Virus Economics: An American Tragedy

by Robert Guttmann

The Balancing Acts of Virus Economics

The world seemed largely distracted with more mundane matters when a new coronavirus, labelled SARS-CoV-2, appeared in late 2019 in Wuhan (China) and then, superbly adapted for human-to-human transmission, launched its planetary march of exponential spread in January 2020. We should have been better prepared for the possibility of a global pandemic even though the last such occurrence of comparable danger happened over a century ago – the "Spanish Flu" of 1918/19. Signs of an impending pandemic have abounded in recent years, with five near misses over the last couple of decades - SARS in 2002, the bird flu in 2005, the swine flu in 2009, MERS in 2012, and Ebola in 2014/15. This heightened threat of pandemics is consequence of stressors our modern capitalist economies have put on the environment altering the relationship between humans and animals – the accelerating destruction of our planet's biodiversity, erosion of wildlife habitats, animal commerce, increased meat consumption, and changing patterns of movement by certain animals key to the production of new viruses and their zoonotic transmission, notably bats. The sad truth is that, even beyond the new coronavirus, the world will remain susceptible to recurrent pandemics as global threat which makes today's experience an important trial run for future episodes.

From an epidemiological point of view, the new SARS-CoV-2 coronavirus is a formidable foe. It is highly transmissible by inter-personal contact, as an airborne aerosol, or even touch of surface. It spreads often unbeknownst to the carrier who may not be aware they carry the virus (up to 40 percent of infected humans are asymptomatic) or may not have yet developed symptoms of Covid-19 (whose incubation period ranges typically from five to ten days).[1] If unchecked, one person will on average infect three others, for a basic reproduction number R0 ("R naught") ≥ 3 assuring an exponential rate of transmission: 1 -> 3 -> 9 -> 27 -> 81 -> 243 -> 729

[1] Covid-19 is the official WHO-designated name for the disease symptoms associated with infection by the SARS-CoV-2 virus, which include most commonly high fever, cough, loss of appetite, shortness of breath, fatigue, loss of smell or taste, and muscle or joint pains. We are still getting to know the wide array of often life-threatening complications that may arise from Covid-19, including pneumonia, sceptic shock, liver damage or heart failure.

-> 2187, and so on. As the virus replicates rapidly inside the human body and triggers the immune system response, Covid-19 often attacks the lungs but can also endanger other organs, trigger blood clots, or push the immune system into possibly deadly overdrive (“cytokine storm”). People over 65 years and/or suffering from pre-existing comorbidities, such as chronic lung disease, hypertension, obesity, or diabetes, are at far greater risk of falling seriously ill or even dying from Covid-19 while young people by and large face manageable symptoms.[2]

The pandemic’s speed of transmission and the variability of its impact created early on a situation of radical uncertainty, crystallized around the prospect of having millions die, to which governments have had to respond proportionately. The nightmare scenario to avoid, witnessed early on in Bergamo (Italy) and widely reported abroad, is to have hospitals so full and needed equipment in such short supply that medical staff has to decide whom to try to save and whom to let go while doctors and nurses are themselves getting decimated from Covid-19. Starting on 9 March 2020, when Prime Minister Giuseppe Conte extended stay-home orders to all of Italy, one country after another decided to lock down, eventually affecting more than a hundred countries and nearly two billion people. These lockdowns also disintegrated the world economy, as borders closed, travel stopped, trade volumes fell steeply, and cross-border investments shrank.

Governments all over the world thus suddenly had to confront the twin crises of a life-threatening pandemic and putting their economy into a coma. These simultaneous challenges have imposed themselves on society across the globe as a series of unprecedented balancing acts which together I would like to refer to as “virus economics”:[3]

•The pandemic posits a true leadership challenge. Speed of reaction is of the essence, as is competence. The sooner the spread of the virus gets slowed down and kept low at $R0 \leq 1$, the easier is everything else to manage going forward. Heads of state need to take the threat of the pandemic seriously right away, let scientists and epidemiologists take over planning, set up a Covid-testing infrastructure, and find an effective way to communicate needed behavioral changes to their citizens (e.g. social distancing, face masks) while enforcing stay-at-home orders. Such “flattening of the curve” is designed to prepare local public-health systems for the inevitable spike in seriously ill Covid-19 patients needing care. Governments then must scramble to boost their health-care capacity in a hurry by setting up make-shift hospitals, adding beds and intensive-care units, mobilizing retirees and students to increase staff, and securing greater supplies of needed medical equipment –

[2] See the disturbing account of Covid-19’s varied impact on humans in Siddharta Mukherjee (2020).
[3] I heard the expression “virus economics” for the first time on March 12, 2020 while listening to an interview with Austan Goolsbee (2020), Obama’s former economic advisor, on the public radio show *All Things Considered*.

from personal protective equipment for the staff to the ventilators or respirators keeping the sickest patients alive.

•At the same time governments have to manage a huge shock to the economy. The lockdown will deprive a significant proportion of people and businesses of adequate income while staying home, even though their bills still have to be paid. This is an existential threat for many and requires large amounts of immediate assistance, prompting governments to arrange for income substitutes in the form of one-time direct payments, wage subsidies, and/or unemployment benefits. All governments, even those typically committed to austerity, will also be under pressure to help key industries cover their losses. Even with such assistance, the shock to the economy is so large as to threaten a negative multiplier effect of spending reductions feeding further income losses which in turn spur more expenditure cuts, and so forth. The danger of such a chain reaction is that it gains traction like an avalanche and so turns into a so-called "debt-deflation" spiral involving forced asset sales, massive cash hoarding, credit freeze, debt defaults, and falling prices.[4] Such a scenario needs to be counter-acted by additional government spending (e.g. on added public-health capacity) to compensate shrinking private sector spending.

•Equally important, if not more so, are the central bank interventions against the debt-deflation spiral's financial-distress dynamic. The lockdown-triggered responses by the Fed, the European Central Bank, the Bank of England and other monetary authorities have rapidly gone beyond the scope of "quantitative easing" following the 2008/09 crisis. Besides locking in short-term interest rates at or near zero, central banks have also pushed long-term interest rates to very low levels through huge purchases of government bonds which have the added advantage of helping to cover exploding budget deficits. In addition, they have launched large-scale purchase programs for other securities, notably corporate bonds and money-market instruments such as commercial paper, in support of sustaining financial markets. Central banks have also widened their scope of direct monetary financing, beyond buying newly issued government securities or allowing overdraft facilities for the government's accounts, when they set up lending facilities that can be tapped by non-bank financial institutions and even non-financial corporations in case commercial banks refuse to lend enough during a credit crunch.[5]

•The longer the lockdown, the greater the likelihood of lasting damage to the economy in terms of defaults, bankruptcies, closures, and job losses. And the greater that damage, the slower and more painful the recovery! Governments are hence under pressure to re-open their domestic economies as soon as possible while

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[4] We owe it to Irving Fisher (1933) to have laid bare the inner dynamic of such debt-deflation spirals and why, once unleashed, they have the potential to drive an economy into depression. Deflation makes any given sum of debt more burdensome as the value of money goes up, while the added debt burden forces more distress selling pushing prices further down.

[5] Direct monetary financing is a crucial argument of the post-Keynesian protagonists of "Modern Money Theory," such as Randall Wray (2015) and Stephanie Kelton (2020). The fiscal and monetary policy innovations in the wake of virus economics will give this school of thought, already influential on the American Left, more weight in years to come.

the virus is still active. The re-opening process must be managed carefully and competently lest the public remains fearful of the virus and thus unwilling to resume normal economic activity. Several conditions must be in place for public confidence to grow and re-opening to succeed. For one, the spread of the virus must have been brought under control, with a R0 consistently well below one for several weeks. Local governments must have put in place an effective virus-tracking infrastructure involving widespread testing, rapid contact tracing, and isolation of those possibly infected. Hot spots, where the virus is seen to spread again, need to be quarantined in a hurry. The public needs to commit to the necessary measures of precaution, notably practicing social distancing and wearing masks, which will have to be enforced rigorously to guard against the inevitable pandemic fatigue. Businesses across the economy will need to protect employees and customers against infection which will inevitably involve major organizational changes in how they operate on a day-to-day basis. Having to limit their capacity to accommodate safety needs, such as assuring sufficient space for social distancing, will keep their revenue potential below pre-pandemic levels. They will have to learn how to survive in the "new normal" for the duration of the pandemic. Government guidelines laying out precautionary measures and behavioral norms will be essential here, both to create a level playing field among businesses and provide an enforceable set of rules to comply with.

Keeping the economy running while facing the virus requires, in other words, a societal coordination effort without precedence. This effort engages each level of government, tests the readiness of the public health system, challenges businesses to reorganize, and requires of everyone behavioral adjustments as ongoing process, all while trying to maintain a minimum level of economic activity. Such an effort is open-ended, a drawn-out process with many twists and turns, which we can only hope to have mastered if and when the virus is defeated. That would require herd immunity, when somewhere between 60 percent and 80 percent of the world's population will have been infected. Or it can happen when we find a safe vaccine that can be made available affordably to billions of people across the world. Neither of these prerequisites are anywhere near, and so it will take years before the pandemic peters out. In the meantime, the pandemic will force each nation through these quadrangular balancing acts between virus spread containment, public-health capacity, macro-economic stabilization policies, and business survival amidst depressed levels of activity.

The Great Interruption[6]

The coronavirus, while spreading physiologically from human to human, also invades societal fissures and thrives on social conflict. It thereby intensifies pre-pandemic trends of instability while on occasion also

[6] It is the *Financial Times'* Martin Wolf (2020) who has framed this dual public-health/socio-economic crisis succinctly as "The Great Interruption."

breaking long-standing practices and institutional configurations. From a sociological point of view, the pandemic is thus also a story of trend accelerations and ruptures.

For one, the widespread lockdowns across the planet during March and April 2020 nourished a dramatic shift in favor of online activity as many people started working from home, shop online, and meet in virtual groups. This boost to the digital economy, a tremendous boon for already dominant tech giants, will also accelerate the long-term decline of traditional organizational forms thus rendered obsolete, including retail stores, shopping malls, office space, restaurants, business travel, even university campuses (as digital learning takes hold). The shift also highlights different approaches to the internet. Big Tech, notably the quintet of Google, Apple, Amazon, Facebook, and Microsoft, has thrived not least because of America's free-market approach, and these tech giants have come to dominate the U.S. economy, its politics, and its government. China, by contrast, has the opposite approach of a "surveillance" economy closely monitoring its citizenry in which its internet giants, such as JD.com, Alibaba, Tencent, and Baidu, have to work closely with the central government. This cooperation, with most Chinese allowing their smartphones to be hooked into a centrally coordinated and tightly supervised online organization of socio-economic activity, has proven a crucial comparative advantage in setting up an effective testing- and contact-tracing regime with which to manage the pandemic. The European Union, while lacking homegrown internet giants, is trying hard – and with mixed success – to use the pandemic to develop its own, often state-sponsored contact-tracing apps while also implementing an apparently more sensible and balanced regulatory approach to Big Data (see the EU's General Data Protection Regulation of 2018) as a model for the rest of the world. These divergent trends and approaches with regard to the digital economy point to a need for reviving one of the potentially most meaningful contributions by the French Régulation Theory (from "la théorie de la régulation," or simply RT), namely its insistence on analyzing also the varieties of capitalism. Of course, we need to extend that comparative-historical approach to new areas, such as the internet, as the current crisis intensifies trends driving the world economy into a triadic configuration centered on three roughly equal, possibly adversarial power centers – the United States, China, and the European Union.[7]

Apart from boosting the digital economy at the expense of "brick and mortar" substitutes such as retail stores or office space, the pandemic will create lasting shifts on the meso-level of an economy's inter-sectorial matrix. Sectors and activities depending on large-group settings, such as in-door restaurants, concerts, professional sports, church services, university campuses, airplanes, or cruise ships, will have a hard time recovering while

[7] Two key works on how to analyze varieties of capitalism within the institutional approach of Régulation Theory are Robert Boyer (2002) and Bruno Amable (2003).

the pandemic lasts and may therefore find themselves decimated. The same goes for tourism and the hospitality industry. The lockdowns worldwide have revealed strategic vulnerabilities of certain (global) supply chains, as happened with key medical supplies typically routed through the heartland of China (e.g. Wuhan) or meat-packing plants becoming a "petri dish" for Covid infections. Many multi-national companies in different sectors will reconfigure their global supply chains, shortening their distances through "re-shoring" and securing alternate sourcing for greater resilience. We have seen large-scale destruction by farmers of perishable food products, which suddenly had nowhere to go, while millions of city-dwellers everywhere have gone hungry. The pandemic's intensification of decade-old excess capacities in key sectors, such as automobiles, steel, or energy, will accelerate consolidation towards global oligopoly which industrial policy support in favor of "national champions" may try to slow down or redirect. Over the longer run, there will be more dramatic shifts between sectors in the wake of the zero-carbon transition replacing harmful "brown" assets (e.g. fossil fuels) with more sustainable "green" alternatives (e.g. renewable energy). Amidst lower revenue levels in the wake of structurally depressed activity automation could accelerate notably, rendered radically more scalable by the rise of artificial intelligence, robotics, nanotechnology, quantum computing, and other technological facilitators. Such automation will have a big impact on the world of work and require policy innovations in the direction of income security, of which there have been first experiments launched in the wake of the lockdowns such as employment subsidies, shortened work hours, and wage insurance.

The lockdowns across the planet have further intensified labor-market segmentation which has been a source of growing income inequality over the last three decades. In rich countries the lockdown divided the labor force into three distinct tiers. A privileged group of professionals, primarily so-called "knowledge workers," shifted into working online from home and kept their full pay. So-called "essential" workers, from hospital staff to delivery people to grocery workers to public transport personnel and other necessary producers of goods (e.g. food) or services (e.g. police, mail delivery), had to go to work every day, whatever the risk of exposure to the coronavirus, so that the rest of us could continue to function while confined at home. The remainder of the labor force simply stopped working or ended up working far less than they used to, with significant loss of income extending to most of the self-employed and sole proprietors running small businesses. There are a lot of (mostly young) free-lancers, part-timers, gig-economy workers, casual non-contract workers, and independent contractors in this highly vulnerable group, including huge numbers of migrant workers in emerging-market economies for whom the lockdown reinforced physical separation of employment opportunities and home base in disastrous fashion.

We should note that these pandemic-induced enhancements of inequality cut through ethnicity as well as generations in very powerful ways. The group of essential workers comprises large numbers of minorities and recent immigrants who, exposed to the virus during their commutes and at work while also living in more crowded settings, have ended up with much larger incidences of Covid infections than the population average. More inclined to pre-existing conditions (e.g. hypertension, diabetes) and often deprived of good access to health care, they have also had higher probabilities of getting seriously ill or even dying from Covid. In the United States, for instance, African-Americans or Latinx are between twice and thrice as likely to get killed by the virus as majority white Americans. At the same time it is the young who have suffered the most from the unemployment and under-employment caused by the lockdowns, setting the stage for an intensification of inter-generational conflicts as the baby-boomer generation continues to use its political power to protect its relatively secure income, generous access to pensions and health care, and disproportionate accumulation of wealth. The wave of social unrest sweeping across the globe during June 2020, propelled by the "Black Lives Matter" movement in response to police violence and mobilizing the youth of all colors in scores of countries, reflects these demographic differentiations of the pandemic's uneven impact.[8]

One of the great imponderables in the currently unfolding crisis is the potential for gradually worsening financial instability. Debt levels are exploding everywhere, both for corporations having to cover huge cash-flow gaps and governments ending up running much larger deficits. Even though interest rates are historically at very low levels across the entire term structure of the yield curve, debt servicing charges will become proportionately more burdensome in the private sector relative to revenue which may be kept below pre-pandemic levels for quite some time as long as the omnipresence of the virus zaps public confidence and requires activity-constraining precautions such as social distancing. There may thus be spikes of loan defaults eroding the health of banks whose income is already depressed by a flat yield curve gradually moving into negative-interest territory. A major build-up over the last decade of collateralized loan obligations (CLOs), which are bundles of speculative-grade commercial and industrial loans sliced into tranches of which the lower-rated portions suffer the first losses to protect payments to those invested in the top layer (not unlike the infamous collateralized debt obligations at the center of the 2007-09 "subprime" crisis), may come to haunt the global banking system if the current build-up of loan defaults accelerates beyond a certain threshold of pain.

Here again varieties of capitalism will become an important factor in terms of the regulatory approach to the financial sector, notwithstanding recent efforts at globally coordinated initiatives pertaining to standards for bank capital and liquidity, known as Basel III.[9] China, the European Union, and the United States still have

[8] See Luiza Nassif Pires et al. (2020) as well as Gene Sperling (2020) for informative analyses of the pandemic's widening of inequality. On the structural crisis' impact on the position and prospects of the younger generations, especially in light of the baby-boomers' position of continued privilege see David Lee (2020).

[9] See Bank for International Settlements (2019) for more detail on those so-called Basel III regulations.

unique institutional contexts with regard to finance, in particular as concerns loan-loss recognition of banks, debt restructurings, and other relevant aspects of financial-crisis management. China, for example, has a state-dominated banking system within a tightly constraining regulatory regime going through a zig-zag process of reform accelerations and slowdowns as the central command of the government struggles with policy adjustments. The European Union is building a supra-national federalist policy apparatus for financial regulation as well as monetary policy in response to crisis-induced pressures while facing continuous tensions from still largely nationally organized policy traditions (e.g. taxes) and local elite triangulations involving bankers, industrialists, and well-positioned civil servants or politicians. The United States, always pushed by a powerful Wall Street lobby and an elite wedded to financial income to consider more regulatory forbearance, deregulation, and central bank support of financial markets, has to worry at the same time how to contain finance-driven sectoral, regional and demographic inequalities from widening to a point where they threaten to tear American society apart. As each of these three power blocs grapple with their own incidences of financial instability, they will together face the centrifugal pressures of a slowly disintegrating international monetary system put under enormous pressure by the capital outflows and debt servicing problems hitting strategic emerging-market economies (e.g. Mexico, Brazil, Argentina, Turkey, South Africa, Indonesia) for which the existing crisis-management mechanisms (e.g. International Monetary Fund) may well prove inadequate.[10]

America's Nightmare

All these centrifugal tendencies towards a multi-tiered triad shaping the emerging configuration of a multi-polar capitalism would not be so acute if the pandemic had not pushed the once well anchored center of that system – the United States – completely off track. The United States has 4 percent of the world's population but 25 percent of all coronavirus infections. That gap is likely to grow wider still, as many other countries successfully slow the spread of the virus while the rate of infections continues its exponential increase across large swaths of the United States. We have now (November 2020) an average one thousand Americans dying of Covid-19 every single day, and that number is still on a steep upward trajectory. While regions hit hard at the beginning, notably New York, the rest of the Northeast and some parts of the Midwest, have succeeded in flattening the curve and then reopened very gradually to manage spread risks quite carefully, the rest of the country – especially the whole South from Texas to Florida as well as the West (California, Arizona) – is facing right now a pandemic threatening to spin out of control. In those regions reopening efforts are under threat or already being reversed, undermining what little economic recovery we have seen there so far.

[10] See for example José Antonio Ocampo (2020) or Brad Setser (2020) on the building financial crisis hitting emerging-market economies amidst elevated debt levels, collapsing commodity prices, capital outflows, and activity declines.

This disastrous state of affairs is no accident, but above all result of an utter failure of leadership. Viewing the virus as an unwelcome disruption threatening his re-election prospects, Trump initially downplayed the pandemic, wasted a lot of time before reacting, and then refused to put into place a federal coordination plan even in the face of serious shortages which continue to date (e.g. test kits, masks, ventilators, intensive-care units). Having profited from the ascendancy of scientific nihilism among his angry voter base, Trump has been inclined to dismiss the advice of his public-health officials and instead prefers to attack those wearing masks or preferring a slow pace of re-opening as "out to get me politically." Worst of all, Trump pushed state governors, who are his political allies, to rush the re-opening of their states (e.g. Texas, Florida, Georgia, Arizona) without following any of the federal guidelines set by the Center for Disease Control and Prevention (CDC). That rush also accommodated Trump's core voter base tiring of lockdowns, masks, social distancing, and economic sacrifice. It is worth remembering that America is a society seeped in individualism and preoccupied with instant gratification, in which doing the opposite of what the government tells you to do is too often seen as a laudable act of defiance. These cultural traits make fighting a pandemic more difficult than in communitarian (e.g. France) or collectivist (e.g. China) societies.[11]

With Covid taking its relentless toll, Americans have found out painfully how deeply unprepared their public-health system has been for the virus. The United States spends far more than any other country on health care (17.7 percent of GDP, compared to Switzerland, the world's second highest at 12.25%, in 2019), but with far worse outcomes than in nearly all other rich nations. With the US government only insuring the poor (via Medicaid) and the elderly (via Medicare), the American system is essentially private, profit-driven, administratively costly, and inefficient. Nearly a quarter of Americans are uninsured, a somewhat smaller percentage underinsured. With a plethora of insurance policies, all differing from each other and provided at great expense by employers, the costs of administering America's insanely complex and opaque health insurance system are astronomical (about a third of total health care spending) while the system's for-profit bias in favor of lucrative specialization and costly technology has left the primary-care system fragmented, disorganized, and severely under-resourced.[12] The Trump Administration's ill-timed attacks on Obamacare, the landmark health-insurance reform of 2010, have caused more people to be un- or underinsured while weakening hospitals financially.

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[11] Nobel Prize winner Paul Krugman (2020) has recently highlighted Americans' impatience, short-termism, and resistance to individual sacrifice for the greater public good as underlying causes for the premature re-opening of much of the U.S. economy.

[12] Concise analyses of the many shortcomings of America's expensive, yet inadequate health care system can be found in Olga Khazan (2018) and Dylan Scott (2020), most of which the coronavirus exposed with brutal clarity.

The pandemic has brought into sharp relief the degree to which African-Americans and Latinx were so much more vulnerable due to systemic barriers to equality, leaving them far more exposed to Covid-19 and nearly thrice as likely to die from that disease than white Americans. Members of either group live in more crowded settings, are more likely to have to go to work every day in low-pay "essential" jobs, have less access to health insurance, and suffer more comorbidities, such as hypertension or diabetes, putting them at high risk of serious illness or death from Covid-19. Extensive discussion in the media of these blatant discrepancies affecting especially black Americans provided a fertile background for the sudden emergence of massive protests against police brutality and racial injustice in the wake of George Floyd's gruesome murder by four Minneapolis policemen on May 25, 2020.

The remarkably broad mobilization of protest arising in the midst of a pandemic has forced a national reckoning with racism in just a few weeks' time, spurring in short order rather far-reaching policy proposals pertaining to policing and criminal justice.[13] Leaders of the "Black Lives Matter" movement have begun to formulate an ambitious agenda of reforms aimed at reversing the excessive militarization of the police, criminalization of young African Americans, and disinvestment in urban low-income neighborhoods. This agenda is garnering widespread popular support, as if a large majority of Americans has suddenly come to the conclusion that "enough is enough." Given its multi-ethnic and multi-cultural composition, the movement represents a revolt of the youth, the so-called Generation Z (born after 1995), whose members have lived through 9/11, the 2007/08 crisis, and now the pandemic depriving them of proper schooling and employment prospects while being confined at home. Its strength will ultimately be also measured at the ballot box in November 2020. Young Americans have a long tradition of not voting in nearly the same proportions as older generations, not only because of lack of experience and/or apathy but also because of numerous institutional barriers (registration, identity papers, limited access to absentee ballots needed for voting away from home, et cetera). If the American youth channels its anger and passion into voting, it will have the chance to break a long-standing political deadlock and open the path for meaningful reform. Anti-racist in focus, the "Black Lives Matter" agenda may well broaden to challenge systemic discrimination in housing, education, health care, access to credit, employment, and the law while the young across all races, colors, and creeds will demand greater equality of opportunity.

In the immediate aftermath of the lockdown the U.S. Congress acted in bipartisan fashion, overcoming for a moment otherwise intransigent political divisions between a Democrat-controlled House and a Republican-controlled Senate. Of the three spending packages passed in both chambers of the Congress in record speed, the

[13] See, for instance, the House Democrats' Justice In Policing Act of 2020 or Governor Andrew Cuomo's ten-point New York State Police Reform and Reinvention Collaborative.

decisive one was the third, the $2.3 trillion Coronavirus Aid, Relief and Economic Security (CARES) Act at the end of the March 2020. Besides setting up various targeted income support programs (e.g. for airlines, for hospitals, for state and local governments, a bail-out fund for large businesses), CARES provided for three massive cash injections into an otherwise imploding economy. First, the state-administered unemployment insurance program was greatly expanded in coverage as well as amount. There was, secondly, a one-time Economic Impact Payment of up to $1200 per adult with income below $99,000 last year and $500 per child below 17 years. Thirdly, a $659 billion Paycheck Protection Program (PPP) of loans to small businesses supported coverage of wages and benefits as well as overhead costs (e.g. rent) of which a certain percentage would be turned from loans to grants if sufficient numbers of jobs were protected thereby.

Unemployment benefits play a crucial role in the U.S. economy with its highly "flexible" labor market assuring easy hiring and firing. Unfortunately, those laid off also often lose their employment-provided health insurance coverage, not a good thing to have to face in the midst of a pandemic. Over 45.7 million Americans have filed for weekly unemployment benefits during the first three months of the pandemic. All those applications have had to be processed through perennially under-resourced state offices which the unprecedented wave of benefit applicants completely overwhelmed.[14] This resulted in massive delays. Similarly, the five million PPP loans have been administered by the tiny Small Business Administration (SBA) and then processed through commercial banks who have made applications tedious, have favored existing customers (i.e. creating a bias in favor of larger firms and against minority-owned businesses), and have kept the loan forgiveness part deliberately obscure. Notwithstanding those institutional bottlenecks, the CARES funds have been so massive that they have managed to keep the U.S. economy afloat in the face of an unprecedented double shock to aggregate demand and supply from the lockdown. CARES spending was set to expire during the summer of 2020. With regard to follow-up measures, the Republican-controlled Senate has so far resisted the House Democrats' $3 trillion proposal known as the Health and Economic Recovery Omnibus Emergency Solutions (HEROES) Act.[15] Unless some compromise can be implemented soon, the still fragile US economy will be subjected to yet another austerity shock with mass lay-offs of essential workers (medical, police, teachers) by fiscally stressed local and state governments in desperate need of federal assistance.

At the same time the Federal Reserve has been spectacular in offering extraordinary (asset purchase and direct lending) support to shore up otherwise shaky financial markets and sustain credit flows under pressure. The Fed

[14] Since the third week of March there have been between 1.3 million and 6.9 million new unemployment insurance claims per week, compared to the previous weekly record of 695,000 new claims set in October 1982.

[15] The Democrats' HEROES Act proposal would extend the added unemployment benefits about to expire, send a second stimulus check to eligible Americans, offer aid for state and local governments, invest in public health care (e.g. aid for hospitals), and provide for debt relief (e.g. student loans).

will thereby more than double its balance sheet in less than a year, estimated to reach $9 trillion by end-2020, with a much more diverse (and more risk-prone) portfolio from its growing variety of funding facilities. This support has been critical in preventing the economy from falling into a debt-deflation spiral. The Fed's widening of support as market-maker of last resort moved swiftly beyond strictly national boundaries in support of the world's dollar standard, the USD-based international monetary system of trade, direct foreign investment, and cross-border portfolio investment flows, when the global scale of the lockdowns triggered a sudden, violent, and potentially disruptive dollar shortage among many vulnerable emerging-market and frontier economies over ninety of which have already sought help from a cash-strapped International Monetary Fund. First the Fed renewed bilateral swap lines with five leading central banks. A couple of weeks later, still in March 2020, it extended those swap lines to fourteen mostly emerging-market central banks. Finally, in early April 2020, the Fed set up a new lending facility through which it would direct needed dollar liquidity to foreign central banks in exchange for those pledging US Treasuries in their possession as collateral. This arrangement helps all those deficit countries still possessing large amounts of dollar-denominated reserves held in US Treasuries, but would leave many reserve-poor developing economies shut out and still starved of much-needed US dollars. America's unwillingness to do its share for a $1 trillion tranche of newly issued Special Drawing Rights (SDRs), which would require a $417.3 billion allocation in USD to be approved in a hostile US Congress, leaves the IMF hampered in its management of the dollar standard under pressure, which may set the stage for currency crises in countries hit hard by the pandemic or climate change. All this accentuates the relative decline of the US and its hitherto dominant dollar standard as the world economy moves towards a tri-polar configuration of competing power centers.

At a Crossroads

At this point it is not yet sure to what extent the United States has the political will to cope with a pandemic spinning out of control or steer its stricken economy onto a sustainable path of recovery. While Trump needlessly politicized mitigation efforts while refusing to put in place a federal strategy to fight the pandemic, the states were left fending for themselves and thus bound to fail together. As the virus spreads rapidly in most states, reopening efforts have had to be reversed which damages the prospects for recovery. Facing a public health crisis, economic turmoil and social unrest at the same time, American voters turned out in record numbers on November 3 to reject the chaotic reign of Donald Trump while keeping U.S. Congress finely balanced between two warring parties. Biden's victory should bring more competent crisis management cleaning up the mess (as has been traditionally the role of Democratic presidents from Franklin Delano Roosevelt all the way to Barack Obama). But his victory on its own may not allow much space for needed reforms, given the political divide. Large majorities of Americans, exhausted after a decade of political stalemate and tired of legislative paralysis, want substantial reforms as concerns health care, immigration, climate change, policing and racial discrimination, criminal justice, gun safety, tax policy addressing income inequality, business regulations, competition policy, labor protections, and corporate governance. The pandemic has ironically put many of these issues into sharper relief, thus intensifying clamor for reform as crystallized in the widespread support for the "Black Lives Matter" revolt in June 2020. There is a growing sense that America is in dire need of a new social contract.[16] Skilled Democratic lawmakers under Biden's leadership may spend the next few years crafting bipartisan legislation going a long way towards their reform agenda. More likely, however, is continued political stalemate while America's wounds fester.

No matter whether the reform process begins under a Biden presidency, the pandemic has already proven a path-breaking event of historic significance. This is the second time in short order that the United States is at the center of a major socio-economic crisis with significant global reach, after the "subprime" crisis of 2007-09 which threw Europe's euro-zone into chaos from October 2009 to May 2012 and then caused commodity prices to collapse during the second half of 2014. While the pandemic started in China and then ravaged through Europe before hitting both East and West Coasts of America, its devastating spread through the rest of the country has turned the coronavirus into what America's leading infectious-disease expert Dr. Anthony Fauci has recently characterized as "the perfect storm."[17] Whereas the United States managed the 2007-09 crisis aptly by means of global cooperation, as laid out in a series of G-20 meetings and through reforms strengthening multi-lateral institutions (e.g. IMF, Financial Stability Board, Bank for International Settlements), no such US-led international coordination strategy is forthcoming now. On the contrary, the US is turning inward, as demonstrated by Trump taking the US out of the World Health Organization in the midst of a pandemic or Biden's "Buy American" stimulus plan, and also more aggressive, especially against China. Both Trump's far-right supporters as well as the Progressive Left gaining strength among Democrats are nationalistic and anti-globalist in self-definition. Such political polarization promises an end to seven decades of *Pax Americana* while the pandemic turns the idea of "American exceptionalism" into a nightmare.

A Crisis of the Accumulation Regime

At first sight the pandemic looks like a classic "exogenous shock" disturbing economic activity, much like a war or natural catastrophe. This superficial view ignores, however, the radically enhanced probability of pandemics arising in the wake of environmental degradation and globalization (e.g. travel). Over the last two

[16] Discussions of a new social contract for America abound in recent weeks, as in the July 2020 five-part series in the *Financial Times* (2020).

[17] See Hannah Kuchler (2020).

decades we have had five near-misses of potentially devastating pandemics barely contained, and so it was really only a question of time before the world would be hit by one, most likely a new coronavirus originating from bats such as SARS-CoV-2 has indeed turned out to be. Pandemics have thus become a structural threat to the world economy, inevitable result of how capitalism has transformed nature and globalized amidst steadily accelerating urbanization. In that sense we are now going through a structural crisis.

It is significant that we are in the midst of the second structural crisis in a row, after facing the "subprime" crisis of 2007 - 2009 whose spillover effects left the world economy shaky until the mid-2010s. Such a pattern of two consecutive structural crises is something we have witnessed in the past, best understood in the context of so-called "long waves." Those long waves, also known as "Kondratiev Cycles" and typically extending over a period of forty to sixty years, shift from a long boom into a downswing phase of secular stagnation with a major financial crisis.[18] Such systemic crises arose when the Great Panic of 1873 triggered a six-year depression on a global scale, also following the disruption of World War I during the monetary turmoil of 1919 – 1923, then again at the end of the post-war boom with the disintegration of Bretton Woods in 1971 - 1973 marking the onset of decade-long stagflation and finally with the aforementioned "subprime" crisis of 2007/08 extending to the eurozone in 2009 - 2012. Amidst the deepening secular stagnation following those systemic financial crises, a second major crisis would follow in fairly short order which often enough set in motion major transformative processes. Examples of such second major crises are the 1893 – 1896 depression, the Great Depression (1929 – 1939), and the double-dip recession of 1979 - 1982.

There is a Marxist analysis of long waves, as put forth by Ernest Mandel (1980). That approach focuses on the capitalist system's long-run tendency of the profit rate to decline leading eventually to a serious crisis during which counter-tendencies restoring profitability, such as lowering of wages in the face of mass unemployment, cheapening of fixed capital stock, or destruction of the most overextended firms leaving survivors with greater market share, come to the fore to the point of eventually setting the stage for a durable recovery, often enough only after a second major cleaning-out crisis. A technology-driven explanation, as crystallized in Joseph Schumpeter's (1942) notion of "creative destruction," has clusters of innovations and technological change create new growth industries driving a long boom only for that engine of expansion to exhaust itself over time. A financial dimension to these long waves, highlighted by Hyman Minsky (1964), emphasizes a supra-cyclical increase in indebtedness in the wake of increasing risk-taking during a long boom leaving over-leveraged borrowers saddled with rising debt servicing charges and thus in a position of financial fragility when their

[18] Those so-called "long waves" were first identified empirically by Soviet economist N. Kondratiev (1926/1935; 1984) and then later named after their discoverer (as "Kondratiev Cycles") by J. Schumpeter (1939).

revenues stagnate. It is this dynamic that has typically brought about great financial crises at the end of boom periods, as in 1873 - 1879, 1919 - 1923, 1929 - 1933 (in the case of the US), 1971-1975, or 2007 - 2012.

If we were to bring these various dimensions of capitalism's long-wave dynamic together into an integrated analytical framework, we would arrive at the path-breaking work of Michel Aglietta (1976/1979) or Robert Boyer (1986/1990), founders of the French Régulation Theory (RT). This inter-disciplinary approach temporizes the evolution of capitalism in terms of consecutive accumulation regimes, each with its own distinct mode of regulation combining the prevailing wage-labor nexus, forms of competition, modalities of state intervention, management of money and credit, as well as international relations into a matrix of institutions and normative practices guiding that particular historic version of capitalism through its respective long wave. RT's work has primarily focused on the post-war boom 1947-1969, an accumulation regime characterized as "Fordism," and its subsequent crisis taking the unique form of stagflation 1969-1982. But its protagonists have made enough references to earlier accumulation regimes (e.g. switch from "competitive" to "monopolistic" regulation) or later ones (e.g. finance-led growth) for us to conclude that RT is a long-wave theory.

This conclusion is reinforced by RT's emphasis on the importance of crises in the evolutionary dynamic of capitalism, resulting in a useful classification of different types of crises. Apart from "exogenously triggered disturbances" (e.g. natural disaster, war) and "endogenously cyclical crises" (i.e. normal business-cycle fluctuations, with recessions as adjustment process in the face of endemic overproduction), the Régulationists also point to "structural" crises of different degrees:[19]

•a so-called "crisis of the mode of regulation" during which the self-correcting capacities of the institutional roster defining the mode of regulation of the prevailing accumulation regime in terms of its wage-labor nexus, forms of competition, role of state in the economy, money, and international relations show their limitations, as was the case during the Great Depression of 1929 – 1933 when the monetary regime built around a flawed gold standard collapsed;

•a "great crisis" disintegrating the prevailing accumulation regime, and thus to be characterized as a "crisis of the accumulation regime," of which the Asian financial crisis of 1997 - 1999 and Japan's Lost Decade 1991 – 2001 are pertinent examples;

•finally, a "crisis of the mode of production" so profound as to change the entire economic system in question, as happened with the progressive disintegration of the Soviet Union in the late 1980s all the way to its collapse in December 1991.

[19] Robert Guttmann (2015) has characterized those deeper crises occurring beyond the normal business-cycle dynamic as "structural" crises. For a detailed discussion of RT's typology of crises, see Boyer (1986/1990; 2015).

I would argue that the balancing acts of virus economics and the trend accelerations described in this article have made the global pandemic the vector of at least a "crisis of the mode of regulation." This would imply that one or more institutional pillars of the current accumulation regime, which can be characterized as finance-led capitalism, no longer perform their stabilizing function or are in the process of being overthrown by crisis-induced events.[20] This could certainly apply to fiscal austerity, inflation targeting, the independence of the central bank, financialization of pensions or health care, acceptance of income inequality, or casualization of labor, all of which have come under sustained attack by virus economics.

But, in conclusion, I want to go a step further and argue that we may actually find ourselves at the threshold of a "crisis of the accumulation regime." One reason in support of such an argument is the exceptionally profound impact of the coronavirus on American society, whose thriving nature and policy model were at the heart of finance-led capitalism and now lay in ruins. America is literally and figuratively very sick! The other reason is more globally contextual. It has to do with the historic significance of having "the other shoe drop." As already mentioned, the downswing phases of long waves start with a systemic financial crisis but then lead a decade or two later to yet another structural crisis. We need to appreciate that this second crisis typically transforms the accumulation regime and so sets in motion a new long wave. We saw this happen when the depression of 1893 - 1896 nourished the Progressive movement whose reforms helped move our economic system from "competitive" to "monopolistic" regulation. Roosevelt's New Deal reforms in the wake of the Great Depression's debt-deflation spiral 1929 -1933 found their international extension at the end of the Second World War within the policy framework of Bretton Woods to launch Fordism and its post-war boom. The stagflation crisis' denouement in the double-dip recession of 1979 -1982 triggered the conservative Reagan Revolution and then propelled its international extension through the neo-liberal "Washington Consensus" from 1987 to 1994 into finance-led capitalism. Even now, at the end of the beginning of the Great Interruption in the wake of a pandemic which still has a long way to go, we have already a global uprising pushing for radical policy change and the autocrats of the inter-crisis period of the late 2010s, like Donald Trump or Brazil's Jair Bolsonaro, fall on their own swords of scientific nihilism. There are discussions in all three power centers to launch a large-scale infrastructure program aimed at the high-priority zero-carbon transition, the Green New Deal. This has the potential for setting the stage of a new accumulation regime I have characterized elsewhere as *Eco-Capitalism* mobilized around the "sustainable development" goals of the United Nations Agenda 2030 – no poverty, zero hunger, good health and well-being, quality education, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industry, innovation and

[20] For more on finance-led capitalism as an accumulation regime, with its neo-liberal policy regime of fiscal austerity and inflation targeting, financialization of activities and safety nets, income inequality, hierarchically organized globalization, and propensity for asset bubbles see Aglietta (1998; 2000), André Orléan (1999), Boyer (2000) and Guttmann (2016).

infrastructure, reduced inequality, sustainable cities and communities, responsible consumption and production, climate action, life below water, life on land, peace and justice strong institutions, and partnerships to achieve the goal.[21]

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[21] See Guttmann (2018). Elements of Eco-Capitalism, such as pushing renewable energy, replacing shareholder value maximization with environmental social governance (ESG), or changing transportation are already have already been given a greater policy push during the current crisis during the last few months.

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