



Review

# Finance Unchained: The Political Economy of Unsustainability

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Received: 9 January 2020; Accepted: 17 March 2020; Published: 24 March 2020



Abstract: This article explains how the liberation of finance from the Bretton Woods constraints imposed after World War II has shaped the resulting "neoliberal" political economy into a political economy that is inhospitable, if not hostile, to the kind of regulation and public investment necessary to address the climate emergency and other environmental problems, and has contributed to levels of inequality that constitute a social crisis in their own right. Using the United States as an example, the author explains how mobile finance and the accompanying neoliberal ideology impose "checks" on a range of governmental policies, and moreover, have led to inadequate levels of public and private investment, both generally and in areas crucial to reduce carbon emissions. The article concludes with a discussion of how a new set of international monetary and financial arrangements along the lines that Keynes originally envisioned could support a "Green New Deal" sustainability strategy or, absent such an international agreement, how capital controls imposed nationally could constitute a temporary solution to the problems of insufficient regulation and investment.

**Keywords:** finance; financialization; Bretton Woods; capital controls; Green New Deal; U.S. climate policy; public investment

#### 1. Introduction

In 1973, the Bretton Woods international monetary and financial system agreed at the end of World War II came to an end—and with it, the "financial repression" that had been at its heart: a system of fixed exchange rates that greatly reduced opportunities and incentives for speculation, the International Monetary Fund to offer temporary loans to protect the exchange rate system, and capital controls applied nationally. Protected from capital flight by these arrangements, which limited capital mobility, governments imposed rigorous domestic regulations on financial activities, including upper limits on interest rates, regulatory "firewalls" separating different banking functions, and many others. The purpose of these regulations on finance was to protect states' "policy autonomy" and thereby enable them to respond to public needs for employment and social protection, and above all to ensure that the calamitous 1930s and 40s were not repeated [1] p. 388. The twenty-five years during which the Bretton Woods system was in place are often called the Golden Age of capitalism; the benefits of economic growth were widely shared via full employment and real wage growth [2] p. 31. States' "policy autonomy" also allowed, via pressure from popular movements, what Kotz calls "social regulation" to limit harms to the environment, workers, and public health imposed by private business [3] p.p. 9–10.

British economist John Maynard Keynes, perhaps the leading public intellectual of his day, was the main inspiration and co-designer, with his American counterpart Treasury official Harry Dexter White, of Bretton Woods. The financial repression built into the system they created reflected nearly two decades in the evolution of Keynes's thought [4]. Keynes had seen economic depression and unemployment at close range after World War I, as policymakers attempted to restore the value of the pound to its prewar level. While the deflationary policies that were used to do this benefited

"investors"—that is, bondholders, for whom Keynes would later use the sobriquet "rentiers"—who discouraged productive investment of all kinds; workers, farmers, debtors, and society at large paid a heavy price [5]. By the mid-1920s, Keynes had abandoned the central precept of *laissez-faire*, that the sum of private business decisions would result in societal benefit. "The cure for economic evils, especially unemployment", he wrote, "lies outside the operations of individuals; it may even be to the interest of individuals to aggravate the disease". Consequently, society would need to "exercise[e] directive intelligence ... over many of the inner intricacies of private business" [6] p. 318, and "make those decisions which are made by no one if the State does not make them. The important thing for Government is not to do things which individuals are doing already ... but to do those things which at present are not done at all" [6] p. 317. Although Keynes was not a socialist, the destructive effects on society of private decisions led him to consider that to achieve full employment and social justice, the state might "tak[e] an ever greater responsibility for directly organizing investment" (quoted in Skidelsky) [7] p. 97.

By the mid-1930s, Keynes had made explicit the connection between international capital mobility and states' inability to act on problems like unemployment: "Advisable domestic policies might often be easier to compass", he wrote, "if the phenomenon known as "the flight of capital" could be ruled out" [8]. Consequently, a central objective of Keynes and White was to design into the postwar system a set of mechanisms that would prevent, as Keynes put it, "people constantly taking fright because they think that the degree of leftism in one country looks for the time being likely to be greater than somewhere else" (quoted in Helleiner) [9] p. 35. The disrepute of finance was quite general in the aftermath of depression, fascism, and war: No less a figure than United States (U.S.) Secretary of the Treasury Henry Morgenthau could announce to Bretton Woods conferees that the goal of the conference was to "drive the usurious moneylenders from the temple of international finance" (quoted in Helleiner) [9] p. 4.

But capital, with the connivance of the United Kingdom's (U.K.) financial authorities, burrowed under and flew over the confinements Keynes and White had built for it, seeking higher profits in unregulated "Eurodollar" markets (I will discuss Bretton Woods' demise more fully in the concluding sections of the paper). When Bretton Woods' financial repression was allowed to expire after 25 years, the stream of cross-border capital became a flood, skyrocketing from about \$18 billion in the early 1970s to reach a trillion dollars per day by 1996 [10] p. 2, and \$6.6 trillion per day in April 2019 [11]. The end of Bretton Woods was the occasion that advocates of a new "neoliberal" ideology, which promoted the shrinkage of the state in favor of an expanded arena for private decision-making, had been waiting for. Falling rates of corporate profit and stubborn inflation combined with unemployment—so-called "stagflation"—in the late 1960s appeared to validate their views that the Bretton-Woods-type interventionist state was, and should be, finished.

The collapse of the Bretton Woods monetary and financial system was followed by loosened domestic regulations on finance and financial institutions, giving rise to a wave of financial innovations, especially in the U.S. and U.K., as both countries aspired to nurture their financial sectors [12] p. 59, [9] p. 113. The introduction of new market players, such as pension and mutual funds, expanded, deepened, and increased the attractive power of financial markets, so that (for example) borrowing money by selling bonds began to replace traditional bank loans. In order to attract investment and/or loans, or, somewhat later on, to satisfy conditions imposed by the International Monetary Fund (IMF), now repurposed as an instrument of neoliberal "structural adjustment", developed and developing countries alike had to liberalize their own financial markets [9] p. 12. Despite modest attempts following the 2008 crisis to rein it in, finance has subsequently resumed its place, noted economist Jeffry Frieden, as "the pivot around which the world economy twists and turns", quoted in [13] p. 31.

The four-plus decade period of financial ascendancy in the global political economy has witnessed accelerating deterioration in the condition of the ecosystems that sustain all life and upon which human civilization depends. Recent reports issued by United Nations (UN) bodies—the Intergovernmental Panel on Climate Change (IPCC), on the consequences of exceeding  $1.5\,^{\circ}\text{C}$  global average temperature

Sustainability **2020**, *12*, 2545 3 of 22

increase, and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) present, in the words of IPBES chair Robert Watson, "an ominous picture" of mass extinctions and the deterioration of life-supporting services around the globe: "We are eroding the very foundations of our economies, livelihoods, food security, health and quality of life worldwide" [14]. Episodes of violent weather, drought, and fire, many of which are historically unprecedented, demonstrate dramatically the consequences of what human activity has wrought and presage worse to come.

The overlap between the ascendancy of finance and accelerating environmental destruction, I contend, is not a coincidence. The rise of finance has had a transformative effect on both the state and on the "real" economy in which production and consumption take place, and on the relationship between them; in this paper, I examine the consequences of those transformations for the ways the US, the pre-eminent neoliberal state, has responded or failed to respond to the climate and environmental crisis. In a 2012 article, two prominent international political economy (IPE) scholars noted that insufficient attention had been given to the ways that deep structural changes such as "the globalization of financial markets" in the international IPE had affected the relationship between human society and the environment [15] p. 485. This paper is intended to help fill that gap by examining how the deregulation and subsequent empowerment of finance and the concomitant reconfiguration of the state have led to state inaction on environmental problems, especially climate change, during a critically important historical moment, and at the same time have demonstrated that private investment decisions have not, and are not likely to, lead to the replacement of carbon-intensive energy systems in a timely fashion.

Although policymakers may not have appreciated the full significance of what they had done at the time [16] p.p. 91–102, in sanctioning capital mobility, they had unleashed what Gill and Law call the "structural power" of capital, especially financial, or money capital, to "indirectly discipline the state" [17] p. 99. Structural power is exercised as owners of money capital decide to invest or withhold investment, to lend or not to lend and on what terms, depending on their assessment of a state's worthiness. States have transformed themselves, willingly or not, into "neoliberal" or "competition" [18] states in response to the new financial environment. In order to attract fickle capital (and/or to meet conditions imposed by the IMF) states have largely stepped back to give more scope to private, profit-oriented decision making. They have reduced regulations on both financial and productive activities, reduced public investments, lowered taxes, especially on top income earners ("makers" as opposed to "takers"), and privatized a range of what were once (indivisible and non-excludable) public goods, including environmental public goods.

As the sphere of private decision making has expanded, the space for public/political decision making—and democracy—has shrunk: What were once political decisions about production and distribution have been displaced into another sphere where they are beyond the reach of politics [19] p. 75. How many emissions are prevented, how much biodiversity and how many forests are preserved, how many ecosystem services are protected—all of these are relocated to the domain of consumer and investor choice. Rising citizens' movements demanding state action on climate change and species extinctions attest to the futility, and patent failure, of rendering ecosystem preservation hostage to private decisions. Yet the notion of a state response that would actually set limits upon environmentally destructive production and distribution has become so unthinkable to policymakers that the environmental crisis is simply ignored, while citizens demanding action are increasingly subject to exclusion, silencing, or arrest. In liberating finance, states have voluntarily disempowered themselves, leaving citizens no instrument through which to protect their overriding collective interest in self-preservation; no instrument "to do those things which at present are not being done at all", with the first among them the requirement that production and consumption levels be made compatible with environmental limits. The restoration of states' policy autonomy, I contend, can provide a platform upon which a sustainable political economy might be built. That in turn will require the construction of a powerful political coalition armed with a hegemonic vision that can

Sustainability **2020**, *12*, 2545 4 of 22

displace neoliberalism—an enormous lift, but one for which manifest threats to civilizational survival could provide the fuel.

## 2. Why States?

Because the most critical challenges to sustainability are rapidly approaching limits to the absorptive capacity of global sinks, atmosphere, and oceans, my claim that territorially bounded states must be the primary instruments to address these problems seems counterintuitive. Indeed, calls for global institutions to manage global problems date from the recognition of the problems themselves, and have resulted in the construction of a multitude of "global environmental governance" mechanisms. However, these mechanisms (unlike, say, those concerned with global finance) do not enjoy the kind of access to decisionmakers or harmony of views that international monetary authorities do [20] p.p. 193–196; their influence on policy is therefore much less. In the international context, authority still rests with states and is likely to for the foreseeable future. Moreover, to undermine or override the state, Daly writes,

"... is to wound fatally the major unit of community capable of carrying out any policies for the common good. That includes not only national policies for purely domestic ends, but also international agreements required to deal with those environmental problems that are irreducibly global (CO2, ozone depletion). International agreements presuppose the ability of national governments to carry out policies in their support [21] p. 93".

Global environmental governance institutions such as the IPCC, IPBES, and many others play vital roles in helping to synthesize volumes of research findings, translate them for both policymakers and the larger public, and outline policy pathways to sustainability, broadly defined. But absent the transformation of these global entities into global government mechanisms—a transformation unforeseeable in the near future, during which action must be taken to render the scale of human activity compatible with environmental limits—the only institution with the ability to implement, enforce, and tax remains the state. I argue here that strengthening states' capacities to undertake what for now are their uniquely authorized responsibilities may be our best hope to meet looming environmental emergencies, especially the destabilization of the climate. A first, and vitally important, step in that direction is to reconfine finance.

I use the United States as my primary example, as it is, along with the UK, one of the most "financialized" and ideologically neoliberal countries. It is also, as the world's biggest cumulative (and second largest annual) emitter of greenhouse gases, and at the federal level, at least, a policy laggard, an example and excuse for other countries that seek an escape from the rigors of developing a no-carbon economy.

## 3. Neoliberal Thought: Markets Über Alles

Cox argues that changes such as the neoliberal turn "are not to be understood as exogenous events that burst in upon states" [22] p. 106. Rather, transformations within the state itself, brought about by the political activity of movements or political parties, are "associated with changes in the structures of world order . . . these parallel changes [are] mutually reinforcing" [22] p. 108. Similarly, Gill [17] p. 58 points out that a change such as the neoliberal turn is the product of "material capacities and potentials with persuasive ideas and a sense of direction". The neoliberal recasting of the state followed this schema closely: As the Bretton Woods monetary and financial arrangements unraveled, neoliberalism reached its maturity as an intellectual movement.

Naidu et al., highlight the prominent role of economists and neoclassical economics in neoliberal thought, with its focus on markets and incentives, methodological individualism, and mathematical formalism [23]. Disciplining the state—more specifically, redefining its boundaries to allow maximum scope to market-driven, profit-oriented, and "welfare maximizing" decision making, and elevating price stability to the top of the monetary goals pyramid [2] p.p. 198–199 was the ideal of a group

Sustainability **2020**, *12*, 2545 5 of 22

of thinkers, most prominently the economists Friedrich Hayek and Milton Friedman, who supplied many of the intellectual underpinnings of the post-Bretton Woods social structure of accumulation. The Efficient Market Hypothesis (EMH) propounded by economist Eugene Fama has also been enormously influential. Financial markets are considered to be "model markets" because they are both liquid and (apparently) diverse [24] p.p. 24-25; proponents of the EMH assume that prices created on markets are the product of the interplay of millions of different investors with different time horizons who evaluate fundamentals differently: "As long as they aren't all wrong in the same direction, the high and low guesses will offset each other" so that market prices are reliable assessments of actual value [24] p. 26. These assumptions about the reliability of the prices generated on financial markets are the basis for Michael Jensen's "agency theory". It argues that corporate managers should be harnessed to financial market performance via share prices; the job of management, as "agent" of the shareholders, is to elevate those prices as much as possible [25] p.p. 28–31; [26]. They are also the basis for neoliberal claims that the inherently efficient, therefore welfare maximizing, products of financial market decisions render government interference with them except in very limited instances (there is some neoliberal disagreement on exactly what these are), useless at best and destructive at worst [27].

Together, these ideas provided ideological fortification and justification for the interests of the financial sector and public monetary authorities which had opposed the Bretton Woods constraints from the beginning [20] Ch. 8. Neoliberal "think tanks", such as the Heritage Foundation and the Cato Institute, distilled them into detailed policy briefs offered to incoming administrations, from Reagan's to Trump's [28]. The elections of neoliberal political leaders Reagan in the U.S and Thatcher in the U.K., whose campaigns popularized neoliberal thought, decisively closed the curtain on the Bretton Woods era. They came to power as the Bretton Woods monetary arrangements were beginning to come undone and both countries were suffering from the unusual combination of persistently high unemployment and inflation, so-called "stagflation", which had significantly challenged corporate profitability. To these problems, Reagan and Thatcher offered simple, if not simplistic, solutions: shrinking government regulations, taxation, and spending in favor of private decisions guided by market prices, and beating back the "excessive" claims of a working class empowered by the postwar settlement.

Numerous analysts have pointed out that the assumptions behind neoliberal thinking about states and markets, and the relationship between them that neoliberals prefer, are deeply flawed and have therefore led to unfortunate outcomes, as former Federal Reserve chair Alan Greenspan was forced to admit at a Congressional hearing in the aftermath of the 2008 financial crisis [29] p.p. 5-6. The status accorded to financial markets means that a more accurate understanding of them is particularly important. Participants in financial markets are neither as numerous nor as diverse as the EMH assumes, so market prices do not reflect the balancing of a range of guesses about the future. Rather, the main players on markets are the large investment and pension funds that aggregate the funds of millions of individuals; the actual decisionmakers—the fund managers—are much less numerous, and members of "a business culture that place[s] a high premium on conformity in everything from dress and language to management strategies" [24] p. 35. While the funds themselves may claim to have long time horizons, the metric by which managers are evaluated is whether their portfolios rise in value in the short term [24] p.p. 26–27. Given the pressures on fund managers to conform and perform, it is not likely that stock prices of, say, the fossil fuel industry will accurately reflect the long-term risks to society of their product and the liabilities the industry may face as a result. Neoliberal successes in diminishing the allowable scope of state "interference" in markets mean that in general, the market prices of many goods and services do not reflect costs that in the absence of regulation are "externalized" onto others, including future generations, nor do they reflect the allowable scale of economic activity. Scale itself cannot be determined by prices, but can only be arrived at through "a social decision reflecting ecological limits" [21] p. 53.

Other critics have noted the inconsistent application of proclaimed neoliberal principles. A prime example is the enormous government bailout of failing banks and other financial institutions in response

Sustainability **2020**, 12, 2545 6 of 22

to the 2008 financial crisis. Another, less acknowledged example is the failure of neoliberals to implement, or even advocate for, government action to require the internalization of externalities such as climate-damaging carbon pollution—a "market failure" if there ever was one, and a failure that even in terms of neoliberal theory seems to warrant government intervention—if it is acknowledged to exist. These inconsistencies, which have benefited powerful corporations at the expense of nearly everyone else, support Crouch's claim that neither neoliberals nor many of their critics have paid sufficient attention to what he calls the "corporate takeover" of the market [27] Ch. 3 and passim. Similarly, they support Harvey's claim that "[t]he theoretical utopianism of neoliberal argument has ... primarily worked as a system of justification and legitimation for whatever needed to be done to [restore the power of an economic elite]" [30] p. 19. Despite the abundant evidence supporting these conclusions, neoliberal ideas about the role of government in society, about markets, and about the individual's right to choose have had, and still have, influence that is evident across the political spectrum—and that have been instrumental in preventing an effective response to the looming environmental emergency.

Gill and Law point out, following Gramsci, that stable states and the classes that support them do not exercise power by coercion alone; rather, the class forces constituting the state and the ideology that supports them must be considered "natural and legitimate", "rooted in material and normative structures" [31] p.p. 478–479. Scholars have puzzled over the basis for the legitimacy of neoliberalism among ordinary people, because the post-Bretton Woods decades have been a period of insecurity and wage stagnation for most of the labor force [32] p.p. 35–36. While wages and productivity rose nearly in tandem between 1948 and 1973, wages rose by only 9% in the next 50 years, despite a 74% productivity increase over the same time period [33]. Galbraith, among others, attributes much of neoliberalism's popular appeal to a narrow, but powerful, conception of freedom as "freedom to shop", which Galbraith contends "has become, after a fashion, a political right" [34] p.p. 16–17. As other sources of legitimacy weaken, consumerism has borne a heavier load—but even its appeal has markedly diminished, especially among the young [35]. Crouch, in *The Strange Non-Death of Neoliberalism* [27] is one of a number of analysts who suggest that the present moment is indeed an interregnum. Prospects for the emergence of a "counter-hegemony" will be discussed at the end of the paper.

### 4. The Post-Bretton Woods "Competition State"

The mission of the competition state is to make of itself an attractive investment venue for both domestic and foreign capital. Once obligated primarily to its citizens, the state now must answer to another, deterritorialized constituency: Streeck [36] p. 81 calls them the *Marktvolk*, which renders its opinion of state policies not by voting, but as they set the terms of lending and investment. Deregulation and the occasional "marketization" of regulation, liberalization (of both finance and trade), the privatization of state-owned companies, public services and ecosystems, and "austerity"—anti-inflationary fiscal and monetary policy—are the characteristic policies of the competition state.

Neoliberals oppose most regulations on the general ground that they are inefficient and therefore harmful to the economy—an argument that is appreciated by the *Marktvolk* and easily appropriated by productive corporations that fear increased costs and decreased profit. They use their enormous financial resources to fund political campaigns, lobby policymakers, and persuade the public; an important mechanism is the funding of "think tanks" that disseminate their findings through the press to shape public opinion and influence policymakers. Typical is this *Business Week* op-ed directed at then-President Bill Clinton, by Paul Craig Roberts of the neoliberal Cato Institute:

"The dollar is ... under pressure because investors have realized that Clinton favors big government "solutions", while other parts of the world ... are curtailing the scope of government and growing rapidly as a result. Equity investors have developed a global perspective, and they prefer markets where government is downsizing and the prospects for economic growth are good ... .It would also help if Congress were to repeal hundreds of ill-considered laws that benefit special interests at the expense

Sustainability **2020**, 12, 2545 7 of 22

of the overall performance of the economy, and if thousands of counterproductive rules in the Code of Federal Regulations were removed. Quoted in Korten [37] p. 216."

Rather than demonstrate "harm to the economy", opponents of environmental regulation in particular have relied on claims that proposed regulations such as banning or limiting exposure to pesticides, limiting coal ash pollution, and regulating greenhouse gas emissions are simply not necessary. Corporations have spent millions of dollars attempting to discredit, misinterpret, and diffuse doubt about well-established science through the public sphere and additional millions lobbying policymakers, with remarkable success, as Oreskes and Conway explain at length in their 2010 study *Merchants of Doubt* [38]. It is established industries, not newcomers or challengers, that have the most resources to invest in such campaigns. Ironically, their success at diluting or stopping regulation, which is often technology forcing [39] p.p. 296–299, has arguably made the "competition state" a comfortable habitat for legacy industries like fossil fuels at the expense of newer, more sustainable ones. The deregulated "competition state" seems well behind the curve in crucial areas such as low-carbon energy and other emissions reduction technologies. I shall have more to say about this later.

Neoliberal advocates for the competition state claim not only that government investment in public goods is inherently inefficient, but that it "crowds out" more efficient private sector investment, whether it is financed through taxation or deficit spending. While neoliberals object to both on principle, post-Keynesian capital mobility imposes real constraints on states' ability to collect revenue, especially from the wealthy and corporations. Capital mobility sets the stage for, indeed one might say that it invites, (legal) tax avoidance and (illegal) tax evasion [40] p. 19. Competition states obligingly lower tax rates, especially for corporations and the wealthy, often on the basis of wobbly claims that lower rates will bring the money home. The recent Trump administration tax cuts on corporations and the wealthy were justified with this claim—but despite a temporary bump in repatriations, after less than a year, repatriations were even lower than they had been prior to the tax cut [41]. The Tax Justice Network estimates that globally, around \$500 billion per year in tax revenue is lost as a result of corporate tax evasion through methods such as the establishment of shell companies outside their home countries, and that wealthy individuals have between \$21 and \$32 trillion stashed in offshore locations [42]. Tax avoidance and evasion hit developing countries particularly hard; Shaxson quotes a 2010 estimate that flight capital from developing countries in 2007—most of it from the wealthiest one percent of their populations—amounted to between 7 and 8 trillion dollars [43] p. 142.

The competition state's tax reduction policies have locked it even more firmly into the grip of the *Marktvolk*, because as a result of reducing taxes, especially on the high earners whose payments constitute most of the tax base, the state must borrow via the bond market from these very *Marktvolk* to finance needs in excess of tax revenue [36] p. 95. In the event that the *Marktvolk* will not lend, interest rates must be raised, throwing economies into recession. To date, the United States, because it issues the currency in which a majority of global transactions are conducted, has not faced a "run" on the dollar that would force it to raise interest rates in order to attract financing for its trade and budget deficits. However, Galbraith, among others, suggests that the potential for such an event exists and cannot be ignored [34] p. xx and even a casual glance at the financial press shows that many countries are beginning to replace some of their dollar reserves with other currencies. However, the uniquely benign situation that allows the U.S. to run large deficits without the constraints faced by other countries has not reduced neoliberals' deficit-reduction obsession, at least not when deficit spending is proposed to increase public service provision or environmental protection [44]. Implicit in the job descriptions of economic advisors to U.S. presidents from Clinton [45] p. 21 to Obama is to issue warnings against entertaining proposals that might displease "the markets".

For developing countries, the International Monetary Fund (IMF), lender of last resort, imposes neoliberal conditions on borrowers who have little choice but to accept them. IMF conditions often include the socialization of private debt, so that the repayment of private loans to private persons must be taken on by the state itself—a prime example of the economic and political power that capital has assumed [46] p. 1 and of the transfer of wealth from the bottom of societies to the top, about

Sustainability **2020**, *12*, 2545 8 of 22

which I shall have more to say later. Neoliberals have pointed to what they consider to be excessive levels of government spending as the cause of unacceptable deficits, and demand cuts in the name of "starving the beast"—but as Streeck demonstrates, declining tax revenues are a more plausible culprit for chronic deficits [36] p.p. 63–69. Moreover, the deficits of which neoliberals complain are made worse by the burden of interest that must be paid on debt already accumulated—a bill that constitutes an ever-larger part of government budgets [47] p. 67.

### 5. The U.S. Competition State's Climate Non-Policy

In the almost 30 years since the adoption of the UN Framework Convention on Climate Change (UNFCCC), which committed signatories to prevent "dangerous anthropogenic interference with the climate system", global emissions have continued to rise at an accelerated pace: More than half have been emitted since 1990 [48]. After a brief hiatus partly resulting from the financial/economic crisis of 2008 and its slow-growth aftermath, U.S. emissions replicated this pattern. Although the U.S. Energy Information Administration predicts that they will decline beginning in 2019, the rise of almost 3% in 2018 was the largest in many years [49]. These largely unabated increases are due in no small part to the neoliberal turn and the anti-regulatory, anti-public investment "competition state" that, although most fully realized in the U.S., is globally influential.

The opening salvo in the neoliberal war against "excessive" and "burdensome" environmental regulation was fired by U.S. President Ronald Reagan only a month after his inauguration, in the form of an Executive Order requiring any new proposed regulation to undergo justification via cost-benefit analysis (CBA). Analyses of regulatory costs are useful when they compare different methods of achieving a regulatory objective, but the Reagan administration officials and businesses clearly viewed it primarily as a method of reducing regulation. Cost-benefit analyses can be, and are, manipulated on either side, but the usefulness of CBA as a tool to reduce regulation comes largely from the fact that whereas the costs of a regulation usually can be quantified—that is, the cost of pollution control equipment that must be installed is knowable—the benefits of a regulation, e.g., the value of a species or ecosystem service or even a human life preserved, are not easily quantifiable, yet cost-benefit analyses require quantification (in dollars) to permit comparison [39] p.p. 300–303. Opponents of a regulation may simply low-ball the benefit estimate, as the Trump administration did recently by omitting the "ancillary" benefits of Obama's Clean Power Plan, which would have reduced emissions from power plants, from the cost-benefit calculation [50]. To summarize, cost-benefit analyses present an appearance of precision that can be, and often is, utterly misleading. While the Trump administration has taken manipulations of cost-benefit analyses to an extreme, it should be pointed out that the executive order requiring them has remained in place through six Presidents, both neoliberal and "neoliberal lite".

The Trump administration has taken other parts of the deregulation agenda further than previous administrations. It has taken the nearly unprecedented action of rescinding a number of existing environmental rules, and has recruited industry lobbyists to fill top positions at the Environmental Protection Agency (EPA) and Department of the Interior. Its most innovative anti-regulatory policy, however, is its attempt to pull the regulatory apparatus itself out by the roots. Claiming that the overhaul is good for business, the administration has used firings, personal attacks, bullying, budget cuts, and office reorganizations and relocations to diminish the very capacity of the state to regulate. For example, within a month after being elected, the administration requested from the Department of Energy a list of all employees who attended meetings on the social cost of carbon [51]. It has thereby reduced the administrative apparatus that implements regulations, which consists not only of agencies like the EPA and their professional personnel, but also the many individual scientists and professional bodies with whom the agency consults, leaving the survivors overworked and demoralized [52]. Former EPA Administrator Gina McCarthy has remarked that such cuts are especially damaging for the agency's (future) capacity with respect to climate change [53].

Sustainability **2020**, *12*, 2545 9 of 22

Competition states in general have resisted imposing limits on carbon emissions, or have supported limits more generous than climate stabilization requires [54]. The U.S. has been one of the countries most resistant to emissions limits and timetables [55] Ch. 3. Such a limit is the basis for even the most market-friendly emissions-reduction strategy for the internalization of costs related to carbon emissions: Cap and trade [21] p.p. 52–53. Without a limit, as Daly points out, the market-type measures that some neoliberals will accept as an alternative to "command and control" regulation are dependent on individuals' willingness to pay [21] p. 54.

A large part of the reason for this resistance, Paterson [55] points out, is that the U.S. is not just a competition state; it is a state that has enormous reserves of fossil fuels. Exploiting coal, oil, and gas has been hugely profitable not only to the fossil fuel companies themselves, but to the complex of industries surrounding them, and—last but certainly not least—to the banks that finance them, and to the fund managers who view their stocks as good bets. The historic abundance of fossil fuels has been extremely influential in shaping features of U.S. development, such as automobile dependence; by the 1930s, there was one registered car for every two U.S. households [56]; post-World War II suburbanization increased auto use and ownership even further. U.S. surface transportation infrastructure has been built largely for the private automobile. In recent years hydraulic fracturing ("fracking") has made it possible to extract huge quantities of oil and especially natural gas, turning the U.S. into one of the world's largest exporters of these fuels; the International Energy Agency (IEA) expects the U.S. to become a net exporter in 2020, for the first time since the 1950s [57]. Although coal exports are expected to decline, the booming oil and gas export sector makes fossil fuels one of the few bright spots in the U.S. trade picture. The mining industry, primarily oil and gas extraction, was the leading contributor to US Gross Domestic Product (GDP) growth in the first two quarters of 2019, according to the Bureau of Economic Analysis, far outstripping other sectors with double-digit increases [58]. These factors may help to explain why, despite the clear contradiction with neoliberal views about deficit spending, fossil fuel production is not only minimally regulated (and not regulated at all with respect to carbon emissions), but receives about \$20 billion per year in direct subsidies [59].

Given the embeddedness of fossil fuels in the U.S. economy, how rigorous regulation will have to be to wrench the U.S. onto a low-carbon path, and the U.S.'s continuing voluntary austerity with respect to public investment, it is not surprising that the U.S. competition state has shied away from anything resembling a coherent climate policy, no matter which party is in power. Despite high hopes invested in it, the Obama administration's policies exemplified incoherence: On the one hand, it increased (through the American Reinvestment and Recovery Act—ARRA—the "stimulus" bill intended to facilitate recovery from the financial crisis) research and development funding for renewable energy, energy efficiency, and rail transportation, took steps to ease permitting for renewable facilities on federally owned land, offered a number of rebate programs to consumers for the purchase of efficient and electric vehicles, and began to regulate emissions from electric power plants. Tax credits for wind and solar production, for weatherization of homes, and consumer purchases of fuel-efficient vehicles were also included. On the other hand, however, the President boasted about the fact that oil and gas production increased during his terms. He signed the bill lifting restrictions on exports of U.S. oil and gas and expedited new oil and gas permits, while disapproving the Keystone XL pipeline permit only after fierce public objections to the project.

Aside from the extraordinary circumstances that gave birth to the American Reinvestment and Recovery Act, the competition state austerity orientation of the U.S. has helped to build in high carbon emissions for years to come. The U.S. population emitted 16.4 tons per capita in 2017, over three times the global average of 4.8 tons per person, and much higher than Germany at 9.73, although Germany has a comparable standard of living [60]. Significant public infrastructure spending in the U.S. has mostly failed to materialize despite evidence of decrepitude in the physical sinews of society and despite what economists like Paul Krugman have argued is a golden opportunity, given low interest rates, to launch a significant program of public investment [2] p. 264. The ARRA itself was smaller by one third than recommended by Christina Roemer, Chair of the Council of Economic Advisors, because

then-chief economic advisor Larry Summers didn't want to worry the bond market by expanding the federal deficit further [61]. Nonetheless, ARRA budgeted in the neighborhood of \$50 billion for transportation projects and another \$11 billion to modernize the electricity grid, a minor down payment on a project estimated to cost nearly half a trillion dollars, but which will enable demand management strategies and facilitate connecting intermittent renewable energy sources to the grid [62]. While during the Bretton Woods era federal investment in infrastructure was a hefty 6% percent of GDP, it declined at the beginning of the neoliberal era and then stagnated; it was only 2% of GDP in 2018 (Figure 1).

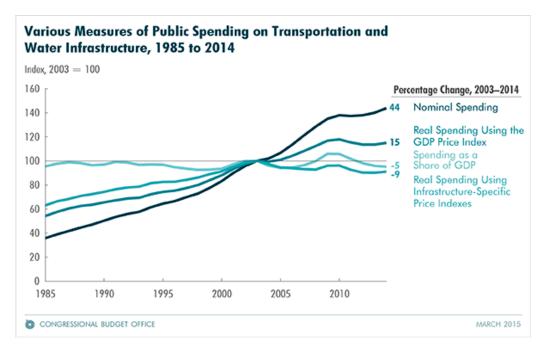


Figure 1. Various Measures of Public Spending on Transportation and Water Infrastructure, 1985 to 2014.

Of the 60% of federal investment dedicated to non-military purposes, 37% went to physical infrastructure in 2018 [63]. Public transportation for mobility, both within and between cities, is a particularly acute need, given that transportation is the largest source of U.S. emissions: 29% in 2017, according to the U.S. EPA. Currently, flying is the most climate-damaging form of travel, but is the most time-efficient way to travel between U.S. cities over what are often large distances. The U.S., unlike China, Japan, and many European countries, has no high speed rail lines; the fastest U.S. line, the Acela Express, takes seven hours to travel between Boston and Washington, D.C., whereas the same distance in China (between Changsha and Guangzhou) is covered in two [32] p. 41. Despite pressing needs, pending on public transportation amounted to only 25% of the total transportation outlay in 2014 [64].

The single current bright spot in U.S. government investments that will be instrumental in promoting a lower-carbon future is that federal spending on research and development (R & D) has continued to increase modestly up to the present. The U.S. spends about a third of the paltry \$22 billion spent on R & D globally [65], even though it is not as much as it should be, given that R & D "support[s] the technologies that complement and provide a solution to demand-side policies" that will eventually appear [66] p. 122. Competition-state pressure continues to keep budgets low, even though clean energy R & D can also have important spillover effects, as it can be used by other countries that do not have the scientific capacity of the U.S.

#### 6. Private Investment

"The process of production appears merely as an unavoidable intermediate link, as a necessary evil for the sake of money-making. All nations with a capitalist mode of production are therefore seized

periodically by a feverish attempt to make money without the intervention of the process of production (Karl Marx, Capital, Vol.ii, quoted in Varoufakis [67] p. 49".

Supporters of financial mobility and deregulation have claimed since the Bretton Woods era that removing the fetters from finance ensures that capital will be used most efficiently and thereby achieve economic growth. A decade after the greatest economic crisis since the Great Depression, they are still insisting [68] in the face of abundant evidence to the contrary. While the global economy has continued to grow, at least most of the time, since the neoliberal turn began in 1980, "the growth rates attained during the first quarter century following the end of World War II have yet to be matched". According to Rodrik, "[t]he world economy simply has not performed as well during the period of financial globalization as it did under Bretton Woods" [69] p. 110. As presented in finance textbooks, growth occurs when savings are carefully channeled into productive investment. However, investment in productive activities in the neoliberal period has also been lower than in the Bretton Woods era—this despite historically abundant credit and a long-term steady decline in interest rates [70]; also [26] p. 3.

Immobilizing capital in long-term productive investments can be risky, especially in new industries such as offshore wind. That disadvantage is heightened when investors contrast those risks with the many opportunities afforded by capital mobility and financial deregulation: investments in hedge funds, private equity, subprime mortgages, various kinds of arbitrage, and many others [71]. Harry Dexter White, the co-designer of Bretton Woods, noted that owners of capital tended to be flighty, "motivated either by prospect of speculative exchange gain, or desire to avoid inflation, or evade taxes", quoted in Helleiner [9] p. 33. Consequently finance, Mazzucatto and Wray note, has not been financing the capital development of the economy; rather, it has been financing itself [71], even as the investment needs of carbon mitigation projects go unmet.

Hu et al. [72] p. 731 estimate that a minimum global investment in renewable energy of about \$4.5 trillion will be needed by 2040 to limit global average temperature increase to the official Paris target of 2 °C (obviously, this amount would have to increase substantially to hit the lower, 'safer' target of 1.5 °C.), and strategies to mobilize the private sector are the subject of much discussion in international organizations such as the UN and IMF. The abundant credit noted above is not going into investments in renewables in sufficient quantities; it is rather going to household debt, government deficits, and asset bubbles [70]—and to the tried-and-true fossil fuel sector. With risk-avoidance, rather than risk-taking, at the heart of so much financial strategy, it is not surprising that banks and investors are adding their considerable weight to the climate policy inertia in the U.S. by continuing to bet, and bet large, on the fossil fuel industry with which they are familiar.

"Bank lending shifts the landscape of risk for financials by creating a shared interest in the perpetuation of fossil-fuel extraction and transportation. Many of the projects they finance are long term, which gives them an interest in continuing oil and gas production well into the future – particularly in the tar sands, where most of the capital costs are sunk. Once the facilities are built, they cost relatively little to operate, so the incentive is to keep producing, even when oil prices are low [73]".

A report issued in the spring of 2019 by the international NGO Oil Change International and several other non-profits shows that bank financing for fossil fuels has increased every year since the Paris agreement, with the amount going up year over year, for a total of \$1.9 trillion through the end of 2018. Approximately \$600 billion of that total will fund additional fossil fuel projects, the development of which is completely incompatible with the safest possible (although not safe) 1.5 °C average temperature increase pathway [74].

Renewable energy investments are relatively risky, even with government funding some of the initial R & D. As Hu et al., point out, renewables face a competitive disadvantage from the outset because fossil fuel generators are not forced to internalize their costs [72] p. 737 thanks to competition-state resistance to regulation or putting a price on carbon emissions. But that is just the beginning of the many barriers they identify that face prospective renewable project developers: "In traditional finance theory, the assumption of perfect information and full-rationality implies that

investment decision-making should be informed by the statistically measurable risk ... However, it is uncertainties and ignorance that are most commonly encountered in Variable Renewable Energy (VRE) investments". Because these are complex projects, there are many uncertainties: public acceptance, policy risk, technology risk, electricity market risk, and construction risk. (To illustrate policy risk with a specific example: As this paper was being written, the U.S. Congress failed to renew the investment tax credit for the solar industry.) What the authors call "path dependence" is also important: Because nearly all of the electricity grid was designed for fossil fuel generation, it may not be flexible enough to accommodate variable renewable sources or have a source of backup power [72] p.p. 730-734. An additional set of barriers appears at the point when developers apply for funding to finance the buildout. Most funding comes from banks, which may be put off by renewables' relatively brief track record and anticipation, justified or not, that returns will be low [72] p. 744; the herd behavior mentioned earlier in the paper comes into play here. Venture capitalists (VCs) have also been expected to play a major role in financing, but the extent of their actual participation has been disappointing; as Mazzucatto points out, "the development of many clean technologies requires long-term financial commitments of a kind that VCs are not willing or able to undertake" [66] p.p. 124–125. She concludes that market forces will not expand green tech to the necessary extent without government action and consistent, sustained financial support [66] p. 127.

While the cultivation of new players, such as renewable energy developers, presents one set of problems, as described above, squeezing the carbon out of the processes of established corporations presents a different kind of finance-related problem. Industrial processes such as cement making will require substantial innovation—figuring out new ways of doing things, making substitutions—much of which will not generate headlines, but which will be crucial in the effort to reduce emissions. Heinberg and Fridley [75] p. 95 point out that high-temperature industrial processes, including those used in manufacturing wind turbines, photovoltaic panels, electric trains and cars, batteries, and more, pose large challenges for 100% renewable energy systems and will require considerable "patient" investment. However, the "financialized" corporation of the neoliberal era is focused not on investment, but rather on exactly the kind of unproductive speculative activity that motivated Keynes to want finance confined. Lazonick and O'Sullivan summarize the corporate reorientation resulting from finance's liberation as a movement from "retain and reinvest" to "downsize and distribute" [76] p. 17. The relaxation of domestic financial regulations enabled the creation of instruments like junk bonds that could be used to finance corporate takeovers; private equity firms also operate in this space. Targeted companies—selected because they seem to offer abundant cost-cutting opportunities or because their stocks appear to be underpriced—are hollowed out as they repay the debt used to purchase them [76] p.p. 18-19, in the process shedding many of their employees. This "market for corporate control" has forced not-yet-targeted managers to make their corporations less attractive for takeover by pre-emptively driving up their stock values, since high stock values tend to fend off raiders. These managers therefore do voluntarily many of the same things that normally occur after a takeover: downsizing, outsourcing, and otherwise cutting costs wherever possible [77] p. 90. Huge stock buybacks are another strategy that managers use to drive up stock prices and executive remuneration, a large percentage of which is in the form of stock options. In 2018, corporations spent over a trillion dollars buying back their own stock—a purely financial activity that does nothing to enhance future productivity.

Business analysts have identified in the "financialized" corporation a pattern of under-investment—in training employees and retaining highly skilled personnel, in organizational learning, and in research and development. Mazzucatto [66] p.p. 32–33 points out that share buyback expenditures are nearly equal to, and in some cases in excess of, what companies spend on research and development. To cut costs to please the financial markets, firms have outsourced parts of their operations, "even though tightly integrating R&D and manufacturing is crucial to innovation" [78]. Some executives seem to be aware of the damage they are doing in order to realize short-term returns;

the same *Harvard Business Review* article notes a survey in which over three quarters of executives acknowledged that they would harm their companies in order to satisfy Wall Street expectations.

To attempt to increase investment in low-carbon energy sources and activities and to move investment away from fossil fuels, the European Commission in November 2019 announced that it is in the process of preparing a set of regulations intended to nudge finance in greener directions. These will include mechanisms that will increase transparency, such as indexes that will track companies with a low carbon footprint (the specific metrics are yet to be decided) and requirements for corporate analysis and disclosure of environmental risks, along with (possibly) requiring banks to consider such risks before lending. Implementing these measures will be a long-term process; it is already facing pushback from investors and banks concerned that new rules may increase financial risk to firms and borrowers [79]. While the IMF advocates similar "nudges" to financial markets, it is careful to emphasize that these should accompany, rather than replace, fiscal policy [80]. Fiscal policy will indeed need to be part of the answer, as the foregoing discussion suggests—but that seems unlikely to happen while private finance continues to enjoy the freedom from which it derives its power.

## 7. Finance, Inequality, Insecurity

I have sought to explain above the ways that finance has shaped the state and economy in ways that have allowed greenhouse gases to accumulate at levels that invite climate catastrophe and that continue, even at this late date, to block necessary regulation and investment, both public and private. However, an assessment of the role of deregulated finance in producing the dangerous situation with which we are now confronted is not complete without some discussion of the ways in which the inequality that has resulted from "financialization" both contributes to the climate crisis and acts as a barrier to its mitigation.

One of the hallmarks of the era of footloose finance and neoliberalism is the increasing share of income going to capital between 1970 and 2010 [81] p. 221. The concentration of incomes and wealth at the very top of the income scale, with the "one percent" pulling away from everyone else, is largely (though not entirely; the salaries of some actors and athletes come to mind) a consequence of income from capital (rent, profit, and so on) (Figure 2).

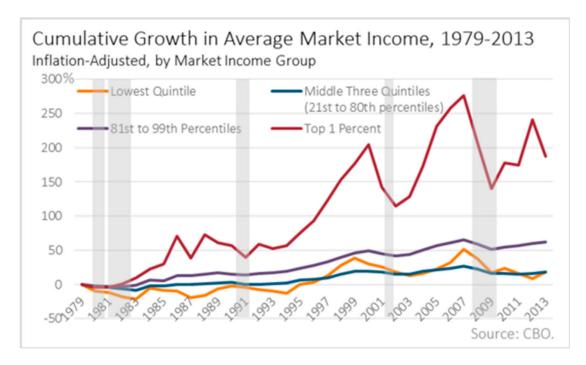


Figure 2. Cumulative Growth in Average Market Income, 1979–2013.

The highest incomes from work are in the financial sector [82], [83] p. 46, which often includes substantial bonuses on top of base compensation. Comparing the pay of workers in finance to those in other sectors with similar qualifications, Mukunda notes the "large premium" enjoyed by those in finance:

"In 2006 employees in finance made 50% more, on average, than equally well-educated employees in other parts of the economy. For senior financial executives, however, it was gigantic. They earned 250% more money than their nonfinancial counterparts did. For senior executives on Wall Street, it was larger still: They made 300% more than their counterparts in the real economy. Depending on how you calculate it, the wage premium in the financial sector accounts for 15% to 25% of the overall increase in economic inequality in America since 1980 [78]".

This logically derives from the outsized share of corporate profits enjoyed by financial corporations in the neoliberal era. In the U.S., for example, by 2013 the share of financial-sector profits was 37%, after a brief dip [78]. This is about double the share it had enjoyed until the 1980s [84] p. 31. Financial corporations themselves do not account for all of the profit derived from financial activities, as these have become pervasive in corporate America in general. Another way to look at the disproportionate weight of finance in the income distribution is to consider the how the ratio of income gains from monetary and financial assets to disposable income has increased [85] p. 36. For instance, many incomes in the top brackets are those of executives in non-financial corporations whose remuneration from stock options, in order to align their interests with those of the shareholders whose "agents" they are, usually exceeds their salaries. As noted earlier, the incomes of top managers may derive as much or more from financial maneuvers such as stock buybacks as they do from production.

To this very lopsided pre-tax income distribution are added tax policies that disproportionately favor the wealthy. Tax rates on them have fallen precipitously, especially at the very top of the income distribution—"the tiny slivers of the top 1 percent" [83] p. 47. It is not just that rates have gone down; it is that many taxes that are owed go unpaid: wealthy taxpayers often self-report their incomes and capital gains, and audits have decreased as tax laws go unenforced [83] p. 50. Additionally, as explained earlier, capital mobility makes tax evasion and tax avoidance much easier and more common.

Stagnation of wage incomes for most workers is the other part of the inequality story. Piketty notes the "increase in capital's bargaining power vis-à-vis labor over the past few decades, which have seen increased mobility of capital and heightened competition between states eager to attract investment" [81] p. 221. In the U.S. this competition took the form of a neoliberal attack on organized labor, exemplified by Ronald Reagan's destruction of the air traffic controllers' union, and in the U.K. by Thatcher's war on the coal miners' union. Union membership has declined precipitously: In the U.S., it fell to 10.5% in 2018, compared to 20.1% in 1983, the first year for which statistics are available. Private-sector unions have fared much worse than those in the public sector: 33.9% of public-sector workers are unionized, as opposed to 6.4% in the private sector [86], reflecting the nearly complete success of the neoliberal drive to break union power. Moreover, employment has been periodically interrupted by finance-driven crises, especially that of 2007–8, which have also cut into prosperity in other ways. Low interest rates and lax regulation produced enormous asset bubbles that, when they popped, cost millions of people their retirement savings and, after 2007, their primary asset: their homes. The 2007 crisis left 90% of Americans worse off in 2018 than they had been before the crisis, according to a Federal Reserve study [87]. Consumer credit, which Streeck calls "privatized Keynesianism", [36] has helped to maintain present buying power, but only at the expense of future earnings.

Two consequences of inequality and increasing insecurity deserve mention in the context of societal capacity to reduce carbon emissions. First, the increased concentration of income and wealth at the top has produced extraordinary levels of environmentally damaging consumption. An article written, ironically, as part of the agenda for the World Economic Forum—the annual gathering in Davos of the wealthy and political leaders, many of whom arrive by private jet—calls attention to the environmental impacts of the attendees and their wealthy peers by quoting an Oxfam study

attributing 50% of global carbon emissions to the wealthiest 10% of the population. A disproportionate number of them come from developed countries, especially the U.S. [88]. Chancel and Piketty calculate that Americans in the top 1% of the income distribution are responsible for over 300 tons of CO2 equivalent per person per year [89].

Moreover, the effects of elite overconsumption have rippled outward. Schor argues that the reference groups against which people compare themselves have changed:

"today's comparisons are less likely to take place between or among households of similar means. Instead, the lifestyles of the upper middle class and the rich have become a more salient point of reference for people throughout the income distribution. Luxury, rather than mere comfort, is a widespread aspiration [90]".

The explosion of popular exposure to the consumption habits of the wealthy via social media since Schor's article was written has undoubtedly exacerbated this trend, which obviously does not augur well for a time in which consumption will have to be limited to protect the climate and sufficiency rather than luxury will have to prevail.

Secondly, measures to reduce emissions will likely be resisted unless inequality and the economic insecurity of a large percentage of the public are addressed concurrently. The era of neoliberal "globalization" has diminished the prospects of people like employees of the heavy equipment maker Caterpillar: Before it restructured in the 1980s, typical compensation for its unionized factory workers was about \$40, including benefits. In 2009, workers in the same jobs earned \$13 to \$18 per hour, with another \$9 in benefits [91] (2009, 212–213). The proximate cause of the recent *gilets jaunes*, or yellow-vest, protests in France, was a gasoline tax increase intended to cut carbon emissions. However, it is important to understand the context: the demonstrators "are protesting a tax hike that came on top of several other regressive economic policies" [92]. Multiple news sources mention rising housing costs, unemployment, and lack of social mobility, especially in rural areas, as longer-term and more important causes of the unrest.

A serious emissions reduction policy, no matter what the specific forms of the regulations turn out to be, will raise the price of gasoline (and likely many if not most products, since carbon emissions are a byproduct of most production). The authors of the Green New Deal resolution introduced in the US Congress in 2019 [93] explicitly recognize inequality and insecurity as problems that must be addressed simultaneously with emissions reduction—an approach that seems not only more just, but more likely to elicit political support than the approach used in France, where the gasoline tax was simply imposed, apparently without consideration for how it would adversely affect ordinary people.

#### 8. Conclusions: System Change, Not Climate Change

The United Nations Environment Programme's (UNEP) "Emissions Gap" report states that greenhouse gas reductions of 7.6% every year for the next decade will be necessary to meet the 1.5 °C temperature increase "ceiling" strongly recommended by scientists to keep the impacts of global heating on ecosystems and human systems within—it is hoped—tolerable limits [94]. Simultaneously with this Draconian level of reductions, the gap between rich and poor must be reduced, as I have suggested above, for both moral and practical political reasons.

It is difficult to see how this can be accomplished without significant public investment and overall economic planning that includes the orderly phase-out of the fossil fuel industry; disincentives to, or outright controls over, environmentally destructive consumption; and redistribution of income sufficient to narrow the income gap drastically—in short, a World War II-style mobilization. There is little evidence to suggest that the kinds of "nudges" to private investors proposed by the European Commission and IMF, or the IMF's recent warnings about the adverse economic effects of further tax cuts on the rich, will be sufficient. The U.S. Green New Deal and the climate action plans of several U.S. Presidential candidates propose comprehensive approaches that correspond much more closely to the demands of the climate emergency and the yawning wealth and income gaps. They combine

measures such as a phase-out of fossil fuel extraction and a massive increase in public investments in energy, water, and transportation infrastructure with the most significant measures to reduce income inequality seen for generations, funded by very large increases on income and wealth taxes on high incomes.

The neoliberal system, however, has demonstrated its ability to resist changes that challenge the prerogatives of capital in any way, as shown by the minimal accomplishments of the Obama and Clinton administrations. The specter of the bond market is routinely invoked to tamp down any real departure from the system as it is. Any of the Green New Deal-style measures, let alone all of them together, are likely to precipitate resistance from the Marktvolk, and a prompt demonstration of the power of capital flight. That power has been demonstrated many times since the Bretton Woods financial and monetary order ended. An early example was the "capital strike" that sabotaged the ambitious Keynesian policy agenda of French leader François Mitterand in the early 1980s [95]. Responding to an electoral mandate, Mitterand announced the (compensated) nationalization of a number of large French companies as part of an effort to upgrade aging industrial plant and reduce the high rate of unemployment [96]. The response was swift: Capital fled the country and the value of the franc fell, bringing Mitterand's strategy to an abrupt end [97] p. 427. Very recently, the Guardian quoted a lawyer who noted, just ahead of the forthcoming U.K. election, "Lots of high-net worth individuals are worried about having to pay much higher taxes on their wealth and have already prepared for the possibility of a Corbyn [Labour] government. Transfers of wealth are already arranged—in many cases, all that is missing is a signature on the contract" [98].

It is not difficult to draw from these examples, and from the abundant evidence that the current neoliberal order is not up to the job, the conclusion that it is time to revisit Bretton Woods. It is also easy, upon considering the enormous difficulties that would be involved in birthing a new and improved version, to turn away from that conclusion. Helleiner [99] p. 619 points out that the original agreement was the product of "a transnational expert consensus" that had developed over years, and was prepared to take advantage of the unique set of historical circumstances offered by the end of World War II. It is true that no analogue exists today, but the number of experts advocating a new (and improved) Bretton Woods is not insignificant; it includes, surprisingly, the late Paul Volcker, who was Chairman of the Federal Reserve during the Reagan administration and the author of the massive interest rate hikes that broke the back of 1970s inflation. An official at the United Nations Conference on Trade and Development (UNCTAD) has called for capital controls and an international mechanism to oversee capital flows between countries [100], and the IMF may also be reconsidering its own position on capital controls. The community of academics and policymakers expressing alarm about the climate crisis, inequality, and the prospect of future financial crises is larger still, and growing. Massive and intractable trade imbalances, which have been the source of significant conflict between the U.S. and its trading partners, especially China, are building an additional constituency for significant reforms to the international monetary and financial system that would reduce the role of the dollar as reserve currency [101]. U.S. manufacturers would be among the beneficiaries if international demand for the dollar were to shrink.

Keynes had wanted an international currency, which he proposed to call the bancor, to anchor the Bretton Woods system, because he believed that an anchor currency issued by any one country would inevitably be tied not to the wellbeing of the system, but to the particular interests and fortunes of its issuer. Keynes lost his argument for the bancor. U.S. negotiators insisted that the dollar anchor the system, which proved to be the fatal weakness of Bretton Woods. As issuer of the sovereign currency, the U.S. was obliged to—and did—run balance of payments deficits to inject liquidity into the system [67]. But as the "dollar overhang" mounted, fueled not only by U.S. spending on the war in Vietnam, but also by unregulated bank credit creation in the Euromarkets, the likelihood of a "bank run" in which countries with dollar holdings rushed to exchange them for gold at \$35 per ounce increased: the "Triffin Dilemma" [102]. This prospect, along with a U.S. trade deficit indicating

declining U.S. competitiveness, led President Nixon to "close the gold window" in 1971 and devalue the dollar. The fixed exchange rate system went into a coma; it officially died two years later.

While neoliberals claimed that unruly trade union workers were responsible for the U.S.'s declining competitiveness, Harvard economist Michael Porter has suggested that the decline in corporate profitability (and the trade deficits that led the U.S. to devalue the dollar) can attributed not to "excessive demands" on the part of labor, but to the inadequacies of U.S. Cold War industrial policy, with its focus on military rather than civilian production [2] p. 34. Additionally, there is no doubt that U.S.'s costly war in Vietnam played a large role in generating the inflation that helped to bring the Bretton Woods system down. Bordo summarizes: "Bretton Woods was short-lived, undone by both flaws in its basic structure and the unwillingness of key sovereign members to follow its rules" [102]. A Bretton Woods Take Two, built along the lines that Keynes originally envisioned, would address both problems. It would be anchored to an international currency rather than the dollar or any other national currency; capital controls would be implemented cooperatively, "on both ends"; and it would include a method to deal with trade imbalances by penalizing both surplus and deficit countries, rather than just deficit countries, as the IMF does now.

The kind of historical conjuncture that might offer a "Bretton Woods moment" may not occur right away, although such a possibility—another financial crisis, or the fall of the dollar from its key currency status [103]—cannot be ruled out, even in the near term. Meanwhile, countries can apply capital controls on a national basis. In the mid-1990s, Crotty and Epstein argued that the US should do exactly that, "given that the costs of maintaining the present neoliberal regime are absolutely astronomical" [104]p. 121. Pending a Bretton Woods moment, national capital controls could begin the process of restoring states' policy autonomy, and should be considered to support initiatives like the proposed Green New Deal. Streeck [36] p. 24 points out that at the end of World War II, "capitalism had found itself on the defensive . . . it had to make efforts to extend and renew its social franchise". The original Bretton Woods agreement was made by the representatives of a capitalism "on the defensive". Neoliberal capitalism is not at that point—yet—but about 40% of Americans now favor some (unspecified) form of "socialism" [105]—a political phenomenon that has not been seen in the U.S. for generations. The sentiments that motivated the "Occupy Wall Street" protests and occupations of 2011 have not disappeared; a vigorous climate justice movement and dozens of local protests against fossil fuel infrastructure, in which participants have willingly risked arrest, have emerged. A constituency for a "counter hegemony" of sufficiency, sustainability, and social justice, with new expectations of government and new understandings of the relationship between private interests and the public good, appears to be taking shape, and is vigorously contesting the neoliberal/corporate leadership for control over the direction of one of the two major U.S. political parties.

While no major political figure has thus far advocated capital controls or a new Bretton Woods as the political/economic platform for a Green New Deal, several of the Democratic Party's presidential candidates do support a financial transactions tax, an acknowledgement of the need to reduce the damage caused by speculative financial capital and to increase productive investment. Steinberg and Nelson, using Argentina as their main example, find from their research that "it is necessary to revisit the assumption that capital controls are always a low-salience issue for average citizens". Voters do pay attention to such issues when there is a clear connection to their economic interests [106]. Thus, although climate justice advocates may not yet know exactly what they mean when they chant "System change, not climate change", it is not unreasonable to think that they can grasp the importance of creating sturdy political economic underpinnings for a Green New Deal. How high the stakes are, they already know.

Funding: This research received no external funding.

Conflicts of Interest: The author declares no conflict of interest.

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