Pandemic Series

Economic Epidemic

- The most significant risk is a permanent change in consumer behavior that would echo the effect of the Great Depression by reducing consumption for a generation.

- The economic impact of virus mitigation strategies is similar in magnitude and make the economic discussion moot.

- Doing nothing brings the greatest human toll and the most enduring impact on the economy thus making it a poor choice under all decision sets.

- The hardest hit sectors are those with the lowest wages and capital, thus making the fiscal response critical.

- Lack of coordination at the state and national levels will deliver prolonged economic epidemics that, while localized, will ensure an enduring economic catastrophe.

The economic epidemic is delivering uncertainty to such an extent that the equity markets fell at an unparalleled speed. The economic decline may be greater than the great depression and unemployment may reach 30%. With a vaccine delivery at least a year away, the viral pandemic is creating localized economic epidemics different sectors of the economy. The challenge for politicians is how to prevent the economic epidemics from becoming a pandemic in the US and globally. The answer is proverbial: an ounce of prevention avoids pounds of cure. Unfortunately, the current path for the US would mean that the proposed stimulus bill is insufficient, and the equity market may require further discounting.

Measuring Up. While the magnitude of the economic impact in unknown, we do know that it is massive. The acceleration of unemployment claims is unprecedented. Whole sectors of the economy shutter as a third of the US population is in home isolation. There is not any economic comparable for the speed and scale of this shutdown. At best, we can deduce the financial toil through the impact of lost wages.

National income captures the growth of the economy minus the consumption of fixed capital (i.e., depreciation). The income is not all salary, but an aggregate of other components that includes corporate profits, taxes, and non-salary compensation (i.e., health care). The result is that actual wages account for about 43% of total income and results in about $9 trillion of wages. This calculation gives us a measure of what could be the full impact on consumption.

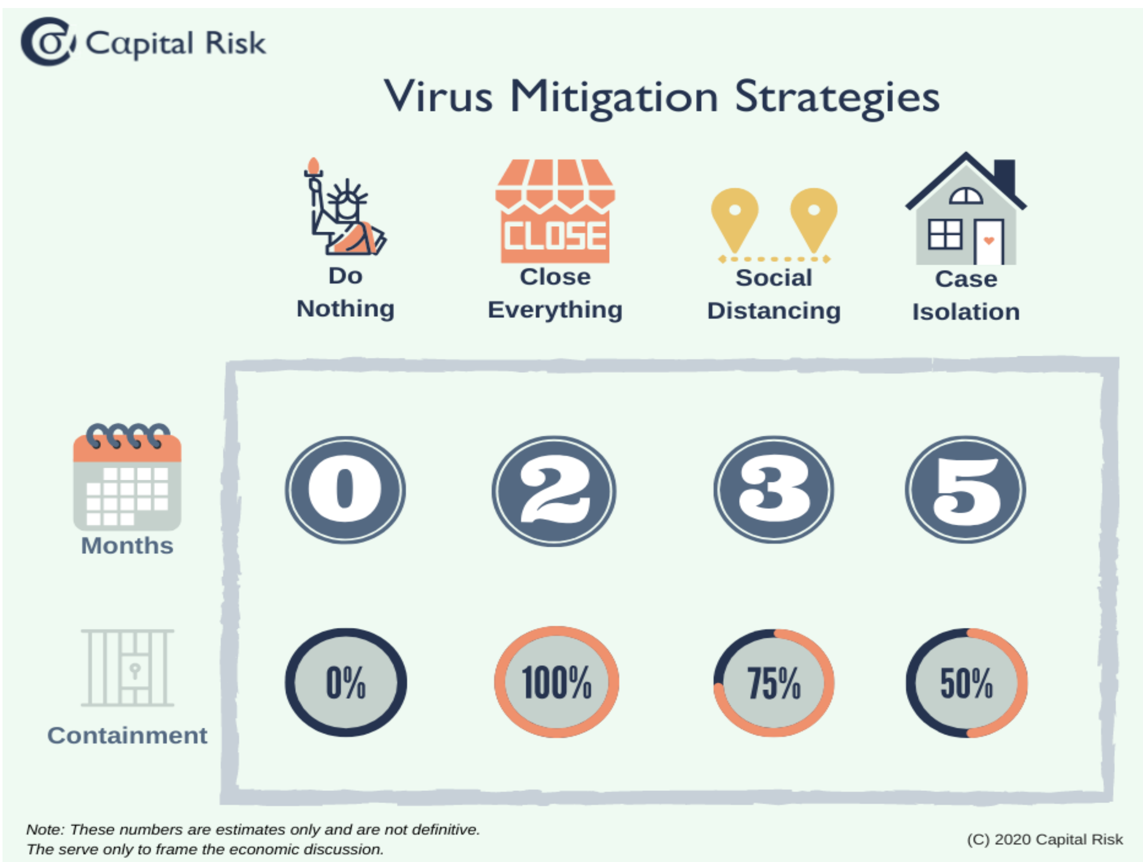
Exhibit 1. Employment, Wages, and Income by Sector

Source: Federal Reserve Economic Database. CRM calculations.

Employment sectors contribute to the total income because of their varying numbers of employees and wages. For example, Information and Utility workers enjoy the most substantial wages while having the smallest number of workers (exhibit1, upper left). A more insightful way is to measure the total wages paid by the sector. The size of the circle in the exhibit measures the economic impact. The exhibit clearly shows that the Professional Services sector is the most significant contributor, while Education & Health is not far behind. The sectors included below account for over $7 trillion of compensation, with the remainder accruing to various levels of government workers. Thus, we can use these tallies to estimate the economic drag from the different measures to mitigate the virus.

Many Paths. To understand the economic impact, we need to frame out the plausible mitigation scenarios and their economic impact. The options to reduce the effect of the virus are not numerous because of the 'community spreading' of the disease. Typically, isolation of the infected to help slow the disease is viable; however, we don't know everyone who is contagious, so it's impossible to contain the virus. While there are several containment strategies that we discussed in a prior post, there are effectively only four options right now.

Exhibit 2. Mitigation Strategy Duration and Containment



Source: CRM calculations. These estimates will vary from the actual duration and containment rates.

- **Do Nothing -** Lets the virus run its course.
- **Close Everything -** Restrict all movement outside of the home for three weeks.
- **Social Distancing -** Ensuring people keep at least six feet apart and limit gathering in groups.
- **Case Isolation -** Case isolation of the infected and home quarantine of their household members.

The strategies vary in their containment ability and their duration (exhibit 2). The first two scenarios are straightforward in explanation. Do nothing suggest letting the virus run its course. Close everything and wait three weeks for the virus to extinguish itself from the lack of a host. Social distancing limits contagion at the cost of stopping significant parts of the economy. Case isolation is less effective as case tracking takes time to achieve; however, more of the economy can operate.

These scenarios, discussed in a prior article, focus on the length of the measures and the estimated impact on employment. Indeed, the duration could be longer, and the effectiveness lower. They do provide border cases where most other actions should fall within. While these estimates lack the precision of the antediluvian economy, they provide a means to frame the analysis.

Defining Moments. The scenario analysis is divisible along two dimensions: the impact on employment and the implied change in consumer behavior by the mitigation strategy. First, to measure the economic impact, the employment sectors are placed into related segments that will experience similar consequences.

- **Consumer**: includes the Retail and Leisure sectors will bear the highest burden regardless of strategy. As the virus spreads, consumer behavior will reduce the trend for dining, traveling, and discretionary shopping.

- **Secondary**: includes the Construction, Manufacturing, Other Services, and Professional sectors. The impact on these sectors is less severe, but directly related to reduced expenditures and changing consumer behavior. Other Services and Professional employment falls as people minimize contact with others and defer some spending.

- **Primary:** are essential services, including Mining, Wholesale, Transport, Utilities, Financial, Information, and Health Services. The inclusion of Education occurs because their employment level is traditionally less variable and can function remotely in this environment. An impact can still happen in this Primary segment, particularly for those serving small business and individual consumers; however, it is less severe than the other segments.

This segmentation provides a means to measure the extent of the lost wages across the economy. These economic impact projections only measure first-order employment effects. The model does not consider changes in investment, net exports, and government expenditures. In a simple framework, fiscal and monetary policies can mitigate some of these impacts. Critically, the objective is to aim big and miss small: consumer spending is over 70% of the economy. Thus, if we understand this dimension, we are most of the way there.

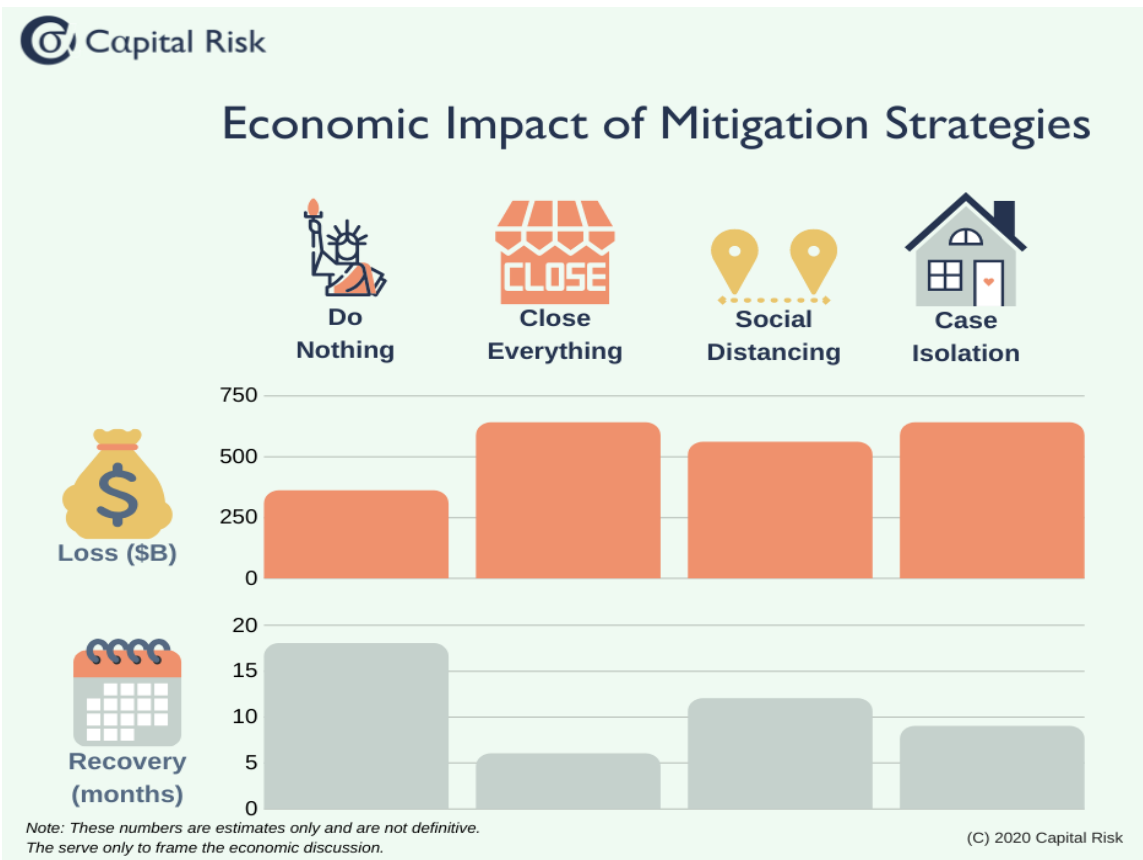
The mitigation strategy matters because of its initial impact on employment levels and the follow-on change in consumer behavior that might endure during a recovery period. In this context, the framing of the mitigation strategies occurs.

- **Do nothing**. This choice does have an economic impact: as the number of cases grows, consumer behavior will change, thus lowering employment requirements in the consumer segment. Only the Consumer segment reaches recession level unemployment. Due to the extended length of living with the virus, the recovery is longer as consumer behavior is changed. The human toll is at its highest in this strategy.
- **Close Everything**. This choice is the most significant immediate economic impact while having the shortest implementation and recovery time. Consumer behavior is not permanently changed and reverts to prior levels quickest. The Consumer and Secondary segments reach depression level unemployment, while the Primary sector reaches recession levels. This choice minimizes the human toll.
- **Case Isolation**. This choice has a materiel economic impact as all sectors fall to recession employment levels. The extended implementation changes consumer behavior changes and is slower to return to prior levels. This decision requires effective testing and tracing to reduce the human toll, but only ranks better than do nothing along this dimension.

- **Home Quarantine**. This choice is the second most severe in economic terms, as all employment segments reach deep recession levels that resemble the Great Recession. The duration is the strategy is second shortest, and thus consumer behavior returns to normal at the second-fastest rate. The human tool is second lowest and is contingent on adequate testing and tracing afterward.

The goal is to understand the economic impact of various choices. The heavy dependence upon assumptions makes the analysis better suited for understanding the relative economic trade-offs between the strategies. The absolute levels will differ as the underlying connections between the variables become clearer. With a clearer understanding of the assumptions and the caveats of all models, measuring the economic impact can commence.

Exhibit 3. Economic Impact



Source: CRM calculations and are estimates only.

Falling Down. The economic impact is dramatic irrespective of the strategy; however, the trade-off is one that no humane person wants to bear: placing a price on a life. Our underlying belief is that each breathing human being is irreplaceable. Thus, all strategies should minimize the death toll, not the economic cost. While actuaries are well versed in projecting life spans, this context is not one that warms their hearts, and the intent is solely to understand, not proscribe. Of course, the abundance of assumptions requires also requires some degree of moderation in the application.

The notable outcome that occurs in this framework is that 3% of GDP is lost regardless of the mitigation strategy. This result highlights that the economic discussion is arguably a moot point. The greater risk is a permanent change in consumer behavior from an extended pandemic period. While Do Nothing appears the least economically significant, it may have an enduring impact that may permanently impair the economy. Critically, it only takes small changes in the employment expectation for the Do Nothing strategy to reach the levels of the others. Thus, in the final analysis, it's not a question of economic loss, but human loss.

A vital element of this analysis is the national scale. The reality suggests that the outcome will resemble economic epidemics rather than a pandemic. The closer a segment is to the consumer, the higher the burden. An unfortunate consequence of this outcome is the localization of the epidemic among the less economically fortunate. This result highlights the policy challenge of the pandemic: targeting the policy choices is essential to mitigating the economic hardship.

The economic epidemic can occur along another dimension: through inconsistent application of mitigation. This lack of coordination would result in localized epidemics at the state or international levels that would permit the continued festering of the virus and result in recurring mitigation. Critically, it would not permit commerce to flow to epidemic areas. The implication is stark: recurring epidemics would result in a prolonged pandemic of production that would take the global economy to it's knees.

An ounce, not pounds. After having minimized the human toll, the focus should be on the duration of the mitigation measures and the confidence that citizens have in their government to address problems of national scope. An effective strategy manages the latter, while the former is a function of the resources devoted to delivering an anti-viral or vaccine. The US economy forcefully responded when drifting off-course before, and it can do so again.

The highest risk is a permanent change in consumer behavior and civic engagement. As the Greatest Generation illustrated in their response to the Great Depression and the World War, it is possible to meet the challenge with full civic engagement. The cost was a change in consumer behavior from the Roaring Twenties. The largest demographic cohort in US history integrated into the workforce at the start of the Great Recession. They then enjoyed a bullish decade, only to have the foundation of their dreams shattered as they enter their prime household formation years. The only choice is for humanity so that the enduring promise that each generation makes to the next prevails.

"We hold these truths to be self-evident, that all men are created equal,
that they are endowed by their Creator with certain unalienable Rights,
that among these are ***Life, Liberty and the pursuit of Happiness."***
Preamble to the Declaration of Independence

This article is part two in a series on the economic impact of the COVID-19 virus.

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