Regulatory capitalism, extinctions and China[1]

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Is it possible to manage economic crises, ecological crises and security crises without larger welfare and regulatory states? Growing a regulatory welfare state is one thing polities can do to avert ecological collapse. My perspective goes beyond narrow meanings of welfare. In the medium term, economies can be reshaped so that jobs are created less by investment in the production of material things, more by growth in human services. Shifting the shape of the economy so more of the jobs are for nurses, teachers, carers reduces emissions. Financialized capitalism pushes workers and whole economies into levels of debt they cannot manage when crises arrive. Understanding these dynamics helps grasp why authoritarian capitalist economies accomplished a wider economic growth lead over liberal economies this century, and in the case of China, a lead in green innovation. This is a different pattern from previous centuries. Investing in more jobs to steer capitalism and steer welfare sit alongside more jobs in the human services as imperatives to avert cascades to ecological, security and economic crises, and to authoritarianism. While there is enormous path-dependence of momentum toward extinctions, mutual inter-penetration of growth path-dependencies among institutions of the market, welfare and of regulation might be mustered to counter it.

Introduction

David Levi-Faur's (2013, 2014) interpretation of a capitalism that emerges polymorphically serves as my starting point. The specific polymorphy of interest here is the rise of mutually reinforcing institutions of the market, welfare and regulation. This is conceived as partly driven by the emergence and invention of crises. Market, welfare and regulatory institutions are strengthened to respond to crises that threaten legitimacy for states, businesses, charities and other institutions. While this article uses the terms regulatory state and welfare state, it is interested in them as elements of regulatory welfare capitalism. Regulatory welfare capitalist societies are those where institutions of the market, welfare and regulation are resilient and strengthen. I find Levi-Faur (2005; Levi-Faur & Jordana 2005) and Braithwaite (2000, 2008) more attractive when they theorize regulatory capitalism than when they dissect the regulatory state, which can be a myopic form of statist discourse.

Contrary to much extant analysis, a hydraulics whereby the rise of regulatory institutions drives down welfare and market institutions mostly does not happen. This is because the rise of regulation creates new path dependencies for growth that sit beside pre-existing path

[1] This is an earlier, longer, and perspectivally different version of a paper that was discarded to become a paper focussed more on Covid-19: Braithwaite, John. 2021. Meta governance of path dependencies: Regulation, welfare and markets. *The Annals of the American Academy of Political and Social Science* 671(1).

dependencies of markets and welfare. Path dependence is the dependence of outcomes on the paths of previous outcomes. The logic of path dependence toward growth is that one institutional arena of path-dependent growth discovers opportunities to reinforce that growth inside old path-dependencies of other institutions. All this mutual reinforcement of the path-dependencies of polymorphic market-welfare-regulatory capitalism is assisted by citizen demand and market demand to solve perceived and real crises.

Then the article argues for the primacy of the climate emergency and global financial and security crises as existential threats that drive demand for solutions from the state, markets and other institutions such as philanthropies and universities. The analysis next takes a normative turn. David Levi-Faur and I agree that some regulatory and welfare expansions are emancipatory, others disciplinary. Some types of regulatory and welfare expansions leave people worse off, less free, more dominated. Yet I argue that particular kinds of growth in the welfare state and the regulatory state can assist the survival of species on this planet. Path dependencies of the financialization of capitalism, climate emergencies induced by the logic of capitalism, and the marketization of weapons of mass destruction create demands for solutions as crisis threats grow. These path-dependencies risk ever more extinctions and ultimately the extinction of human civilizations. Late modernity has already seen the extinction of 680 vertebrate species, thousands of non-vertebrates, with a million species now facing extinction risk (UN 2019). A solution might lie in fighting those interdependent crisis path dependencies with interdependent path-dependencies of institutions of welfare, regulation and the market that strengthen crisis-preventing innovations. The trajectory of the article is therefore from a description of mutually reinforcing crisis path-dependencies to normative choice to harness regulatory-welfare-market path-dependency more purposefully against path-dependency toward extinctions.

Polymorphous capitalism

David Levi-Faur's (2013, 2014) work on the regulatory welfare state argues that the rise of the regulatory state does not necessarily imply decline of the welfare state. His earlier work on the idea of regulatory capitalism argues that stronger regulation has not driven weaker markets (Levi-Faur 2005). Regulation is actually widely deployed to strengthen markets and strengthen welfare provision (Levi-Faur 2014). This special issue of the Annals suggests that regulation for welfare purposes is increasing. In these revisionist projects, regulatory capitalism is conceived as one morph of a polymorphous capitalism that helps constitute other morphs such as the welfare state. To this extent, Majone's (1994, 1997) sequencing is critiqued as monomorphic because he argues for a period of history of the liberal Nightwatchman state where market institutions are dominant, followed by another Keynesian period when the institutions of the welfare state become dominant, followed by a third era of the regulatory state since 1980.

In this thinking about historical sequences in the character of capitalism, regulatory scholars (this one included (Braithwaite 2000)), think too hydraulically. Perceiving something new, we are prone to assume it pushes down something old. This lent drama to the character of global changes depicted in our models. But the rise of regulatory institutions did not shut down the path dependencies along which market institutions and welfare institutions continued to expand. Commonly, the logic of new institutions is to create new path dependencies that sustain their own future growth paths, but that bear no strong connection to shutting down old path dependencies.

To illustrate path dependence, consider an area of research on a particular cancer, and drugs to treat it. Even in the unlikely event that the regulatory state seeks to steer state R & D investment away from that area onto higher priorities, such a suppression of the welfare state by the regulatory state might not deliver great change. Universities are full of powerful professors who dedicate their lives to that cancer. They recruit new scholars to work on it; they use their power in science decisionmaking to continue grant awards to their established research network. Pharmaceutical companies continue to build on their extant marketing networks for the drugs produced by the research of those professors. Indeed they disease monger to widen claims for their drugs. They lobby to expand the welfare state and the regulatory state by lengthening the duration of patents. They continue to bribe physicians with conferences at resorts and baubles to continue prescribing their product. They continue to capture or corrupt politicians to sustain welfare funding for their cures. These examples illustrate that many expansions of the welfare state and the regulatory state are regressive rather than progressive, serving corporate interests rather than the interests of sick people.

Meanwhile, institutions of the regulatory state are stretched to the limit in evaluating the safety and efficacy of new drugs, leaving limited regulatory resources for re-assessing old evaluations of the benefit-cost of established drugs. Hence, not only do regulatory institutions fail to steer the welfare state downwards in this respect; the systematic bias is high barriers for the new, and low barriers to keeping the old. This illustrates how both regulatory institutions and market institutions tend to reinforce path dependencies of welfare state spending.

Consider another dynamic in the growth of polymorphic capitalism. University researchers invent a new technology for managing a rare variation of a major welfare state problem like cancer. It might be a new drug, medical device or treatment. R & D is expensive and not very profitable because the market is small for rare variants of diseases. If my mother is about to die from that rare cancer, however, I might find 40 other families in the same situation. Big pharma funds me to organize them because I will argue for subsidies from the welfare budget to make their unprofitable drug profitable. With support from the company's public relations machine, I argue that if a plane disappears with 40 passengers or 40 are trapped underground, we spare no resources searching for them. This is not a story of a new mini-crisis that arises for the welfare state. It is of 40 savable lives that were always there. The new technological possibility created by medical markets creates a mini-crisis of welfare funding that is actually a crisis of neglect across all previous history.

Genuinely new crises that arise are the more important generators of new path dependencies for regulatory institutions, market institutions and welfare institutions. The 9/11 Al Qaeda attack on the United States was a signal spike in such an emergent crisis. The result was that the biggest rise in the size of western regulatory states in the first decade of this century was 'homeland security' (Braithwaite 2008). Markets in private security also grew – for example, corporations that manufactured bigger and better scanning technologies at airports, other private corporations that staffed operation of those machines, firms that manufactured drones, security cameras and AI to diagnose risk from billions of images. The military-industrial complex renewed with the

Afghanistan and Iraq wars and cascades of further wars from Pakistan to Philippines, Syria, Libya and across Africa (Braithwaite & D'Costa 2018). This was more than just growth in the state and in markets for weapon systems; there was also growth in private military corporations like Blackwater, service providers to militaries like Halliburton, and mercenary armies such as Russia's Wagner Group. The 9/11crisis fueled further welfare state growth. Slaughter spiked demand for trauma services. Twenty years on, not all these have closed because crises cascaded to other crises, cascading new demands upon the welfare state. In the case of 9/11, the cascade to new foreign wars drove massive demand for new counselling services. Suicides spiked among veterans. Recent Australian research shows that the more important welfare effects of war are on the families of war veterans, especially daughters of veterans, in terms of suicide attempts, alcohol and drug abuse, smoking, PTSD symptoms and even rape victimization (O'Toole et al 2018). Welfare demand drivers from daughters of veterans are bigger, longer-lasting than the welfare demands of the veterans themselves. Hence inter-generational trauma from spikes in deadly violence create increased demands upon the welfare state that it has no choice but to meet, even if only from hospital admissions associated with these problems.

As illustrated in Özel & Parado and Lee & Braithwaite (both 2021 Annals issue), invention of cyber markets created new opportunities for them to penetrate the welfare state. Likewise they infiltrate national security states in dangerously destabilizing ways, creating new risks of accidental nuclear war, for example (Ellsberg 2017; Beebe 2019). Penetration of cyber markets into welfare path-dependencies and national security path-dependencies creates new demands for regulatory institutions. Cyber-markets are regulated by new forms of chokepoint regulation, for example (Tusikov 2017). This is overwhelmingly private policing, with the cybersecurity sector now estimated to have created 6 million new regulatory jobs and with Chief Information Security Officers (CISOs) ubiquitous in the private and public sector alike (Button 2020). New hot-lines or regulatory assurances are needed when a cyber attack intended to harm a commercial competitor accidentally is perceived as an attempt to compromise missile defence systems. Cyber-markets were always going to give rise to cyber-welfare, cyber-crime and cyber-war.

Summing up this take on polymorphic capitalism:

1. Institutions of the market, welfare and of regulation are patterned by path dependencies toward growth.
2. These path dependencies are mutually reinforcing. Path-dependencies of growth in one institutional arena reach into opportunities opened up by path dependencies for growth in other institutional arenas. The welfare state creates demand for regulatory state services that help solve perceived welfare problems. The regulatory welfare state therefore illustrates more general dynamics.
3. New mini-crises, real or manufactured, create new path dependencies for growth of market, regulatory, and welfare institutions. Then mutually reinforcing tendencies of one institutional arena to rush into opportunities for growth in other institutional arenas engenders a polymorphic capitalism of expanding markets, welfare and expanding regulation.
4. Path dependencies of the regulatory state therefore drive into new markets, and they drive into new welfare initiatives. Likewise marketization path-dependencies drive into

renewed regulatory institutions. Carbon trading is an example. Hence we might see the regulatory welfare state as regulatory path dependencies driving into the welfare state and welfare state path dependencies driving into regulatory institutions.

5. The particular character of macro crises that cascade into one another creates demand for expansion of the welfare state, to expand problem-solving innovation in markets (e.g. carbon markets) and to expand regulation. These dynamics are so profound that prospects of surviving the next century or two without making these tripartite institutional investments may be slight. If human institutions do succeed in rebelling against extinction, it will be with a larger welfare state, and a more interventionist regulatory capitalism of stronger markets and stronger regulation.

The remainder of this article is limited to point 5. None of the above denies the growth of neoliberal ideologies hand in hand with strengthening of markets within polymorphic capitalism. My analysis does not deny that neoliberal ideologies have delivered some potent retrenchments of the welfare state and the regulatory state. I argue that welfare and regulatory path dependencies also have power, as do ideologies that value the survival of species, in explaining the shape of polymorphic capitalism. The next section identifies an empirical background of regulatory and welfare trajectories of the longue durée that make my hypotheses plausible. Then shape shifting toward regulatory welfare capitalism is considered that draws lessons from 21st century China. Finally the article considers how plausible a new social bargain might be for a regulatory welfare capitalism that allows long term survival of species and civilizations.

The longue durée of welfare and regulation

Every state has a different history of incursions of neoliberal ideologies that trim welfare regulatory states. Despite these histories, considerable empirical research emphasizes longer-run tendencies for regulatory state growth (Vogel 1996; Levi-Faur 2005; Braithwaite 2008) and welfare state growth (Aspalter 2017) compared to the early capitalism that emerged from the 18th to the mid-20th century, and limited evidence for medium-term shrinkage since 1980 (Castles 2004), especially if account is taken of growth in state health spending, homeland security regulation of airlines and welfare and regulatory state growth for the majority of the world's population in Asia. Even for the least-likely case (the most 'neo-liberal' case), for an association between long-run welfare state growth that is real and that drives GDP growth, the United States, this association exists (Garfinkel & Smeeding 2015) as it does for the growth of regulatory capitalism (Braithwaite 2008). The logic of market institutions and of welfare growth as imperative for keeping markets ticking is buttressed by evidence that societies that hold down levels of poverty secure higher levels of growth (Breunig & Majeed 2019). These empirical associations are background empirics for the plausibility of my hypotheses.

One general factor that has driven long-run welfare state and regulatory state growth since the 19th century is that conservative political leaders joined arms with social democrats to promote this growth when their regime faced a risk of being outflanked from the left. We see this at least from Bismarck's late 19th century promotion of the German welfare state for fear of rising communism. The same was true of liberals like Lloyd George who promoted these trends as part of their resistance to a pink Labour Party and a red communist party. One might retort that social democratic parties are no longer pink and reds are no longer under the beds of western states. Yet

Bismarck still resonated with a Donald Trump who feared that his authoritarian populism could be outflanked by left populism of a presidential competitor in the Bernie Sanders mold. Hence Trump has selectively appropriated pro-regulatory left causes such as opposition to the North American Free Trade Agreement and the Trans-Pacific Partnership. Trump's moments of support for the welfare state have been more exceptional; yet he has been the most aggressive recent presidential advocate of the infrastructure state. The reds that Trump fears are in charge of the state that is a much larger infrastructure state than the US, one likely to eclipse the United States in the Asian century. More generally, more of the world's right populisms are regulatory welfare populisms than meet the eye of analysts who mis-specify right populism as neoliberalism.

Small authoritarian capitalist states like Singapore, Qatar and the UAE, medium-sized ones like Vietnam and Cambodia, and large ones like China, Bangladesh and Indonesia, have outperformed the growth of liberal capitalist economies by a wide margin since onset of the 2007 Global Financial Crisis (which was really a western more than a 'global' or Asian crisis). Important reasons have been the superior regulatory capabilities of many of these states for containing crises that the West was episodically incapable of managing in the late 20th and 21st century: such as covid and sustaining adequate demand and savings to avert economic crises in an era of the financialization of capitalism (Braithwaite 2019). Containing ecological crisis is the most critical regulatory failure. Lower-growth 21st century western economies have so far proved incapable of steering a safe course among these crises. What paralyses them is fear that if they go too far in their response to the climate crisis, they will become less competitive in what they see as the 'neoliberal' global economy. The paradox is that this analysis paralysis hands the game to China. We will see that China very recently came to lead on renewable energy technologies like solar panels (Fialka 2016), on the electric cars that will be driven by them, and much more. On the other hand, this conjuncture has left Chinese banks and party leaders over-confident and under-transparent, especially in relation to heavy indebtedness through off-balance-sheet investment vehicles, and therefore overdue for the financial crashes it avoided in 2020, 2007, and 1998.

The era when the west could stave off the threat from China by superior information technology has begun to pass; a shift signaled by western trade barriers against Huawei's 5G technological superiority over western firms. The best the West can do to cling to geopolitical dominance is to step up taxpayer investment in their national security states in order to sell new military technologies to each other, and to allies in the Middle East and South. This is a very partial solution because China, while it accomplishes only a sixth of the arms exports of the United States (SIPRI 2018), has been dramatically growing its share of this in secret as well. And this competition is creating another grave threat to the survival of humankind. When states invest in the capability to invade another with millions of killer robots combined with cyber-assault followed by shooting down the satellites on which the target state depends, the nuclear non-proliferation regime is destabilized. Fearful smaller states may respond to such destabilizing threats to their national security by acquiring a nuclear capability to threaten mutually assured destruction. Some will be like North Korea and invest in this without investing in the safeguards against accidental triggering of nuclear exchanges that the US and the Soviet Union worked so hard at, with imperfect success thanks to IT errors on both sides that erroneously detected the firing of large numbers of incoming missiles. Cyber-warfare and dual use intercontinental missiles that carry conventional weapons, but can be feared to be carrying nuclear payloads, are increasingly widening the scope for error (Ellsberg 2017). The solution to this third crisis is also expanded international regulation of technologies of killing through renewed investment in the inspection and enforcement programs of the nuclear non-proliferation regime, for example, which worked so well in the lead-up to the 2003 war in Iraq. While that third crisis also requires resolution within a framework of more-welfare-more-regulation, it is the topic for other publications.

Shape-shifting: Learning to survive from China

An authoritarian great power like China that puts Muslim Uighurs into re-education camps in massive numbers in Xinjiang Province can teach the West a lot about how to avoid managing badly a problem like perceived terrorist threats. At the same time, geopolitically, the west is doomed unless it gets better at cooperating with China and learning positive lessons from it. The West must transcends the analysis paralysis discussed so far. There is a structural imperative to shift the shape of Western economies. In contrast, China has opened up better options for its future by a recently discovered commitment to politically stabilize its regime through delivering more welfare to its citizens and by regulating the smog in its cities, at the same time as it grows by dominating the production of new environmental stewardship technologies (McComb 2018; Mok & Qian, 2019). It could be argued that China has moved in the direction of regulatory welfare capitalism (Li & Yang, Annals issue). One reason China could become more hegemonic, in short, is that it is grasping a more-welfare-more-regulation reconfiguration of its economy. The west is more timid about grasping this option because of its fear of a neoliberal chimera created in the backward-looking political imaginations of westerners.

That timid analysis prioritizes an imperative to cut welfare and regulation to be competitive in the face of what is seen in the West as the unassailability of neoliberal policy settings. It must be said that the covid crisis has revised that thinking in many countries. In their attitudes to welfare and regulation, I do not see the neoliberal and neoconservative western analysts as the realists. The realists are authoritarian states that thrive through their sovereign wealth fund and their state-owned and private bank investments in western economies that have generously shifted wealth from western workers to the profit share of national incomes (a profit share that is then appropriated by the national income of their authoritarian competitor states through these means). Then these realist authoritarian states use that western wealth to buy off their own populations with expanded welfare benefits and by steering state and private investment into infrastructure (a visible example being the superior airports of thriving authoritarian states compared to US airports) and technologies they can sell to the west to ameliorate the climate crisis. Not to mention sale of surveillance technologies of authoritarian national security states. In his new book, Peter Drahos (2021) develops in a brilliant way the applicability of this analysis to China.

Where neoliberal and neoconservative western analysts are right, in the battlelines they have drawn against green analysts, is that abandoning a growth economy is politically risky. It is also risky to the political agendas of progressive green advocates of zero growth. Mass unemployment and hyperinflation are both recurrent progenitors of war, fascism and other authoritarianisms across the longue durée (Braithwaite & D'Costa 2018). Masterminds of a new

Reich, a new Califate, or a new Soviet Union are bourgeois leaders who get their opportunities to take regimes over in conditions where those who join them as footsoldiers perceive a grim economic present and future, and often imagine an overly-glorious authoritarian past.

Hence, western progressives must acquire the wit to craft a green growth economy that sustainably delivers jobs while containing inflation. This requires shifting the shape of the economy (Denniss 2017). Thankfully, pragmatic reformers can go with the grain of something more than long-run growth in the welfare state and the regulatory state to craft a solution, something more than a 'Green New Deal' as EU leaders and progressive US Democrats like to put it. A third benign opportunity space is the long-run trend for services production and consumption to grow faster than the production and consumption of goods in all western economies (Buckley & Majumdar 2018). When an economy grows by consuming more of the services of aged care, child care, plant nurseries and disability care workers, doctors, nurses, educators, serving staff for tourism or in restaurants, it is green growth. Care workers do not burn carbon in the way factory workers do. If growth can be fueled by further accelerating the shift to a services economy, driven in part by growing the welfare state, this can be green growth. China has committed to expand services consumption.[2] How can the West accomplish that? This question is addressed in the next section. The conclusion of this section is that shifting the shape of the economy toward more-services-less-goods goes with the grain of quite general economic trends, and so has an edgy realpolitic to it.

Geo-economics of shape-shifting

Schulze-Cleven (Annals issue) shows that the character of regulatory welfare capitalism for universities is 'competition-sustaining and market-making reregulation'. A state that runs up debt by investing in expanded higher education and R & D systems is akin to an investor who borrows to invest in real estate that is likely to return higher capital gain than the interest on the debt. States for many years have borrowed at interest rates less than one-third of the return to GDP of increased investment in secondary or higher education (Psacharopoulos & Patrinos 2018). So why do many states not do that? They fail to when they are captured by neoliberal fundamentalism about the evils of state debt. China is massively scaling up investment into higher education; this drives higher numbers of Chinese institutions moving up university rankings (O'Malley 2017). They are surging this even more post-covid. The important point about the fertility of this investment is that it is green growth. For the most part work in universities consumes less carbon than factory work, especially as universities go carbon-neutral. A green shift like this is best tied to a new welfare state bargain. Taxes can be increased to provide free university education, among other welfare benefits. This helps green growth in economies that can allow lower taxes at a future time when the nation is collecting the dividends of that education investment. Likewise with welfare investment in modest but secure housing for the poor or regulatory investments that prevent disruptions in access to housing (Haber, Annals issue). Recovery programs from the hugely expensive burdens on states of alcoholism, addiction

[2] This is particularly so in targeted areas such as education, health and aged care; this economic reset of recent years involves slightly lower growth but with much higher domestic consumption of services (Lardy 2006). After years of faster growth in consumption of services than consumption of goods, services consumption hit half (49.5 per cent) for the first time in 2018 (China Banking News 2019).

to illicit drugs, and recovery from crime and periods of imprisonment rarely succeed with people who have insecure housing (Best et al., 2012). Welfare state investment in secure housing for all can enhance the effectiveness, and growth dividend, of all investments in the welfare state.

Of course building housing is not green growth per se. Yet all humans must live somewhere. What a large public housing sector can help deliver is a shift in expectations about the size of dwellings. A dual-pronged welfare state strategy can provide modest square meters of housing to the poor while its fiscal strategy taxes heavily large mansions of the rich. Steeply progressive taxation on houses and property, be they homes or office towers that accomodate palatial offices for top executives, is good redistributive politics and good green politics. It is not only that this dual approach to creating modest dwellings reduces the carbon from manufacturing the materials that make them, though that is central with an IPCC working group concluding in 2014 that buildings accounted for 32 per cent of global final energy consumption (Lucon et al. 2014). It is also that when buildings are larger, they sap more energy to heat and cool. Large houses and offices become vacuums that suck in the consumption of consumer durables to fill them. Their vast spaces attract drapes, carpets, furniture and baubles of countless kinds to fill their vacuum. Fewer dwellings that accomodate two or three cars and more that house one or none are needed, dwellings designed for a world where most of us walk, cycle, bus, train or order a driverless taxi, rather than own more than one punitively-taxed motor vehicle. Yes, a Green New Deal economy also requires higher taxes on cars, even after they become electric cars, because they are still highly manufactured consumer durables. The new factories to build electric cars are among the demands keeping many coal-fired power plants open in China. These can also be steeply progressive taxes, so that big luxury cars attract higher tax rates than small, basic ones. A Green New Deal must involve more housing and public transport welfare, more regulation of mega-housing and mega-car consumption. In this world of green housing, when a building owner chooses to knock down their building and replace it, they must pay a recycling tax that funds a mix of public and private recycling plants to assure that contents of the old building are not buried at public expense as waste, but 90 per cent is recycled instead. This will make the top floors of older buildings more attractive to refit for urban agriculture.

Return to the corporate tax rates of the 1940s to the 1970s and to the more steeply progressive income tax rates of the Keynesian era (Piketty 2014) is needed to reshape growth away from consumption of positional goods such as extravagant homes, cars and clothes and toward growth in services work that meets fundamental human needs like health, education and safe streets. More aggressive tax enforcement against high wealth individuals and large corporations works; when well designed, it can deliver an extra billion in tax for each million of tax regulatory investment (Braithwaite 2005: 91). High and increasing levels of taxation on carbon will obviously be needed as the climate crisis worsens, and higher charges for water. International air travel has a shockingly high carbon footprint (Tyers 2017). High taxes on international airline tickets are redistributive because the poor cannot afford international travel and first or business class air or cruise tickets have high price multiples. Steep taxes on international transport would benefit domestic economies by shifting middle class tourism expenditure close to home to destinations reachable by trains and cars powered by renewable energy. This cannot be achieved without global social movement politics of groups like Citizens for Tax Justice that is akin to the global social movement politics for workers' rights discussed in the next section.

Workers wealthy with services riches that fuel growth

A new welfare-regulatory-state bargain is a response to the crisis of the plummeting wages share of national incomes driven by a financialization of capitalism in which banks like to see growth fueled by workers who have high debts rather than high wages. Rudolf Hilferding's definition of financialization is increasing political and economic power of banks and the rentier class (rentiers are those who live off income from investments in property or securities rather than from producing anything). It is a century old definition that remains attractive. Financial profits as a share of US GDP were about 10 per cent in the 1950s. By the early 2000s financial profits hit an all-time high of about 40 per cent of total profits (Epstein 2016: 319). This figure fell back to less than 30 per cent after the Global Financial Crisis, but has now surged well past 30 per cent again. Financialization is a particularly strong trend in command economies. In the Forbes 2000 list of the most powerful corporations in the world for 2018, first, second, fifth, ninth and tenth places are occupied by Communist Chinese banks that are mostly state-owned (Forbes 2018).

In the world of a new welfare-regulatory-state bargain, workers would not only have guaranteed access to decent housing even if there is a housing market crash, free higher education and child care for their children in certain age ranges even at such times, free health care and aged care in the twilight of their lives, they would also have more money in their pockets to dine out or take in some live music, or any number of such services that are lowly taxed. If carbon, water, buildings, cars and international travel were taxed at very high rates, it would be possible to use some of that revenue to reduce taxes on services and fresh food. They would also enjoy better protection from environmental harms that kill so many of them and better protection from other arms of the regulatory state, such as improved anti-monopoly enforcement against tech giants that increasingly dominate the economy alongside financial capital.

Crises of capitalism have been driven by different factors at different times. Current conditions of the financialization of capitalism have massively reduced the wages share of national incomes and increased the profit share. This sharpens risks of crisis from workers not having enough wages in their pockets to create demand by buying goods or services that are produced by employing people. Most of the time, crisis is averted; demand is created instead by banks lending ever more money to people so they can buy goods and pay off their houses. Banks like all this lending, of course. It increases their profits.[3] The most important feature of the financialization of capitalism is that banks grow to own most other corporations, to own much of everything, including politicians. They persuade political leaders that jobs are created by an ever-growing profit share. As financialization pushes debt to GDP ratios higher, this may substantially increase GDP in the short term, but substantially reduce it in the long term, and as that ratio increases, the dampening impact on long-run growth also increases.

When shocks hit economies populated by overly indebted citizens, overly indebted states, and overly indebted banks, the kind of cascades of bankruptcy that afflicted many Western countries in 2020, 2008, and much of Asia in 1998, recur. That is not in the interest of banks. Yet it can be in the interest of bankers if they are smart enough to make huge bonuses during the rise of their

[3] This is why there is a positive correlation between private credit to GDP ratios in financialized economies and growth in stock prices (Turner 2015).

bank and invest that money elsewhere before it crashes, or even smart enough to short bank shares before they crash (Lewis 2010). Or it can be profitable if bankers pocket bank profits during the rise and taxpayers socialize bank losses during a financial crash.

The more sustainable solution than ever-expanding indebtedness to prime demand is to reduce the profit share and increase the wages share of national income back to where they were 30-50 years ago. The politics of how to deliver this is the topic for another paper (Braithwaite 2019) and particularly of Shelley Marshall's (2019) book. Where progress has been made in the past, it has often required international agreement for minimum wages at the International Labor Organization (Marshall 2019), just as international agreement to work together to close tax havens and avert a race to the bottom is required on tax rates. Broadly, a new regulatory welfare capitalism bargain requires networked social movement politics that brings together a renewed labor movement with an interest in ratcheting up minimum wages, NGOs that join Citizens for Tax Justice, Oxfam and others in campaigns to ratchet up tax rates for powerful corporations and wealthy individuals, welfare rights NGOs and green NGOs. A Green New Deal is a new social bargain and so cannot be achieved by green NGOs and states alone. It is most likely to work as an international social bargain where international NGOs mobilize to reward political parties who take their state into the bargain and where NGOs punish holdout political parties (Braithwaite 2019).

The new welfare-regulatory-state bargain

It is too narrow a lens to view this proposal as a new welfare-regulatory-state bargain even though Burford, Braithwaite & Braithwaite (2019) have argued for restorative and responsive expansion of the human services as vital to a less dominated future. It is more than a new welfare-regulatory-state bargain in the sense of being also a regulatory capitalism bargain in the Levi-Faur and Jordana sense, a polymorphic capitalism bargain. By this I mean that the expansion of welfare and regulatory jobs that drives this model of growth renewal will be overwhelmingly private sector jobs. It is a proposal for a bigger market economy funded by widened tax collections, a mixed economy of welfare (Powell 2019), more than a proposal for a bigger state, though some significant increase in state employment is implied. When funding is increased for child care, aged care, disability care, consultations with doctors, physios or psychologists, even school teachers, a large part of this funding goes to private providers who compete with other private and public providers to be chosen by beneficiaries of the welfare state. Levi-Faur (2014) with others in this Annals issue document the marketization and then regulation of welfare provision markets. Part of what regulatory capitalism means is a trend toward this becoming increasingly the case (Braithwaite 2008). Any environmental or occupational health and safety inspector worth their salt who spends two hours inspecting a workplace may have triggered 20 or even 200 hours of work by environmental and safety staff on self-regulation of compliance that anticipated their inspection, plus a further quantum of self-regulatory follow-up after the inspection. In other words, good regulatory work by state inspectors is a massive multiplier of private sector regulatory work that is expensive. Yet when regulation is well designed, the mix of private and public regulation usually does more to increase than to reduce the efficiency of economies after accounting for externalities. This is because liberal economies are at risk from investing ever more strongly in greater power for its market engine while under-investing in improving their steering. Ever more powerful market engines become ever more adept at running into walls or off cliffs unless these weak steering capabilities are repaired. So there is a long-run productivity imperative to shift investment away from market production to adroit steering of markets. Regulatory auditors who do this steering consume little carbon in this long-run growth-promotion work as they walk around with their clip-boards or I-Pads.

Selling the bargain

A new welfare-regulatory-state bargain can be sold at all stages of the life cycle. Under 25s in many Western countries systematically resent the fact that they had to pay for things like university education that their parents did not. Resentment over the extant welfare state bargain undermines voluntary tax compliance and drives tax cheating. Valerie Braithwaite and Eliza Ahmed (2005) have demonstrated the greater propensity of young adults with high university fee debts to cheat on tax compared to those with low tuition debts, an effect that becomes much stronger when they feel their university education was of poor quality. Because this is the generation of taxpayers who states depend on longest to willingly pay their tax, this resentment must be addressed by a new welfare bargain that turns away from crippling them with debts to pay off their education and with truncated access to housing compared to their parents. Likewise, young parents in the 25-35 age group cannot afford to have only one breadwinner as previous generations did. They struggle to afford steep child care fees. Cheap child care and free pre-school through to tertiary education is a pitch to them for a new welfare-regulatory bargain. At the other end of the age spectrum, a large proportion of the elderly come to see the extant welfare bargain as even more ridiculous. Baby boomers who lived comfortably through the good health of middle age acquire needs for care in old age that are not met, often leaving the older generation in pain, stuck at home without the means, resources or energy to get to a medical or dental appointment they need, stuck and cramped in an under-resourced aged care facility where no one comes when they call, or if they do come, restrain them physically or chemically (Braithwaite et al 2007). The aged ask themselves, 'What kind of society is this that bestows low taxes that enabled my extravagant middle aged lifestyle, and now when my unmet needs are grave, I am abandoned'. Low tax, low welfare, low regulation of aged care societies deliver poor economic outcomes by failing to maximize average life-time well-being. This is because of the way they insufficiently redistribute resources of care to old age, where care is most needed.

Why then would the middle aged, who are the primary beneficiaries of the extant welfare bargain, want to change it? The pitch to the middle aged for a new welfare-regulatory bargain has to be a mix of intergenerational altruism and delayed gratification. That pitch is that we should be doing better by our children and grandchildren so they get a superior education to ours, not a worse one. Most parents and grandparents indeed do want this, passionately. That is no hard sell. The pitch is also that the middle-aged need to pay more tax so that they can be better cared for than their parents in their old age, better supported to remain independent in their homes. They want this too. So the political pragmatics of a new welfare-regulatory bargain are not as impossible in terms of age-graded self-interest as many assume. Enlightened corporate self-interests are also fearful of failure to tackle ecological catastrophe that threatens the survivability of the planet and economic crashes that threaten the survivability of firms. What cannot be sold and must not be sold is a zero-growth economy.

Uses of 'responsive authoritarianism'

If China can choose slightly reduced GDP growth combined with steeper growth in access to services, welfare, education, health and steering of growth to deliver a healthier environment, could other societies not sell this choice? They might if they watch China consolidate global hegemony along this path. On the other hand, western cities no longer have the levels of smog that motivate rapid green transformation in China; no nation contributes anywhere near as much carbon to the crisis as China, and few are exposed to the same levels of environmental risk as China. China is still building coal fired power plants where demand peaks; plants grew five-fold between 2000 and 2018 (Carbon Brief 2019). The better news is that China is also closing the worst plants and its pipeline of new and planned plants has shrunk by 70 per cent since 2016 (Carbon Brief 2019). Plans are in hand to mix hydrogen with coal in these dinasoar plants as steps toward China's commitments to take its biggest steps in the current decade toward being carbon-neutral by 2060.

For all that, I do suspect Peter Drahos (2021) may be right that China has the best prospect of leading to avert environmental apocalypse by combining this welfare regulatory capitalism bargain with pulling strong state regulatory levers to decarbonize through new energy paradigms. These are enabled by experimental cities designed from scratch that include hydrogen cities, circular cities, smart cities that connect information technologies and AI to the green challenge, forest cities of buildings that suck carbon dioxide with horizontal trees and vertical gardens, and sponge cities (that are designed to capture all run-off water and recycle it). Of course, there is even a 'feng shui city', Tieling New City, that so far looks like one of the duds - envisioned as a city-sized Chinese garden infused with the ancient Chinese philosophy of feng shui that seeks harmony with the environment (McMahon 2018).

If too many fail, of course, they can threaten the Chinese economy. That is one possible tragic end to this story. The scale of China's green authoritarian experimentalist construction of completely new cities is unprecedented. They amount to the largest suite of technological experiments at scale in human history. There are 285 new eco-cities planned (Shepard 2017). Even if only half are built, they could come to house populations approaching the current population of the EU or the United States. Some former ghost cities that until recently were standard fare for derision of Chinese state planning by western journalists are now boomtowns fueled less by carbon than China's old cities. They are also part of China's New Deal for its staggeringly rapid urbanization that has avoided some of the worst excesses of the slums, favelas, and shantytowns of other developing countries, and the extremes of violence of the slums that devastated US urban growth in the last century.

These grand urban technological experiments are complemented by history's largest rural organic experiment – the Green Great Wall plan to plant 88 billion trees along a 4,800-kilometre frontier to hold back the expansion of the Gobi Desert. It is well underway, as is Chinese help for Africa to hold back desertification with Africa's Great Green Wall at the Southern extremity of the Sahara. A November 2020 publication in *Nature* revealed that this afforestation is building a renewed Chinese carbon sink that in the past has been underestimated and now accounts for 45 per cent of estimated annual Chinese anthropogenic emissions (Wang et al 2020).

Drahos (2021) might also be right that western thinking puts too much emphasis on putting a higher price on carbon because at times of immediately impending crisis the price mechanism delivers change too slowly compared to state R & D investment in energy paradigm shifts or perhaps state-funded greenfield eco-cities as fulcrums of transformation. Drahos thinks crisis has cascaded to the point where earth systems are shifting to new equilibria at a pace that overwhelms the top speed at which market equilibria can shift. Markets can be particularly slow when media empires and commercial interests that fund democratic political parties are ossified around extant paradigms and sunk investment in them (while green start-ups are short of funds that can be deployed to buy politicians). On the other hand, China is mostly a prudent state investor in steering strategies that hedge its bets by also steeply increasing the price of carbon, through lifting taxes on petroleum, for example, and by recently elevating various other environmental taxes on industry and experimenting with regional environmental trading that is about to become a national emissions trading scheme. Whether decarbonization is driven by carbon trading, carbon taxes or by measuring the success of state R &D investments in new green cities with revolutionary production paradigms, cheating to hit decarbonization targets is a profound risk. This is especially true in a China with a history of rampant corruption.

Investment in carbon fraud detection is therefore another requirement for the green regulatory workforce that steers economies to safe waters. Most analysts underestimate the weak integrity of carbon measurement systems in both communist and capitalist worlds where incentives for fraudulent overstatement of carbon abatement are so profound for managers pursuing their next promotion. China has since 2017 sharply increased investment in environmental regulation on the back of more gradual increases in the previous 20 years (van Rooij, Stern and Furst (2016). Since 2017, it has encouraged courts and police departments to establish dedicated environmental divisions. 'Environmental police' (Wunderlich 2017) played a significant role in increasing prosecutions of individuals for environmental offences in 2018 by 21 per cent to 42,195, fines by 32 per cent, and the more robust criminal enforcement measure of arrests increased by 52 per cent in 2018 to 15,015 individuals (South China Morning Post 2018).

While national and international environmental NGOs are subject to state domination in China, local environmental protests are rampant, with tens of thousands of local protests over environmental pollution levels every year. Marquis and Bird (2018) found what they call 'responsive authoritarianism' works in China. When formal environmental complaints are made by citizens, they are contained by channels 'within-the -system' and have no impact on enforcement levels. But when local environmental protests boil up 'outside-the system', environmental enforcement responds to public protest with what Marquis and Bird demonstrated statistically to be heavier penalties compared to penalties applied against managers of corporations in cases where there was no civic protest. So in circumstances of crisis, China proves willing to bend to and use its 'mass line' to quell domestic disquiet and then to grow geopolitically by selling its responsive technological solutions to a world that ultimately needs these technologies to cope with the same crises. Through these various channels China since 2017 has been mandating the capacity to tackle environmental challenges and to decarbonize with more enhanced checking of corruption and decarbonization fraud than might have been expected in the past.

We have seen that as China taxes carbon more heavily, it shifts the shape of the economy toward services and welfare and it strengthens its steering, particularly of R & D that has delivered cheaper and better solar panels, electric cars, cityscapes, and other modes of greener growth. The Drahos (2021) argument is also a kind of responsive authoritarianism story of transformation that is plausible because China is growing GDP per capita at two to three times the rate of Western economies while also growing renewable energy capacity at three times the rate of both the US and the EU (Smith 2018).

China has far more electric cars on its roads than any other country (Pressman 2017), increasing its proportion of the world's electric car sales from zero per cent in 2012, to a sixth in 2014, and more than half by 2017 (Busch 2018; Niu 2018), and with its domination in electric buses and electric two-wheel vehicles increasing to 99 per cent of world production (DiChristopher 2018). While it grew its economy faster, China worked out how to produce the most successful renewable energy alternative (solar panels) at one fifth the cost that the west had managed; China became the largest generator of solar power and the largest manufacturer of solar panels. China is also the world's largest producer of wind turbines (OECD 2019), leads in batteries, smart grids and is the largest domestic and outbound investor across all forms of renewable energy (Jaeger, Joffe, & Song 2017). By 2017 China had surged past the United States to account for 45 per cent of global renewable energy investment which was delivering a steeply increasing proportion of renewable energy patents (29 per cent by 2016). China has also been the world's biggest importer and recycler of scrap metals, plastic, and paper. It has now decided to concentrate on recycling its own rubbish, where it has been a laggard (far behind economies such as Germany). It has cut off imports to force exporting countries to recycle their own waste. Australia is one country that is beginning to respond to this cut-off, for example, by becoming home to the world's biggest scrap metal recycler.[4] Other countries will eventually narrow the green technological gap with China. They might find that the fastest pathway is to follow some of the tracks of China's regulatory welfare capitalism.

While other countries will eventually narrow green technological gaps with China, they may do that by following China's top-down regulation of technological paradigm shifts, just as China got where it is by state R&D investment in improving pre-existing electric cars, solar panels, and smart grids. Mutual learning between liberal and authoritarian capitalism may be the only hope of survival. For all these accomplishments, Drahos (2021) is no optimist that the world can turn back China's massive carbon footprint, let alone the planet's. Drahos's point is that responsive authoritarians can pull quite strong levers, even if push-back, corruption, and gaming the party's agenda from local levels of Chinese society is common, indeed widespread. Western states in the past have also pulled formidable topdown R&D levers when they cared enough to put massive taxpayer resourcesinto putting a 'man on the moon', developing nuclear weapons and nuclear power, or the Anglo-American defence establishments' development of the internet and AI, semiconductors, jet engines, cellphones, robotics, and much more (Drahos with Braithwaite, 2002). Democratic experimentalism (Dorf & Sabel, 1998) and

[4] Sims Metal Management. Sims is a beautiful example of the kind of geopolitical paradox of survival that interests me. Sims started his business before World War II collectingscrap metal by horse and cart around Melbourne. After World War II he washelped to take off by collecting the scrap metal left by the war machines of the imperial powers all over the Pacific. Now it is impelled across new frontiers by China cutting off Western waste exports.

authoritarian experimentalism are both capable of producing smart stealth bombers by hybrids of top-down Pentagon R&D and strategic planning. These are hybrids combined with tournaments of private tendering to build weapon systems, the winners of which partner with private winners of other tournaments to build airframes, jet engines, and IT systems. In liberal and authoritarian systems alike, these accomplishments are hybrids of planned state R&D investment and capitalist markets, rather than of one versus the other. Stimulating authoritarian experimentalism can produce smart stealth bombers by hybrids of top-down Pentagon R&D and strategic planning. These are hybrids combined with tournaments of private tendering to build weapon systems, the winners of which partner with private winners of other tournaments to build airframes, jet engines, and IT systems. In liberal and authoritarian systems alike, these accomplishments are hybrids of planned state R&D investment and capitalist markets, rather than of one versus the other.

Such hybridity goes to why mutual learning between liberal and authoritarian capitalisms may be the survival hope. Collaborations between western and Chinese universities must lead where states fail to promote this learning, and must not fall victim to the emerging acceleration of geopolitical rivalry with China. Universities must also lead in East-West collaborations in the prevention of economic crises and nuclear war crises in a world where there is a tendency for environmental crises, war crises and economic crises to cascade into one another (Braithwaite forthcoming). For all these accomplishments, Drahos (forthcoming) is not optimistic that the greening of the reds can be enough to turn back China's carbon footprint. Moreover, the risk of a financial crisis in China is considerable and, if that happens, a lot of bets will be off. Hopefully China wobbles when that crisis hits and manages to heave on its formidable levers of state and financial power to pull itself itself back together. States like Australia that are deeply dependent on Chinese growth have less formidable levers to pull and might crash more severely than China itself in the face of a Chinese crisis and could face a resultant rise of authoritarian populism.

Drahos's point is that responsive authoritarians can pull quite strong levers, even if push-back, corruption and gaming the party's agenda from local levels of Chinese society is widespread. On Drahos's account, fracking recarbonized the trajectory of US R & D, breaking the will of its state to play as constructive a role as the Chinese state in saving the planet. We have seen before the tragedy of the United States sweeping a crisis under the carpet until it reached such proportions that partnering with authoritarianism was the only way out. In World War II, the United States hid in denial about the Nazi threat until only the total mobilization of the people of the Soviet Union could do the hardest yards, and impose the heaviest losses on its people, to defeat Hitler, in return for which the West was seduced into allowing Eastern Europe to be tyrannized by Communism for half a century. A key to freedom outflanking authoritarianism is early and decisive movement to defeat large crises from festering under freedom's sloth. Freedom's other paradoxical key is that when free societies fail to head off existential crises early; they must be bold enough to relent to levers authoritarian societies prove more adept at pulling – be the crises security, ecological or economic crises. Economic, ecological and national security crises of capitalism repeatedly do delegitimize capitalism by festering until they reach the stage where the gradualism of freedom, democracy and markets pull up short compared to responsive authoritarianism.

The essence of the bargain

The previous section goes to the importance of western capitalism learning from the R & D investments of Chinese authoritarian capitalism in responding to the climate crisis. A Paris Climate Agreement bargain between China and the West that also embraced developing economies must be a growing part of a Green New Deal. So must expanded human services (Burford et al. 2019) and the kind of renewal of regulatory capabilities we have begun to see with Environmental Police in China since 2018. The essence of the Green New Deal remains apt – that the risks of economic crisis and environmental crisis can be better managed through trade-offs of a new welfare-state-regulatory-state bargain which leaves citizens poorer in goods, more heavily taxed, but richer in human services and other services, safer from loss of their jobs, their home, from pollution that chokes them, and from war and fascism that can be energized by economic, security or ecological crises. I have argued that persuading the young and the old of the virtues of this bargain may not be so hard, persuading the middle-aged harder. Green New Deal advocates can only accomplish this with an internationalist politics of crowd funding in rich countries to support political parties in poor countries who back a Global Minimum Wage of perhaps half the national median income (Marshall 2019; Braithwaite 2019). Global activism is imperative for international agreements to prevent tax avoidance through profit-shifting to fund a new welfare regulatory bargain that preserves economies, freedom, and the earth system, even as deals are done with authoritarian states. Drahos may be right that western collaboration with the innovation systems of responsive authoritarianism is our best meagre hope.

The tendencies for financial crises, security crises and ecological crises to cascade into one another are profound (Braithwaite 2019). The path-dependency of the financialization of capitalism that drives in the opposite direction to regulatory welfare capitalism is powerful. So is the path dependency of the military-industrial complex toward ever more totalizing technologies of genocide by nuclear weapons and extinction. The path-dependency of the earth system toward escalating mass extinctions likewise may not be reversible. Yet even for those who steer the most path-dependent of institutions, survival is a goal that can motivate. The point of this analysis is to show that regulatory welfare capitalism involves an interdependent suite of path-dependent growth trajectories that might be turned against extinction trajectories. If we consider extinction-aversion a worthy normative frame, regulatory welfare capitalism is worth reflection in our policy imaginations.

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