THE ALCIVAX

Alcimed knows that moving forward often means breaking old ties, but what happens when those are economic indicators?

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Edition #28 - 29 Oct 2020

How do we take stock?

Stock indices are an indication of economic health expected to be linked to the real economy. During the 1st quarter, global stock indices experienced deep losses triggered by COVID-19. Some markets have created resilience by disconnecting from the economic realities that small and medium sized businesses face. Why have the US, European and Asian markets been able to bounce back when the economic realities for most small and medium sized businesses are less certain?

US Indexes Bounce Back

Trillions of dollars in federal stimulus have been spent to boost US stocks. Normally, the S&P 500 index, composed of companies from leading industries, is regarded as the best representation of the US economy. The S&P 500 reached a record level of 3,580, representing a year-to-date increase of 9% in value in the beginning of September. Companies from high-growth sectors, namely technology, media and telecom (TMT), represent 35% of the market, have done well during this crisis and disproportionately weight the market. Without the TMT sector, there would be zero growth of the market. Therefore, the stock market doing relatively well does not accurately reflect depressed employment or GDP levels in the real economy. The sectors such as hospitality, construction and other service industries that generate many jobs and contribute materially to GDP are not even listed, and the decreased level of activity in these areas is not reflected in the stock market.

Asian Control

In Asia, the situation was similar due to effective pandemic controls with plunging in mid-March almost fully recovering by June despite a potential for a resurgence in COVID-19 cases. Similarly, the tech industry leads these gains and helped the markets not react to the virus in the same way that it did earlier in 2020. But the Asian markets are not free of COVID volatility. As a new surges of infections and lockdown announcements make their way across the US and EU, all of the Asian markets are showing losses. This is also partly due to the Asian markets responding to the volatility and losses in other markets.

Europe and the W Shaped Recovery

The early pandemic related European market losses were largely recouped (94%) by early October. Companies from high-growth sectors have a smaller share of the overall market, with TMT only representing 10% of the market as opposed to 35% in the US, and the gap is widening as EU stocks hit a 5 month low. But market volatility in EU is now lower than the US despite previously tracking together.

However, the European index also gives a false sense of the overall economic health by not reflecting GDP and employment contributions. The markets faring well is not irrational and instead simply a reflection of them relying on a specific set of industries that have done well within the COVID-19 context and accordingly contributed significantly to making the economy more resilient than maybe anticipated. While V and then W shaped recoveries have been posited previously, a K shaped recovery may be likely instead indicated by the widening performance gap between different industries as well as workers in different income segments.

The "Shecession"

Should women be the ones leaving the workforce?

Historically, recessions have either impacted men at higher rates or affected men and women roughly equally. This pandemic recession has led to more job losses for women. This is partially driven by the fact that the most impacted sectors are ones that typically have a high share of female employees such as retail and hospitality. This is also the result of more household pressure on women to downshift their careers or leave the workforce due to additional childcare needs during the quarantine period.

However, women are less likely to become acutely ill and far more likely to survive coronavirus than men. Research shows that the X chromosome carries the largest number of immune related genes and the female sex hormone, estrogen, also influences the immune system, both helping women to provide a more effective defense against COVID-19. Coupled with higher rates of smoking, drinking and chronic diseases in men, men experience higher rates of infection and death from COVID-19. Behavioral and social habits are also a factor, as men are less likely to wash their hands and more likely to be exposed to the virus because they are more likely to be out in the workforce.

The long-term fallout of women staying home could mean widening of the gender pay gap, lost progress towards diversity in leadership positions and other future inequalities. However, with women generally having more robust immune systems, maybe men, rather than women should consider changing their work situation during this COVID-19 crisis.

The Pandemic Endgame

There are three main pillars to a successful end to of the pandemic:

1.Vaccines 2. Treatment 3. Herd immunity

All three will be essential to bring this global crisis to a close. This week we summarize the progress made to data and the major remaining challenges.

1. Vaccines

Long touted as the pandemic ender, accelerated vaccine trials have certainly been a bumpy ride. If we start with the already approved vaccines, Sputnik V is still in manufacturing ramp up and may take almost a year to be readily available. Sputnik V Phase 3 trials are also lagging behind Western trials and have indication for the elderly.

J&J and AstraZenca trials are set to restart US trials after safety pauses. A J&J participant suffered a stroke and a AZ participant developed a case of transverse myelitis. The Brazilian AZ patient that died last week had received the placebo. In another setback, Novavax has delayed the start of its Phase 3 due to manufacturing setbacks. A COVID human challenge model for vaccines will launch in the UK in January 2021.

Politics has been a large influencer of vaccine movement to date, with discussions of vaccine nationalism, vaccine diplomacy, and now outright pressure. Brazil walked out on a deal to buy a potential Chinese Sinovac vaccine this week after pressure from the US, putting Bolsonaro at odds with his public health officials.

Distribution plans are on going as shipping giant Maersk nabs a deal with COVAX for bringing American manufactured vaccines worldwide and manufacturer's position themselves in Egypt to gain access to Africa and the Middle East.

2. Treatment

Treatment is such a critical piece of the puzzle and is split into three categories: symptom relief, viral interference, and anti-inflammatory. This is also likely the last piece to fall securely into place given the diversity of symptoms, complications, and organ systems potentially affected.

The only one approved, remdesivir, just failed to reduce mortality in the global Solidarity trial. Remdesivir's value may be restricted to non-severe patients, but questions have also been raised about liver and kidney adverse events while on treatment.

Eli Lily's antibody therapy is also ineffective in patients hospitalized with advanced COVID and trials have halted. Promising evidence still remains for treating people early in the disease course.

Regeneron's antibody cocktail also reduces viral load and a significant reduction in medical visits according to data released from its Phase 2/3 trial, but has not yet released any data on mortality reduction.

Convalescent plasma has also failed to prevent the progression from moderate to severe COVID or death in Phase 2 trials. Plasma does encourage viral clearance raising some interesting questions about the trial design and the role of COVID complications in disease outcomes.

3. Herd Immunity

Herd immunity, whether allowed to occur through natural spread or through vaccination has been on everyone's minds of late. Here is what we currently know and don't know about herd immunity and its likelihood of occurrence.

- Based on the SARS-CoV-2 R0 of 2-3.2, herd immunity would require at least 60% of the population to be immune to thwart infection spread.
- Studying the potential for herd immunity is ongoing through the Real-time Assessment of Community Transmission (REACT) program in the UK.
- Data from REACT shows a 26% decline in antibody levels across the UK from 6% in the summer to 4.4% as the UK heads towards a new viral surge. Antibody levels drop fastest in the elderly.
- US studies of COVID antibodies conflict with the REACT data, suggesting that in 90% of mild to moderate cases anti-spike protein antibodies do develop.
- Antibody levels remain stable in the US study for at least 5 months and correlate with neutralizing activity.
- Genetic validation of reinfection was published this month, with the 2nd infection being more severe than the 1st suggesting the jury is still out on whether or not natural immunity is a reliable solution.

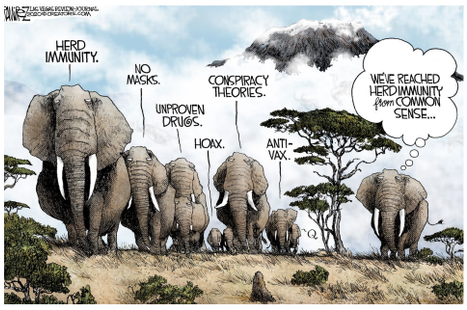
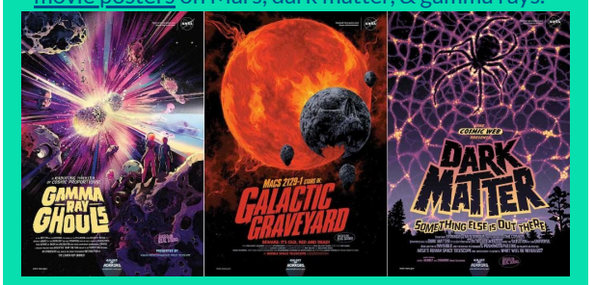


Image Credit: Michael Ramirez

All Joking Aside

Just in time for Halloween, NASA has released a series of educational posters that look like horror movie posters on Mars, dark matter, & gamma rays.



These COVID life posters by tech designer Irina Block, might be scarier with new lockdowns looming.

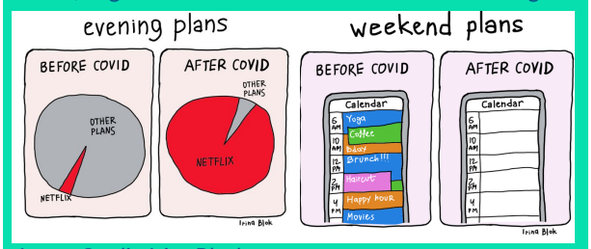


Image Credit: Irina Block

HAPPY COVID HALLOWEEN!

Trick or Treat!

Image Credit: Joe Heller

The Frankenvirus Lives!

Image Credit: Chip Bok

Jack-o-Last Year

Image Credit: Cagle Cartoons

Viruses Spread Like Fire

Image Credit: Walt Handelsman