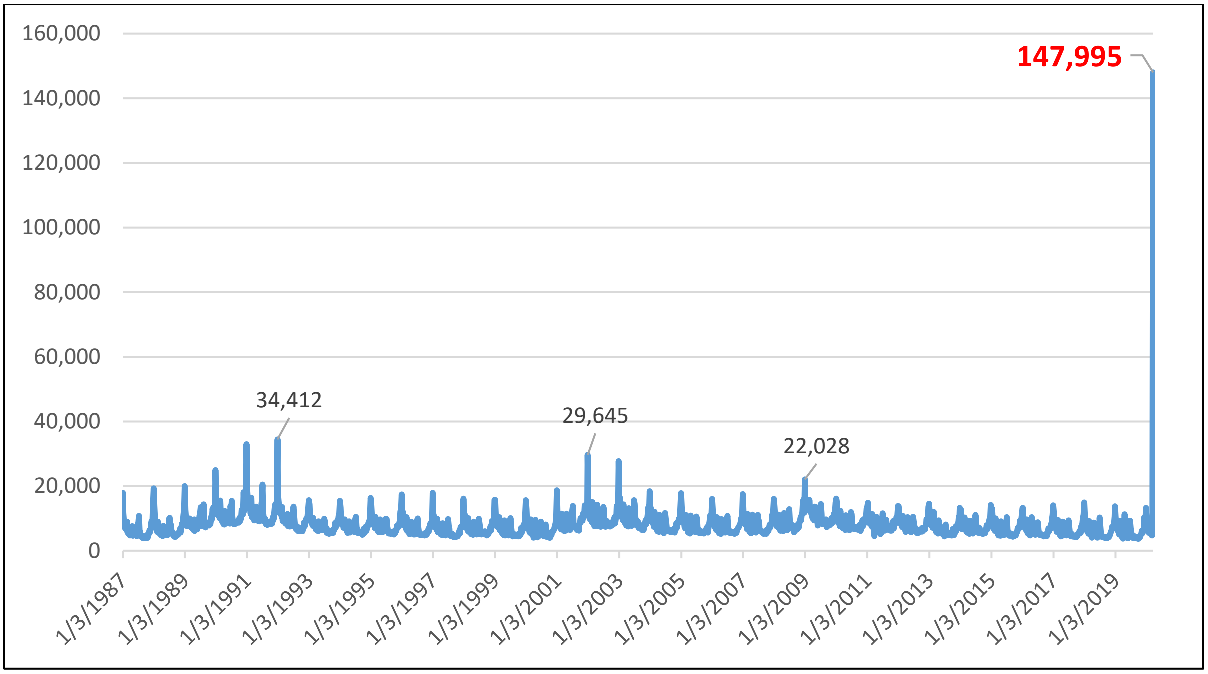
In all but one of these measures (commodities), Massachusetts scores quite high and Moody's ranks Boston among the 15 most vulnerable metro areas to the pandemic effects (Figure 2).

Figure 2 – U.S. Metro Areas at Greatest Risk



UI claims paint a grim picture of Massachusetts' vulnerability. Initial UI claims of 147,995 for the week ending 3/21/2020 suggest that Massachusetts may well be at greater risk than the U.S. (Figure 3). The latest state UI claims data is 30 times greater than the number of claims from two weeks earlier – double the 15x ratio of the U.S in the same two week period.

Figure 3 – MA Weekly Initial Claims, 1/3/1987 – 3/7/2020



A concurrent indicator from a MassINC/Blue Cross Blue Shield of Massachusetts Coronavirus Tracking Poll (conducted March 20 – 23), found that 16 percent have lost their job since the crisis began.[5]

Assuming Massachusetts fares more poorly than the U.S. based on Moody's analysis and initial UI claims data, state job losses could be in the 10 to 12 percent range, slightly higher than Moody's U.S. estimate. This figure would be a reasonable placeholder pending a full economic forecast. By that calculation, Massachusetts stands to lose 275,000 to 325,000 jobs in Q2 and employment would remain approximately 190,000 lower in December than in January 2020.

[5] MassINC Polling Group, Coronavirus Tracking Poll

Business Failures Add Uncertainty to a Recovery

The severity of the impact on small businesses, a major concern, will become clearer in Q2. Companies employing fewer than 500 people account for one-half of U.S. employment. Many companies lack sufficient cash reserves or access to credit to weather a prolonged period of economic inactivity and will struggle to survive.

The $2.2 trillion federal rescue package and the Federal Reserve's commitment to purchase private sector debt provide vital infusions to maintain the connection between employers and employees. If these policies prove effective, people can get back to work relatively soon as businesses re-open and a recovery starts.

If however, funds are delayed or poorly targeted, or the pandemic's impact on a large segment of small businesses has already occurred, one of the most important benefits of the rescue package – maintaining ties between employers and employees - will diminish, slowing the speed of the recovery. These concerns are reinforced by a Goldman Sachs survey of 1,500 small businesses conducted March 16-17 (Figure 4).

Figure 4 – Goldman Sachs Survey of 1,500 Small Businesses, March 16-17

As shown, Goldman Sachs found that 96 percent of companies have already been impacted by coronavirus, 51 percent will be unable to continue operations for 3 months (or less), 53 percent of employees cannot telecommute, and 67 percent are uncertain how to apply for emergency funding.

Wealth Evaporates

Americans have lost an immense amount of wealth in the past month – even with recent market rebounds following passage of the federal rescue bill. These losses undermine consumer confidence and constrain future spending.

A measure used by Moody's Analytics to estimate the level of lost wealth, the Wilshire 5000 index of the value of publicly traded U.S. headquartered companies, plummeted $10 trillion or 30 percent since February 19 (Figure 5) providing one estimate of the impact on the value of peoples' 401Ks.

Figure 5 – A Six Month Look at the Wilshire 5000 Index

Even as businesses re-open, consumers will tread cautiously back into the economy for both health and wealth concerns. While the federal relief bill seeks to blunt the downturn, people who have lost large shares of their wealth – especially baby boomers – will likely forego or delay consumer purchases thus further constraining and delaying the recovery.

<u>Two Unknowns Will Dictate the Nature of the Recovery</u>

There are two unknowns that will shape the severity and duration of the pandemic's impact on the U.S. economy: 1) the epidemiological path of the virus – when will coronavirus cases peak and when will they abate, and 2) the $2.2 trillion rescue package – will it suffice to blunt the damage.

How long will the pandemic last?

The best case scenario anticipates virus cases to peak in April or early May and begin to subside in June. Although the virus would still be around, physical re-engagement could begin at many worksites and consumers could see an end point to social distancing policies. If, due to failed policies or the nature of the virus, the peak arrives later and does not begin to abate until the fall, current forecasts understate the economic damage.

There are reasons for concern with the best case scenario. A recent report from Imperial College[6] suggests that a recovery could take 18 months or more (or until a vaccine is available) as new coronavirus and ICU cases re-emerge in a series of waves due to loosening of social distancing policies followed by clamp downs as cases spike (Figure 6).

Figure 6 – Imperial College Report – Coronavirus Waves for 18 Months or More

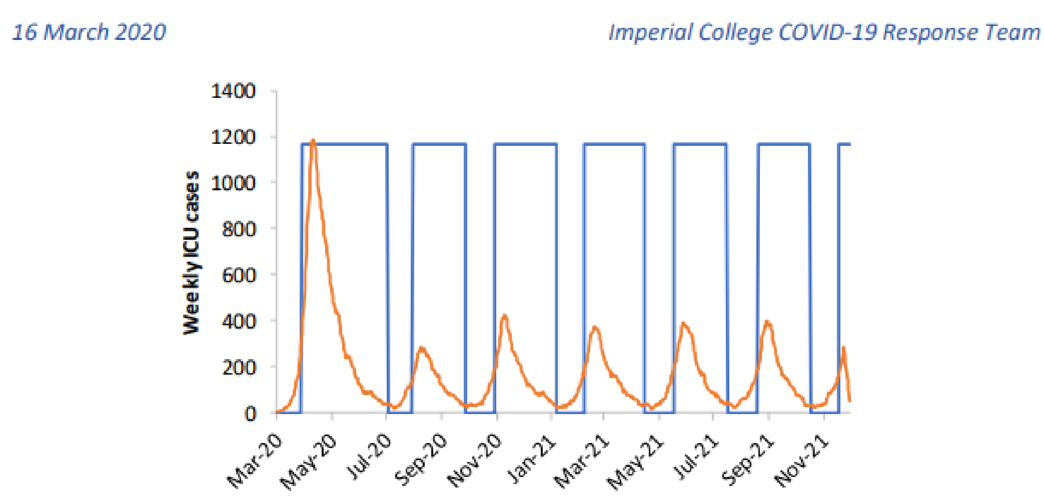


Figure 4: Illustration of adaptive triggering of suppression strategies in GB, for R_0=2.2, a policy of all four interventions considered, an "on" trigger of 100 ICU cases in a week and an "off" trigger of 50 ICU cases. The policy is in force approximate 2/3 of the time. Only social distancing and school/university closure are triggered; other policies remain in force throughout. Weekly ICU incidence is shown in orange, policy triggering in blue.

[6] Imperial College COVID-19 Response Team, *Impact of non-pharmaceutical interventions (NPIs) to reduce COVID19 mortality and healthcare demand*, 16 March 2020.

The U.S. Government COVID-19 Response Plan, presented to the White House, concurs with this assessment, stating in its Assumptions (p. 4) "A pandemic will last 18 months or longer and could include multiple waves of illness."

China's experience offers tentative support for the best case scenario. Coronavirus cases exploded in Wuhan followed by 8 weeks of social isolation that yielded a substantial slowing of new cases followed by plans for economic re-engagement. According to recent reports, China will end the coronavirus lockdown in Wuhan on April 8 allowing factories and stores to reopen.

But China's situation may not be so clear. China ordered all travelers from countries with high coronavirus cases to undergo a 14 day quarantine to prevent the spread of new cases. More alarming, on March 27 – days after movie theaters were informed that they could reopen, Beijing's Film Bureau notified all 600 theaters to go back into shutdown.

> "This second closure will not be a one- or two-week issue," an executive at a major exhibition company told *The Hollywood Reporter*, asking not to be named because of the sensitivity of commenting on government policy related to the coronavirus. "They are going to be even more cautious when they attempt to reopen again — and this will set us back a long time."[7]

China's experiences suggest that reemerging virus cases may lead to a series of relaxations followed by lockdowns over a longer period of time as modeled in the Imperial College Report.

Perhaps Federal Reserve Chairman Jerome Powell put it best. When asked how soon the country could re-open economic activity, Powell replied "The virus is going to dictate the timetable." "The sooner we get through this period, and get this virus under control, the sooner the recovery can come."[8] In other words, there will be no full consumer engagement until a medical solution is found.

One more point, testing provides the only assurance. The only way to know whether and when the virus has abated is by mass testing that identifies positive cases quickly, tests people before they become symptomatic, and follows rigorous contact tracing. China, South Korea, Singapore, and Japan employed such a program. The U.S. fell short of these measures and is still catching up. Daily tests have increased substantially in the past two weeks from approximately 5,000 to 100,000 but that's not enough.[9] Demand widely outstrips supply, results take days rather than minutes, and states are rationing tests for the sickest patients and symptomatic health-care workers. Testing remains a principal barrier to an economic recovery.

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[7] *China Shuts Down all Cinemas, Again*, The Hollywood Reporter, Patrick Brzeski, March 27, 2020.
[8] *Fed Chairman Jerome Powell: 'We may well be in a recession'*, David Gura, NBC News, March 26, 2020.
[9] Massachusetts increased daily testing from 200 to 6,000 during the same two week period.

Will $2.2 Trillion Suffice?

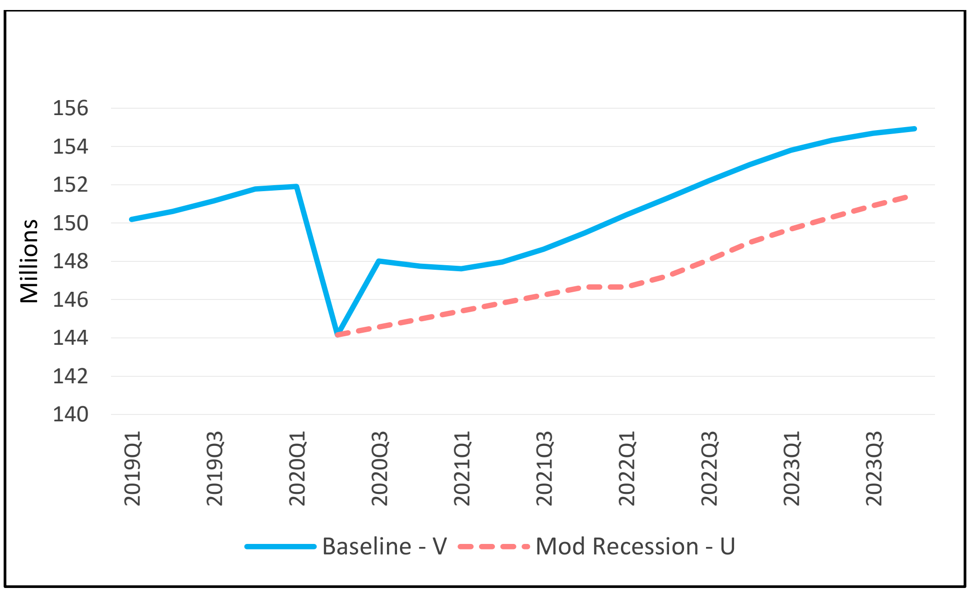
No. The $2.2 trillion package is enormous representing 10 percent of U.S. GDP and substantially more than the Troubled Asset Relief Program *(*TARP*)* in 2009. But the purpose of the relief package is damage control, not growth. Its goal is to moderate the economic disruptions in Q2. These funds are expected to be exhausted by July. If the pandemic extends beyond July, $2.2 trillion will fall short. If federal funds take too long to reach the intended parties, the economic damage will be greater than today's estimates requiring more relief.

More importantly, a fourth and maybe a fifth round of relief will be necessary. That's why Congress is already discussing a fourth tranche to stimulate an economic recovery. Moody's Analytics states that more resources are indispensable to a recovery and its current baseline economic forecast assumes a fourth COVID-19 stimulus package by Q4 2020. If further relief does not materialize, their analysis shows that the recovery would be delayed significantly and the costs to revitalize the economy would swell.

What Does a Recovery Look Like?

In Moody's current baseline forecast, economic re-engagement starts around the 4th of July, U.S. employment sees a 'V' shaped recovery assuming conditions listed in Table 3 are met. Moody's projects a snap back in Q3 2020 and full recovery of jobs by Q4 2023.

Figure 7 – Moody's Analytics Forecast of U.S. Employment, Two Scenarios[10]



[10] Revised March 27, 2020.

If, however, the Moderate Recession Scenario occurs, there would be no employment recovery in Q3 2020 and a full jobs recovery would be pushed out to Q4 2024. The success of the $2.2 trillion relief package assumes that Q2 damage is contained and the economy starts to recover in July. If the recovery is delayed or 'U' shaped, the U.S. (and states) will need substantially more resources to recover and re-ignite the economy.

Table 3 – Moody's Analytics Recovery Assumptions: Current Baseline vs. Mod. Recession

COVID-19 Baseline	COVID-19 Moderate Recession
3 8 mil confirmed U.S. infections	9 15 mil confirmed U.S. infections
New infections peak in May	New infections peak in June
1.5% case fatality rate	4.5% case fatality rate
10% hospitalization rate	20% hospitalization rate
Infections abate by July	Infections abate by September
19% excess capacity of hospital beds	47% capacity deficit of hospital bed
4% excess capacity of ICU beds	125% capacity deficit of ICU beds
17% excess capacity of ventilators	56% capacity deficit of ventilators

About the Massachusetts Taxpayers Foundation

The Massachusetts Taxpayers Foundation (MTF) is a non-partisan research organization that serves as an independent source of information for the Commonwealth's decision-makers.

Founded in 1932, MTF's mission is to provide accurate, unbiased research with balanced, thoughtful recommendations that strengthen the state's finances and economy in order to foster the long-term wellbeing of the Commonwealth.

MTF contributes to the public policymaking process in several key ways, including an annual forecast of tax revenue provided as part of the state's consensus tax revenue deliberations, budget planning and tracking, policy research on major issues such as transportation financing, the opioid epidemic, the income surtax, and migration trends, and supporting policymakers and opinion leaders with high quality analysis.