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Long Covid:
Human Capital Destruction at Scale

Consequences and Actions to Take

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March 2022

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Large scale events have long tails, never return to "normal" quickly, and are never predictable!

Covid has, is, and will continue to destroy human capital on a global scale. With over 6 million deaths and 460 million reported cases to date, its scale equates to major wars and famines. While it hasn't destroyed cities or caused mass migrations, it has shut down entire communities, industries, and economies, sometimes repeatedly.

Individuals are not immune. It interrupted income and increased wealth disparities. It led to a "great resignation," resets, and early retirements. It changed family dynamics radically. It prioritized health and caregiving quickly.

It triggered reviews of every financial plan, formal or informal. It compelled revisions, rebalanced priorities, and redefined legacy — whether advisors were aware of it or not.

I**nvestment portfolios are not immune**. The rules changed abruptly. Supply chains crumbled globally. Corporations discarded business plans, reacted fast, and changed their models.

Well positioned investments prospered from sudden swollen demand, other failed as supply or demand evaporated.

Macro-economic adjustment was fast and large. Liquidity ratcheted up with monetary and fiscal actions to provide an unprecedented "bridge loan" for the economy to get past the initial waves of the pandemic.

The immediate "symptoms" were 'cured', but at the risk long-term asset bubbles and inflation.

It is easy to put Covid in the rearview mirror, but it is premature.

Research early in the pandemic indicated that 30% of Covid cases (80 million in the US) may have long-term debilitating symptoms. We also know from past viruses that long term can mean years or decades. We know that investment managers face very difficult choices in the wake of the change corporations face and that Covid accelerated. We know the macro-economic risks will take decades to mitigate.

The questions are – How will financial advisors and financial firms help their clients and customers:

- *See and appreciate the many long financial tails of Covid?*
- *Understand the permutations and consequences for their financial plans, goals, security, and legacies?*
- *Navigate the client's and customers best path forward to achieve their goals?*

What does it mean? Why is it happening?

Long-Covid, in the medical sense, is a set of chronic conditions. Earlier in the Pandemic there were indications that 30% of patients, including ones not hospitalized, had persistent symptoms 9 months later. We know other viruses' symptoms lasted many years. But Covid is far larger and more complex. It is a medical event that has and will continue to impact global Human Capital.

First: A very rough definition of Human Capital for context. It's not a variable in an economist's equation. Its' not a management metric from HR. It is the total productive capacity of an entire population. The human "unit" is more productive, innovative, and adaptable than any machine or computer ever built. Secure health (medical, mental, and emotional) is the ultimate determinant of a populations productivity and ability to generate wealth. A sick population, like a sick person, generates expenses and liabilities, not income and wealth.

To visualize the scale of US Human Capital, assume a healthy birth, and a given that all new "births" have equal potential — potential that amazingly can demonstrate uniquely. After birth society can either invest in that initial human capital or deplete it.

In 2020 the per capita GDP in the US was $63,533. (As an aside, in 2020 total GDP was $20.9 trillion and births were at a 35 year low of 3.6 million.) Assume a 45-year working life and the:

- Average "value" of each of each new "birth" is $2,859,011 in 2020 dollars. (If it is a Curie, Einstein, Owens, or Eisenhower the value is far greater.)
- The combined working lifetime value of the 3.6 million births is $10.3 trillion, roughly half of total 2020 GDP.

Second: Conditions pre-Covid were not favorable. We'd been warned repeatedly; by the Spanish flu, then H2N2 in the 50s, H3N2 in the 60s, HIV in the 70s, SARS in 2003, and Ebola in 2014. We chose to only listen intermittently and ignored consequences of our choices on the population.

- Chronically underfunded social services to deliver healthy nutrition and basic housing
- Reproductive capacity was dropping, dropped faster in Covid, and populations were aging faster.
- Baked in income disparities and racial gaps that generated the disproportionately bad mortality and morbidity results evident throughout the Pandemic.
- 40% of Americans were already skipping tests and avoiding doctors. Medical debt, that only increased with Covid, and high medical costs forced difficult choices. When Covid hit, the poorest went to work and took their Covid with them.

- Powerful "Epidemic Engines" institutionalized in uniquely American ways. Prisons: The United States with 25% of the worlds incarcerated people, weaponized that population, and spread Covid to the surrounding communities
- Understaffed nursing homes: Like prisons they concentrate at risk people, and their staff interacts with local communities causing spread.
- Schools, systematically underfunded, without infectious disease expertise, were left to choose between damaging a child's health or development.

Where are we Now?

The immediate medical and health consequences are now clearer. Deaths, as of mid-March 2022, are just under 1 million, and confirmed cases just short of 80 million. Very roughly again, 30% of confirmed cases implies 24 million long-Covid cases, but we don't know for how long yet.

Some 'markers' of the scale human capital cost for the US excluding long-Covid are:

- In the first full year of the pandemic 3.9 million years of life were lost or 9.2 years for each death.
- Life expectancy at birth decreased by 1.13 years. Projecting a decrease in life expectancy (at birth) across 331 million people implies a 374 million lost years of life.

We are talking about potentially very large numbers when Long-Covid's direct and indirect costs are folded in. We are only beginning to uncover and understand the emerging impacts on fertility, suicide rates, careers progressions, caregiving burdens, organ damage, and dementia. While different workplace models have demonstrated they can improve productivity for many, a great deal of adjustment remains to work through. Two years of fractured education increased the educational gaps that already existed. It created more hurdles to education and learning skills. Much of our human capital will never clear the hurdles.

Massive amounts of future Human Capital have been eliminated or destroyed already, whether we acknowledge that or not.

What are the challenges to moving forward?

It will be difficult, but the problems, and the costs of ignoring them, are known. We need to acknowledge what is required to address them and dedicate effort and funds to do it. It is a moving target that requires metrics to drive; quality improvement, cost reduction, and measurement, to navigate a path forward.

A virus does not respect boundaries, and its consequences transcend them. It is not someone's else's responsibility, it is everyone's. When everyone is responsible, everyone is empowered to act, every individual, family, community, county, state, and nation.

Awareness of what each of challenge entails, and how pressures and incentives operate on them, is a first step toward understanding how they can impact an individual's or family's lifetime goals.

- Prevention: Rebuild the infrastructure that lapsed and decayed prior to Covid. Covid re-taught us what is important: 1) rapid detection and response, 2) stockpiles and logistics, 3) test and trace, 4) targeted biologic research to prevent and treat viruses and communicable disease. It is the medical reconnaissance buy time to react. *Without the infrastructure to detect and react, the destructive "virus pattern" will reoccur, disrupt markets, and distress even long-term plans.*

- Trust in Public Health: It is more than vaccines and tests. Its historic responsibility was to establish standards, then inspect, report, and enforce them. It was the guarantor and enforcer to assure that where we live, work, recreate, as well as the food, water, and air we take in, are all safe. It is instrumental is responses to natural disasters, or pandemics. *It provides communications and logistical support to take materials and solutions the last step to the public at large and implement the first line of defense.*

Prevention and Public Health working together provide the loss control and mitigation services an insurance company provides for homeowners and business owners. The difference here is the risk is not a specific physical dwelling or facility that is insurable, nor is there a named insured who can be paid.

- Population Demographic: Workforces in populations take three broad forms; future, current, and past workforces. Covid shrank the health quality and the potential size of each, but we don't understand how much yet. We do know that prior to Covid the balance between the current and past workforces (caregivers and care recipients) was untenable.

  Both workforces must adapt, to do more, and do it differently. It is likely to take several paths and have many permutations. They include behavioral modifications to increase healthy lifespans, technology to leverage indigen**o**us devices across an IoT to monitor and serve elders, immigrant labor (politics permitting) for physical support, faster digital networks to engage elders and reduce isolation, and a workforce capable of rapid adoption and change. *How that balance is ultimately struck, financially impacts all generations within*

a family. In the aggregate, It determines how and how much population health, earning capacity, and wealth is transferred and invested across generations.

- Disrupted Medical Workforce: It was stressed past its limits by Covid. Attrition is high and there is no simple fix. Application of technology to deliver medicine passed the "tipping point". But taking full advantage of the momentum will take more fundamental change. Reorienting an industry to prioritize health maintenance and prevention, rather than fixing bodies for a fee after they are broken, is difficult. Still, achieving a healthier population at lower cost depends on it. The ratio of specialists (30%) to family practitioners (70%) reversed over the past half-century to 70:30. Only recently has it started to reverse. Outpatient, urgent care, and telemedicine are proliferating, which is a good thing, but they require staff. *Until health maintenance and prevention are mastered across the population broadly, medical costs will continue rising rapidly for everyone, and the final year of life will get more and or expensive.*

- Disrupted Care Workforce: Like the medical labor force, it was stressed. In practice there are three models and distinct caregiving labor forces. All operate in a highly competitive service sector that is undergoing a massive reset. All have different qualifications, loyalties, and objectives. The "voluntary model", usually family member, is unpaid and committed either full-time or part-time. With shrinking families, it is also difficult to maintain. The "institutional model", e.g., Nursing Homes and Life Plan Communities, offers continuity of employment, structure, training, and on-site supervision. It is more expensive but provides a professional level of full-time service. The "paid home care model" serves people who chose to age in place at home. Typically, the legal employer is an agency, but employment is hourly and often short-term. This model has high turnover, irregular employment, low pay, and historically dependent on immigrant labor.

  The senior living industry recognizes the dilemmas, and in many cases adjusted compensation. But it is still rethinking how to recruit, provide career paths, and engage employees. All while demand is accelerating as the first baby-boom cross 75. *Multi-generation communities are replacing the multi-generational families of the past. However, organizing and learning how to deliver medical and care support with increasing amounts of technology is a work in progress. It remains to be financed, implemented, and adopted.*

- Learning Capacity: Covid clearly set back education at every level. It also created a 'tipping point' for distance learning at every level. Despite past fraud in for-profit distance education and tuition inflation with classroom education, new well credentialed, lower cost, distance learning alternatives were pushed to the fore. The alternative didn't stop there. YouTube

taught even more people how much they could learn from each other for free. Colleges and Universities engaged their broad communities and the public with content produced in collaborations of alumnae and faculty. The restructuring of the education landscape is accelerating our ability to educate a workforce that can learn, adapt, and redeploy skills flexibly. *The population is aging, the birthrate is 22% below the replacement rate, and the working population is shrinking. An agile, learning workforce is the sine qua non to increase productivity to maintain, let alone increase, living standards*

- Workplace(s): The employment models are in flux models in flux. Covid changed the way employees interact on the front line as well as everywhere behind it. The entire population was compelled to learn how to engage and communicate through computer screens and on mobile phones. Over the course of the pandemic the models involved to support multiple hybrids for multiple purposes.

  Employers and employees continue to learn about the trade-offs. Large firms learned about difficulty and benefits of asynchronous scheduling. Small firm learned how to market to customers well beyond their local market. Everyone learned the benefit of cutting commuting, and the trade-offs in balancing personal and work time at home.

  The limiting factor is the adequacy of technology, and that remains in flux. Computer screens let people come together but only in 2 dimensions. Mobile phones untethered people to meet from anywhere. Fiberoptic and 5G speeds improve sound and video and enable fast enough reflexes for autonomous driving and next generation factory automation. 6G speed in development, will take immersive communication from a tethered network to mobile eyewear. Each step technology takes changes how people can work together, cross time zones, come together in teams, as well as schedule their time, activities, and jobs. It doesn't replace face-to-face interaction around a table, at a conference, or at a convention. However, It does offer increasingly rich alternatives to reduce the time, effort, and expense of connecting with others.

  That in turn changes the nature of all facets of management. Sourcing, recruiting, training, career paths, retention, and even retirement are subject to change. Project management, production scheduling, and cost-benefit analysis change. Definitions of markets, competitors, and competitive modes all change.

It is a 'chicken and egg' situation. Getting the last one right is the result of getting the prior six right. But, unless the last is done well, and productivity increases, the prior six will not be affordable.

Addressing the challenges would be necessary and difficult regardless of Covid. However, as with everything, Covid raised the degree of difficulty on the one hand and was also a powerful catalyst for change on the other. It presented and dove numerous tipping points, momentum, and opportunities as well.

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