



Weathering the Crisis

Oil, Financialization, and Socio-Ecological Turbulence since the 1970s

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Abstract

This article unpacks the relational nexus between financialization and energy—in this case oil—that shaped the 1970s world-economic crisis and that is again central in the convergence between climate change and accumulation crises. Focusing on these critical moments when profitable opportunities for capital narrow and the world-system enters a period of turbulence, I explain the ways in which energy and finance have been central in crisis formation and, in turn, in capitalists' search for ways out of crises. Starting with a discussion of the 1970s global conjuncture, I explain the role of the "energy crisis" in the first general recession of post-World War II era. I show how the oil price hike of the early 1970s—which compounded the core's accumulation crisis while also representing a challenge to unequal trade by dramatically revaluing a key global South export—was channeled into fuel for global North financial accumulation via petrodollar recycling and global South debt. Building on this history, I provide a brief examination of this nexus between finance and energy in the ongoing climate crisis. Today the global capitalist class profits from continuing fossil-fueled accumulation and, increasingly, from the grafting of financial instruments onto socio-ecological disruptions.

Keywords: Financialization, Oil, Petrodollars, Crisis, World-System, World-Ecology



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In the aftermath of the Great Recession, critical scholarship on capitalist crises began to focus on unpacking the nature and causes of recent financial slumps. Important works in political economy refer in one way or another to the 1970s recession in the global North, seeing it as a turning point toward the accumulation patterns of the neoliberal era (Duménil and Lévy 2004a; Harvey 2005, 2010; Brenner 2006; Krippner 2011; McNally 2011). Generally speaking, these accounts show that the successful capitalist response to the 1970s problems included the dismantling of the Bretton Woods monetary regime, the lowering of taxes on business and the wealthy, an attack on workers' wages and organizational power, a liberalization of trade and financial flows, the overall financialization of accumulation, and the globalization of production. These various changes constituted the neoliberal accumulation regime that produced recurrent financial crises in the 1990s and 2000s, culminating with the Great Recession (Harvey 2010; McNally 2011).

This paper is akin to this political economy approach in that I also treat the 1970s as a turning point. However, I revisit the 1970s conjuncture from a different angle in order to address two dynamics that remain absent in recent works in the political economy of crisis. First, a detailed analysis of the 1970s conjuncture as a *world-systemic* crisis is mostly absent in well-known accounts because the crisis tends to be examined only in terms of a slowdown in accumulation across the global North (e.g., Shaikh 1999; Duménil and Lévy 2004a; Brenner 2006; Harvey 2010). Instead, I provide a world historical perspective inspired by classic examinations of the capitalist world-economy (Wallerstein 1974, 1995; Arrighi 1994) and more recent discussions of capitalism as a world-ecology (Moore 2010a, 2015). Here the 1970s crisis of core capitalism, then, is reframed as the 1970s *global* crisis. In this perspective, the profitability decline that began in the core in the late 1960s is dialectically linked to the oil price revolution of the 1970s and the Third World/Socialist East debt crisis of the 1980s.¹ This reframing, moreover, helps in tackling a second problem. While current scholarship has been effective in connecting the aftermath of the 1970s conjuncture to recent *financial* crises, the same cannot be said for the ways in which the capitalist response to the 1970s crisis set the stage for the dominance of financial approaches to *socio-ecological* crisis. Thus, instead of looking back to the 1970s in order to uncover the roots of the 2008 financial crisis, I revisit the seventies global conjuncture in order to understand, first, the role of nature in crisis formation and, second, how the rise of finance has for the most part deterred alternative approaches that were more conducive to global sustainability and ecological justice. In other words, by highlighting the role of energy in the 1970s and in the present crisis, I show the dialectical way in which these accumulation crises have been “world-ecological crises” (Moore 2010a, 2015).

In the first two sections, then, I revisit the 1970s conjuncture to show the unplanned and contingent ways in which core states and core capital weathered the first accumulation crisis of the post-World War II era. The crisis emerged from the contradictions of global North accumulation when inter-capitalist competition—in the context of input cost pressures—led to increasing trade

¹ Of course, world-systems scholars have put forward this type of global perspective on the 1970s crisis (see, for example, Amin et al. 1982; Arrighi 1994). Nonetheless, the second problem pointed out above is not sufficiently addressed in these classic—and still relevant—accounts.

imbalances and, ultimately, to the collapse of the Bretton Woods monetary regime. The oil price increases of that decade added tension by undermining one of the foundations of global North accumulation: cheap energy. The brief oil price revolution that resulted in part from the Organization of Petroleum Exporting Countries' (OPEC) efforts, then, represented a challenge to longstanding patterns of unequal ecological exchange whereby global North accumulation was subsidized by low-cost global South resources. Managing this challenge evolved into a globalization of contradictions: simultaneously kickstarting a process of financing debt-led growth in the semi-peripheral zone and redirecting the dominant accumulation regime into a finance-led one (Arrighi 1994; Krippner 2011; Soener 2022). Furthermore, in the second section I show how this finance-led resolution to the accumulation crisis ultimately entailed a transfer of the costs of adjustment to global South economies and ecologies—reproducing unequal exchange via debt-servicing (Martinez-Alier 1997). In the third section, I argue that global South development was not the only casualty of the contemporary rise of finance. The rise of finance successfully coopted and channeled the environmentalist momentum created by the crisis into reformist and market-friendly discourses. In addition to weathering the crisis of core accumulation via the combined moments of the recycling of OPEC petrodollars and the liberalization of credit, the contemporary financial expansion *deepened* the links between accumulation dynamics and fossil fuels (Wellum 2020; Hanieh 2021b).² Building on this history I examine the ways in which this nexus is manifested in the ongoing climate crisis. Today finance capital is looking for a profitable way out of the ongoing crisis rather than addressing the underlying fossil-fueled accumulation system that produces climate change. All in all, financialization—in the 1970s and today—emerges as a crisis management strategy that externalizes the costs of adjustment while impeding genuine climate stabilization.

Onset: Profits and Oil in the Dynamics of Global Crisis

Accumulation Crises and the End of the Gold-Dollar Standard

The 1970s was a decade of crisis for the United States and various advanced capitalist economies. Two highly symbolic moments were the American defeat in Vietnam and the so-called first oil shock of 1973. In the first case, highly organized and committed fighters from a peripheral country were able to defeat—after an incredible human cost and environmental toll—the most advanced military force in the world. As for the oil price hike, a number of Arab oil states were now seen as yielding their so-called oil weapon and leading the world into—as Henry Kissinger put it at the time—a situation “in which tiny, poor, and weak nations can hold up for ransom some of the industrialized world” (quoted in Sargent 2010: 49). Then came the historic 1974–1975 recession, the first general economic slump of the post-World War II era (Mandel 1978). These moments—

² Throughout the paper the term “petrodollars” will be used to refer to U.S. dollars used by oil-importing countries to pay for oil imports—mostly from OPEC and other key non-core economies (the USSR and Mexico, for example).

together with the 1968 uprisings and the implosion of the Nixon administration—marked the beginning of the end of American hegemony in the world-system (Wallerstein 2006).

From a political economy perspective, the creeping crisis that exploded in the 1970s first emerged in the late 1960s across the core economies. It was at first a profitability crisis that ultimately led to increases in unemployment and lower economic growth (Mandel 1978; Shaikh 1999; Duménil and Lévy 2004a; Brenner 2006; McNally 2011). The decline of American manufacturing competitiveness was ground zero for this crisis and the end of the dollar's convertibility to gold the first step in the transition to global financialization (Vasudevan 2009b). As the generalization of Fordist manufacturing in the global North was consolidated in the early post-World War II era, this spread of advanced manufacturing itself triggered the trends that unmade the U.S.-led material expansion of the 1950s and 1960s (Arrighi 1994). The new regime of accumulation based on capital-intensive growth and rising wages started to unravel under the combined effects of international competition in manufacturing goods and rising capital-labor and rising capital-output ratios (Shaikh 1999; Duménil and Lévy 2004a; Brenner 2006). These processes depressed profitability and set the stage for the global crisis.

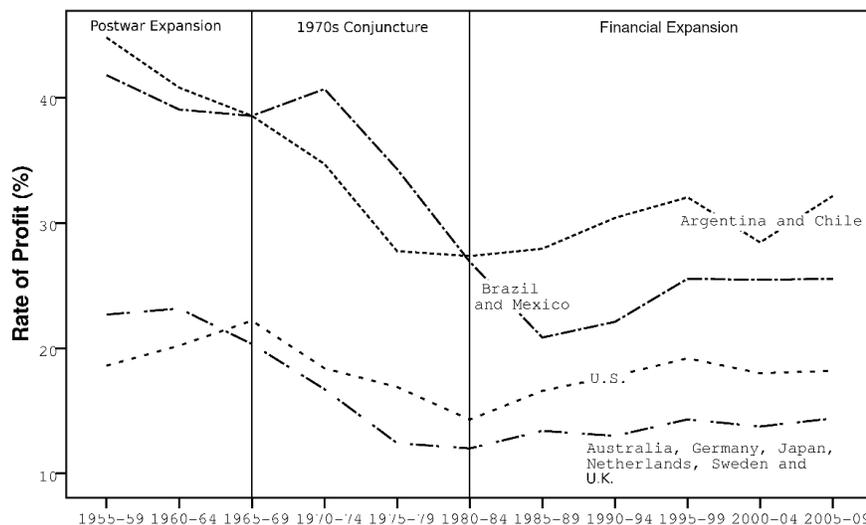
In this context, an initial step in the transition to financialization—one that would be cemented as the 1970s global conjuncture placed oil prices in the center of the crisis—was the intertwined dynamic of declining U.S. trade competitiveness and the end of the U.S. dollar's convertibility to gold. The monetary regime built at Bretton Woods during the tail end of World War II had functioned as the monetary counterpart to the global trade and financial arrangements that underpinned the postwar expansion. By the 1960s, as American trade competitiveness and manufacturing profitability continued to fall under pressure created by Japanese and Western European exports, the gold-dollar standard became increasingly inviable. U.S. gold reserves that officially backed the value of the dollar (at US\$35 per gold ounce) could no longer support the claims on American reserves represented by the combined trade surpluses of various competitors (Landsberg 1975: 72). This was the monetary manifestation of the growing tensions in international trade that resulted—in August 1971—in Nixon's decision to end dollar convertibility to gold (Landsberg 1975; Parboni 1986).

This dynamic of accumulation crisis and monetary regime collapse had taken place before but with different results. In fact, the 1931 suspension of the gold-sterling standard associated with British trade and financial power marked an important moment in the ultimate collapse of British hegemony in world capitalism (Arrighi 1994; Vasudevan 2009b). However, as Vasudevan (2009b) reminds us, the end of the gold-dollar standard did something different: it actually reinforced American financial hegemony by transforming the dollar into a fiat version of what Marx (1976) called "world money," a globally recognized means of payment and representation of social wealth. As we will see in more detail below, this centrality of the dollar was reinforced by the oil price revolution of the early 1970s. The floating dollar became *de facto* world money especially when oil exporters, holders of the world's most valuable natural resource, accepted it as means of international payment over the alternative of, for example, accepting Western European currencies (Landsberg 1975). Adding to ongoing trade tensions, changing oil prices had created further

imbalances in the early 1970s, a sign of the collective power of oil-exporting states to shape global trade. In this context, it is significant that oil exporters accumulated capital in dollars even when its eventual convertibility to commodity money (gold) was openly rejected by the American state itself. Moreover, while this newly floating dollar regime made the U.S. economy more vulnerable to exchange rate devaluations vis-à-vis other currencies, it also facilitated financial accumulation as dollars became more easily produced, both by U.S. government channels seeking ways to finance recurrent American deficits *and* by private financial institutions engaged in credit creation (Arrighi 1994; Vasudevan 2009a, 2009b). As we will see shortly, then, the role of the energy price hike was that of deepening this transformation already in motion.

Lastly, one must note that while most accounts focus on the onset of the 1970s crisis in the global North, estimates of profit rates in other regions suggest that declining profitability was a more general phenomenon (see Figure 1). Rates of profit trended downward in both core economies and in some of the most industrialized countries of semi-peripheral zone of the world-system. Considering the fact that socio-economic and political variations across the semi-periphery and periphery have always been larger than variations across the core, one cannot have a general account—similar to the one described above—of the creeping accumulation crisis in the global South.

Figure 1. Profit Rate Trajectory in Select Countries



Source: Author's own elaboration with data from Maito (2013).³

In any case, the important thing to note here is that a creeping crisis was brewing also in the most developed areas of the global South even before the oil price increase of the 1970s that led

³ To make the trajectories easier to appreciate, I combined some countries' data to reduce the number of lines. So, the line representing "Brazil and Mexico" is the simple average of the two countries' profit rates. The same is true for the other two groupings of countries. In all cases, I combined countries that occupy similar positions in the world-system.

to massive global South debt and, ultimately, to the 1980s debt crisis. Nonetheless, even with profitability trends going down, the prospects for the most industrialized semi-peripheral states seemed to get better rather than worse during the 1970s. The initial and somewhat improvised ways in which core states and global North capital weathered the oil price hike turned out to be beneficial—in the short-term—for developmentalism. For a time capital, in the form of FDI and financial capital, increasingly flowed in the direction of the semi-periphery where profitability rates were downward trending, but *higher* than in the core. In time, however, the managing of the crisis via various forms of petrodollar recycling and later by the removal of interest rates controls in the United States set the stage for the debt crisis and, relatedly, the revival of profitability in the North via financial accumulation. Between the two moments—the onset of the 1960s accumulation crisis and the end of developmentalism during the 1980s debt crisis—there was the well-know “oil shock” that plays an important role in connecting these two moments together.

Unequal Exchange and the Political Ecology of the Oil Price Revolution

As Vitalis (2020) notes disapprovingly, the “oil crisis” of 1973 is usually explained as being caused by Arab oil exporters finally using their “oil weapon” against the importing West by introducing a price shock into these economies. The announced oil embargo of October 1973 would reduce oil supply to select advanced capitalist countries by 5 percent per month until Israeli forces withdrew from recently occupied Arab lands. In fact, the notion of an “energy crisis” caused by this embargo has functioned as one element—usually in the background—in accounts of the first general economic crisis of the post-World War II global order (Harvey 2005; Duménil and Lévy 2004a). This long-standing role is now questioned. Recently, scholars of oil have argued that the so-called oil shock of late 1973 was the “crisis that never happened” (Mitchell 2011: 173), the term “crisis” being an exaggeration when referring to an embargo that never achieved its intended goals (see also Adelman 1995; Vitalis 2020). These revisions are right in that the embargo was mostly ineffective and that it was not the driver of the price increase. Nonetheless, they mostly miss the main point made by political economists: regardless of its cause, the oil price hike compounded the ongoing accumulation crisis since it put further downward pressure on declining profit rates (Mandel 1978; Bina 1985; Ortiz 2020a). It did so by increasing the cost of circulating capital and contributing to overall price inflation. While the embargo’s significance was short-lived, oil—in its contradictory role as both principal circulating capital input in world accumulation and source rent for oil exporting states—was moving to the center stage of the 1970s configuration. Especially in its role as a source of international rent, oil price increases represented a temporary success for oil states’ attempts to reshape the dynamic of unequal trade. This turn of events, however, also fueled the ongoing financialization of the world-economy by injecting billions of newly floating dollars into the emerging Eurodollar market and thus accelerating the expansion of international

credit (Arrighi 1994; Vasudevan 2009a).⁴ This new role was a result of the extraordinary rise of oil prices in the early 1970s.

Since the 1960s there were *two* forces pushing oil prices upward—even if market prices still did not reflect these tendencies. First, American oil saw the convergence between decline in the productivity of the sector and rising oil consumption increasingly met by imports from OPEC states.⁵ In political ecology terms, the U.S. oil industry in the late 1960s and early 1970s was experiencing what Moore (2010a) calls a “rising capitalization of nature” as increasing investments into a sector that was already developed and in productivity decline made the appropriation of nature’s work costlier. U.S. oil production was relying more and more on further development of *old* fields already incorporated into the circuit of capital. The rate of discovery of new fields was in decline. While capital costs related to exploration and discovery of new sources of oil were rising in 1970–1974 by 8 percent; development costs, associated with maximization of recovery from old fields (i.e., investments in already capitalized nature), were rising in larger proportions. Between 1971 and 1974 development costs per barrel increased by 261 percent (Bina 1985). The growth of development costs surpassed that of exploration costs (exploration being the mechanism to unleash cheap under-capitalized oil from new fields). Development costs, then, can be seen as the main driver of capitalization of nature in the sector and thus of the upward trend in the cost of American crude. As Moore’s (2010a, 2015) works show, moreover, capitalist expansions have always been rooted in sufficient supplies of cheap food, cheap raw materials, and low-cost energy in order to maximize the extraction of surplus value from workers and secure long-rung profitability. The increase in oil production costs, then, would depress overall profits by contributing to the undermining of cheap inputs throughout the economy—especially in a global North context where growth was now fueled and fed by petroleum-derived commodities (Huber 2013; Ortiz 2020a; Hanieh 2021a).

The stagnation of American oil output and the corresponding disappearance of cheap oil in U.S. production could have been compensated by imported low-cost OPEC oil. But that did not happen because a second pressure was at play here: oil-exporting nations’ historic push for higher crude oil prices (Mommer 2002; Dietrich 2017). The post-World War II economic expansion across the global North had been built on the basis of cheap oil. As the boom unfolded, moreover,

⁴ The Eurodollar market emerged out of U.S. economic leadership. During the late 1950s and early 1960s, London-based banks began to draw on dollar deposits to conduct financial deals in Europe; for example, dollars from U.S. foreign investments in Europe or U.S. military assistance, among others. By the 1970s, banks working in the Eurodollar market accepted dollar deposits and invested or lent in dollars. This was a dollar banking system, outside the reach of U.S. regulations, where petrodollars were placed. As Landsberg (1976) explained, “while the monetary expansion in the U.S. is controlled by the Federal Reserve System, there is no comparable authority in the Euromarket. As a result, there is no lender of last resort[.] There are also no reserve requirements, which technically means that every \$1 of deposits can be multiplied endlessly” (Landsberg 1976: 47). This made possible the explosion in international credit that took place after part of OPEC surpluses was placed in the Eurodollar market (Arrighi 1994; Vasudevan 2009a).

⁵ Twentieth century U.S. oil output peaked in 1970 and then experienced a long decline that was reversed only in the late 2000s. According to the U.S. Energy Information Administration (2022), moreover, U.S. imports of OPEC oil peaked in the 1970s, reaching 85 percent of all crude oil imports in 1977.

consumption of global South oil by Northern economies reached historic levels. This importance, however, was not reflected in rising prices. Between 1945 and 1972, crude oil prices averaged around US\$15 per barrel and the price trend during this period was downward.⁶ While in the long-run oil has been an exception to the tendency for primary commodity prices to decline (Erten and Ocampo 2012), during the post-World War II era its trend was in line with unequal trade and unequal exchange arguments (Galeano 1973; Amin 1976).

Critics of international capitalist trade argued that core economies benefited from the simultaneous undervaluation and exploitation of peripheral resources—especially labor-power. While classical trade theory suggested that trade maximized total output when done according to comparative advantage (each country specializing on the commodity for which it had the lower opportunity cost), unequal exchange analyses suggested that output maximization via specialization was ultimately detrimental for the underdeveloped countries. More often than not, free trade implied the peripheral country's specialization in the least dynamic sectors, especially the more labor-intensive and natural resource-dependent ones (Amin 1976). In addition to this, peripheral countries suffered hidden drains of value because of the lower wages and higher exploitation embodied in their exported commodities, ultimately leading to part of the surplus value produced by peripheral workers being appropriated by core capital (Emmanuel 1972; Amin 1976). While classic analyses of unequal exchange focused on hidden transfers of value rooted on unequal rates of exploitation of labor, oil price trends suggest an undervaluation of Third World energy sources that constituted an additional drain of value from South to North—what contemporary scholars conceptualize as unequal *ecological* exchange (Roberts and Parks 2007a; Frey, Gellert, and Dahms 2019).

In this ecology of imperialism, the United States and other core economies received a larger *quantum* of materials, dramatically expanding their use of world circulating capital, with less capital outlays relative to the outlays required by other conditions of production. During the post-World War II years, both labor and fixed capital became increasingly costly—relative to the value of output—across the leading core economies (Duménil and Levy 2004a). In light of this, the postwar expansion received a massive Third World subsidy under the form of cheap energy (Sunkel and Tomassini 1980). Oil state elites were increasingly aware that these declining oil prices in light of the historic expansion in oil consumption—especially in oil-importing core economies—constituted a clear case of unequal exchange (Dietrich 2017). While not expressed in these terms, the historic price increase of the early 1970s represented a state-led rebellion by nationalist elites in key oil-exporting countries to decades of unequal ecological exchange. It was a challenge rooted in the notion, expressed by one OPEC advisor in 1963, that oil nations “were not so much underdeveloped as *underpaid* nations” (Dietrich 2017: 122, italics added).

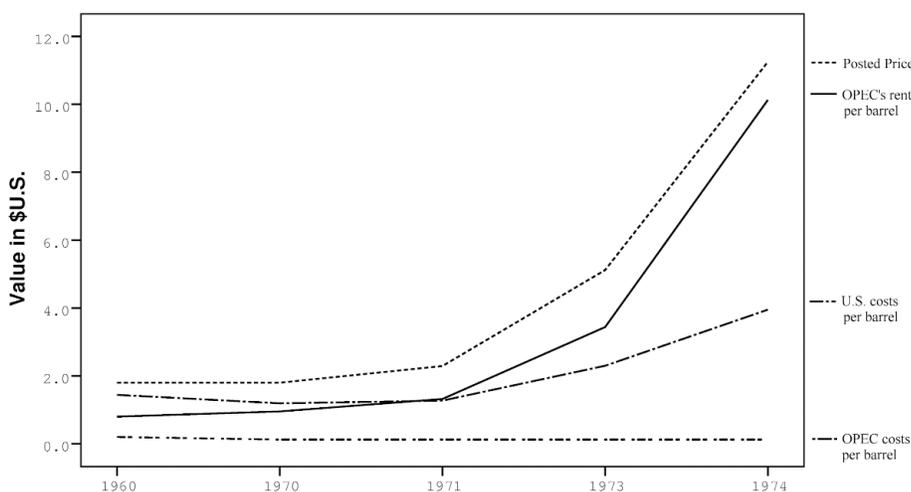
Oil states' efforts to increase payments received in exchange from their natural resource acquired more urgency in the early 1970s since world oil prices were declining while the U.S.

⁶ Author's calculation with data from British Petroleum (2018). The average price noted above is in 2017 U.S. dollars. In current dollars the average price for that period was US\$1.72.

dollar—the new world money—was losing value vis-à-vis other currencies. Ultimately, OPEC's power was expressed not in its capacity to cut global oil supply per se nor in any structural attempt to dismantle the structures of unequal exchange via the creation of a post-capitalist trading system.⁷ Rather, OPEC's power was expressed in its capacity to command higher oil prices via its taxation of foreign oil companies on the bases of tax reference prices that were higher than world market prices at the time (Coronil 1997; Mommer 2002). In order to pay the new taxes—and the new oil rent implied in these taxes—actual market prices had to adjust upward, as they did.

One can see this concatenation of events reflected in numbers in Figure 2. OPEC rents per barrel and U.S. production costs per barrel both increased in the early 1970s. The new oil rent established a price level that reflected both the increase in American production costs and the political success of OPEC states. Ultimately, the brief oil price revolution of the early 1970s reflected the contradictory processes at work in global oil production and in the protracted struggles over who would benefit from oil revenues.⁸

Figure 2. Oil Costs, Rents and Posted Prices, 1960–1974



Source: Author's own elaboration with data from Mommer (2002) and Bina (1985).

While the accumulation crisis in the core states was already unfolding since the 1960s, the oil price increase that made possible the higher rents corresponded with an intensification and globalization of this process. This effect of rising energy costs on profits was quickly joined by a more general effect on overall price inflation, especially in the United States. Moreover, as noted above, dramatically rising oil prices paradoxically reinforced both the unviability of the Bretton Woods

⁷ The ideas and projects that led to the 1970s oil revolution focused more on revaluing global South natural resources and empowering post-colonial states within the structures of the world-system (thus targeting the declining terms of trade for primary commodities) than on any radical anti-systemic project looking toward decommodification (Mommer 2002; Dietrich 2017).

⁸ By the late 1970s most oil industries in the global South would be nationalized but OPEC's capacity for collective action would decline significantly (Adelman 1995; Mommer 2002).

monetary regime and, because of OPEC's preference for dollars (Landsberg 1975), the U.S. currency's new role as *de facto* world money.

After years of competitive pressures on the trade front, the U.S. government recognized the unviability of supporting dollar convertibility. Soon after, OPEC's dollar denominated rents injected billions into an emerging capital market (the so-called Eurodollar market) organized by Northern banks and gravitating around the American currency. While the "price shock" did represent a challenge to the undervaluation of global South nature, OPEC states' deposits of their new surpluses in core institutions transformed this challenge into fuel for dollar hegemony and for global North financial intermediation and accumulation (Arrighi 1994; Spiro 1999; Vasudevan 2009a, 2009b). In short order, the combined processes of recycling of OPEC oil rents via Northern banks and the U.S. government's fight against inflation converged in paving the road for financialization. By the 1980s, the intertwined processes of financialization, rising interest rates and, ultimately, a global South debt crisis fed global North accumulation while Third World debt-servicing added an additional layer to the structures of unequal trade. Before this reversal took place, however, there was a petrodollar boom that initially boosted the prospects of a number of semi-peripheral economies.

Aftershocks: Petrodollar Boom, Developmentalist Peak, and Rise of Finance

Core Crisis and Developmentalist Challenge

The results of the intertwined rise in petroleum prices and oil rents were various and complex. Here I emphasize the new global configuration that emerged on the basis of the joining of the global North accumulation crisis and the oil price revolution. This configuration was composed of three interrelated trajectories linked in one way or another by oil rents and their recycling. First, there was the trade tension among core states, examined above, that ultimately led to the end of the Bretton Woods regime and to an incipient credit expansion based on the international circulation of dollars. Second, there was OPEC's emergence as an important exporter of capital by investing their petrodollar earnings in various ventures, from government securities to FDI to deposits in Eurodollar markets (Landsberg 1976; Ominami and Hausmann 1985; Spiro 1999). Third, there was the set of semi-peripheral states that seemed to be benefiting in some cases from the oil price hike or, in most cases, from the recycling of oil rents as loans. This emergence of semi-peripheral industrializers as success stories in the 1970s was made up by two distinct groups. On the one hand, "late industrializers" such as Brazil, Mexico, and South Korea constituted one group. On the other hand, there were the Eastern European socialist states, but mainly the USSR, that ultimately collapsed under internal and external pressures (Kagarlitsky 2007).

For semi-peripheral states—both in the capitalist and socialist worlds—the configuration of accumulation crisis in the core *and* new availability of credit via the recycling of oil rents created a new opportunity for debt-led export-oriented growth. This "developmentalist illusion," as Arrighi (1990) called it, appeared to be further supported by the fact that the key sector of twentieth century capitalist development, manufacturing, was growing faster in key semi-peripheral states

(see Table 1). With the important exception of Japan, most core economies saw their manufacturing growth rates decline below leading late industrializers during the periods before and after the 1973 oil price hike. In fact, during the 1970s the semi-peripheral economies overtook the core in terms of overall degree of industrialization, at least when this is measured by the contribution of manufacturing to gross domestic product (GDP) (Arrighi 1990).

Table 1. Select Manufacturing Growth Rates⁹

	1965–1973	1973–1984	1980–1990
United States	2.9	1.40	3.8
Germany	5.3	1.9	0.9
Japan	14.4	7.20	5.3
Other Core Countries	4.5	.5	3.3
Brazil	11.2	4.9	2.2
Mexico	9.9	5.0	0.7
USSR	6.9	5.3	–

Source: U.S. Central Intelligence Agency (1982), World Bank (1983, 1986, 1991, 1992).¹⁰

As I noted regarding Figure 1, rates of profit were falling in both in the global North and in some of the most industrialized—or most developed—countries of the global South. The profitability decline, however, was critical in the North. Its profits were declining from already comparatively lower levels. The developmentalist states of the semi-periphery, in contrast, had already significant levels of industrialization and they had cheaper labor. This combination meant that rates of profit in the semi-periphery, though in decline, were high in comparison to the United States, Western Europe, and Japan. Thus, what at that time were leading manufacturing industries—for example, the auto industry—increasingly centered on the semi-periphery and capital in the form of loans (recycled petrodollars) and direct investment followed it there (Lipietz 1987; Silver 2003).

⁹ The “other core countries” is composed here of the simple average of Australia, the Netherlands, Sweden, and the UK. The Netherlands, however, is not included in the third column’s growth rate.

¹⁰ Growth rates for the 1965–1973 and 1973–1984 periods is from World Bank (1986) while the data for the 1980–1989 period is from World Bank (1992). U.S. data in the third column refers to the 1980–1989 period and is from World Bank (1991). The data for the Netherlands used in the two first columns is for 1960–1970 and 1970–1978 (World Bank 1983). Growth rate data for the USSR is for 1966–1970 and 1976–1980, and is from the U.S. Central Intelligence Agency (1982: 55). USSR data refers to the “machinery” sub-category of “industry.”

Petrodollar-Fueled Boom in the Semi-Periphery

Petrodollar recycling fueled this configuration while providing part of the impetus for financialization. Between 1973 and 1982, OPEC accumulated a surplus of around 500 billion U.S. dollars (Spiro 1999). While there is no consensus with respect to the exact quantity of OPEC deposits recycled by private banking, the significance of petrodollar recycling lies elsewhere.¹¹ The boom in credits rested not only on real inflow of petrodollars into global North banks—mostly in Europe, including European branches of U.S. banks—but also in the capacity of banks to multiply these deposits of was rapidly becoming a *de facto* universal currency. These newly floating dollars were deposited in offshore banks, thus escaping U.S. regulatory mechanisms and reserve requirements (Landsberg 1976). Considering this, petrodollars could be “lent, multiplied and re-lent” (Lipietz 1987: 159) through emerging financialization in the Eurodollar market (see also Landsberg 1976; Arrighi 1994). All in all, growth in the 1970s was underwritten in some way or another by petrodollar recycling (rent-derived debts for, for example, Argentina, Brazil, and Mexico) or petrodollar windfalls (export earnings for Iran and the USSR, but also Venezuela and, later, Mexico).

From a political ecology perspective, petrodollars created a finance-nature nexus where global South nature became an underwriter of semi-peripheral growth—in both manufacturing and GDP per capita. It was *as if* the massive subsidy that unequal exchange in energy had constituted for core development was partially redirected to select semi-peripheral economies. This redirection, however, was contradictory since it was mostly denominated in dollars and dominated by core finance. It thus contributed to unequal trade in manufacturing goods by propelling semi-peripheral export growth on the basis of foreign debt and low wages (Ominami and Hausmann 1985; Lipietz 1987). In this context, nonetheless, industrializing states engaged in massive investment programs targeting economic restructuring. In Brazil, after the negative effects of 1973’s oil price hike, the military dictatorship introduced a massive plan—financed by loans derived from petrodollar recycling (Carneiro 2004)—for investments in infrastructure and intermediate industries (Castro and Souza 1985). The dictatorship was ultimately unsuccessful in maintaining its authoritarian developmentalism; although in various categories of intermediate goods, state-led investments did produce significant expansion in the 1970s (Carneiro 2004). Following the trend of semi-peripheral manufacturing rise, Mexican Fordist industries expanded significantly in the 1970s (Carrillo and García 1987). Notwithstanding the 1976 recession, moreover, Mexico joined in the 1970s petrodollar boom as an exporter of oil. By 1979, President López Portillo declared that Mexico’s problem was now “the management of abundance” (Bazdresch and Levy 1991: 249).

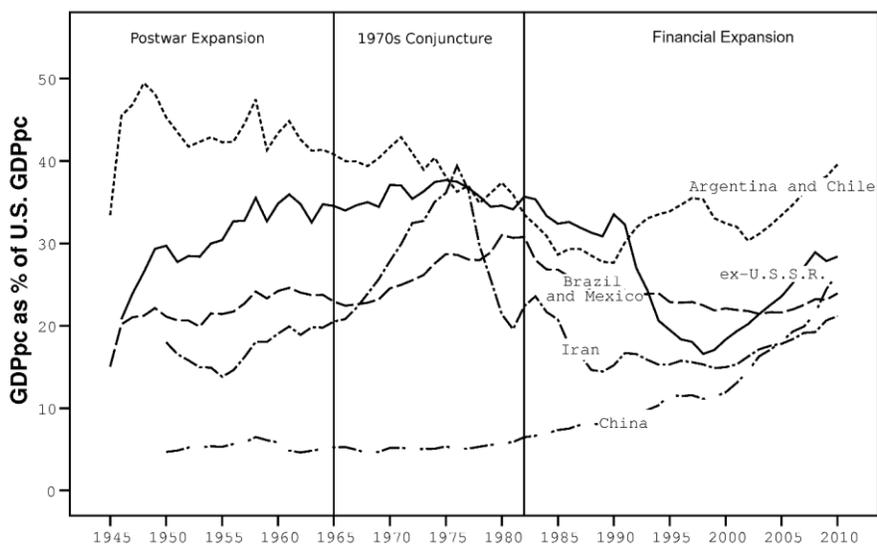
The rise in economic prospects was not exclusive to industrializing states. Oil-exporting economies, of course, saw their own prospects increase with the price hikes. Iran and Venezuela,

¹¹ Spiro (1999) has argued that the role of Eurodollar markets in recycling oil rents has been overstated. According to him, only 24 percent of the surplus was deposited in European and American banks. Mandel’s (1978) estimates refer to 1974 in the aftermath of the increase in oil prices. According to his data, 43 percent of the surplus was deposited in these banks, a number similar to that provided by Landsberg (1976).

for example, saw their oil export earnings balloon. In Iran, the value of oil exports in relation to total exports jumped from 85 percent in 1972 to 98 percent in 1978, while in Venezuela the share of oil in exports rose from 85 to 91 percent between 1972 and 1974 (Foran 1993; Salazar-Carrillo and West 2004). This direct gain from the petrodollar boom was particularly problematic for these oil states. The boom hid from view the structural distortions of oil-rentier economies. Oil rents created illusions of wealth and power similar to those that emerged in the industrializing semi-periphery. But oil states lacked the same level of manufacturing competitiveness and industrial diversification to fall back on during moments of collapsing oil prices (Ominami 1986; Foran 1993; Coronil 1997). During the early 1970s all these vulnerabilities were deemphasized as global North banks and core capitalist states worked to manage the crisis in a manner that proved either profitable (in the case of banks) or politically useful (in the case of states).

Even key socialist states joined this developmentalist illusion of comparative success amidst of core crisis. In the 1970s, the USSR and the Eastern Socialist states were increasingly tied to core capitalist states via energy exports and debt, exacerbating the weakness that existed in Soviet-type economies (Kagarlitsky 2007; Kotkin 2010). For decades, state socialism was able to muddle through even when the gap between what the vanguard promised and what it delivered became impossible to deny.

Figure 3. Comparative GDP per Capita Trajectories



Source: Author's elaboration with data from Bolt and van Zanden (2014).

In this context, for the USSR in particular, the petrodollar-fueled era represented both a period of stability and consumption growth paid by debt and energy exports and the moment when Soviet achievements began to finally fall apart (Hobsbawm 1996; Derluigian 2005). This Soviet petrodollar boom, then, was part of a general semi-peripheral rising tide that began with the first oil price increase of 1973 and ended at some point between the Mexican default of 1982 and the collapse of Eastern European state socialism. One rough indicator of the overall semi-peripheral

challenge is the comparative trajectory of GDP per capita levels (see Figure 3). In the 70 year period between the 1940s and the 2010s, the 1970s represents the conjuncture when countries like Brazil, Iran, Mexico, and the USSR attained the highest level of “catch-up development” with core capitalist states (measured here as their GDP per capita as percentage of the United States’ GDP per capita).¹² This conjuncture was characterized both by a decline in the economic performance of the core economies and continued growth in the most important states of the semi-periphery. Nonetheless, the foundations of this change in relative standings in the world-economy proved to be mostly temporary and reversible. As the semi-periphery continued to grow either on the basis of manufacturing output or energy exports, the unplanned—but not necessarily unexpected, given the cyclical historical tendency toward financial expansions (Arrighi 1994)—rise of finance led to a dramatic reversal of fortunes and to a new dominant accumulation strategy.¹³

Interest Rates Deregulation, Debt Crisis, and Financialization

Interest rates were at the core of the reversal of fortunes. The massive debt that emerged from petrodollar recycling made semi-peripheral and peripheral states vulnerable to the interest payments attached to those debts. In 1981, 50 percent of Third World debt was owed by Latin American countries, with Argentina, Brazil, and Mexico being the biggest debtors (Ominami 1986). The socialist states of Eastern Europe—which together with the large Latin American economies represented the largest economic share of the semi-peripheral zone—did not escape these trends. For example, in 1976 Bulgaria’s net debt to OECD countries represented 480 percent of its exports to these OECD countries. In the highly auto-centered USSR the debt to OECD countries surpassed the value of its exports at 117 percent, while Poland’s debt service represented 80 percent of its exports by 1979 (Mandel, 1978; Kotkin 2010).

As Lipietz (1984, 1987) showed, the so-called monetarist shock in the core, expressed in the rise of U.S. interest rates after 1979, choked this debt-led development (see also Duménil and Lévy 2004a). Figure 4 suggests that the notion of a monetarist choking of developmentalism is reasonable. During the 1970s conjuncture, in light of both the oil price hike and the rush to recycle oil earnings as loans, there was a net inflow of capital to the global South. By the early 1980s (vertical line in Figure 4), this flow was reversed as the extraordinary increase in interest rates made global South debt difficult to repay. The origins of this vulnerability to interest rate changes are to be found in the previous years when the floating U.S. dollar became *de facto* world money and the global North financial system cemented its centrality in world accumulation. This led to the creation of financial mechanisms that revolved around dollar deposits and which pegged the

¹² For Argentina and Chile the situation was different because they started from a higher base and experienced the neoliberal counterrevolution before most (Klein 2008). Because of this, they were “deindustrializing” during the 1970s and their comparative income level went into decline ahead of the rest. But the early 1970s did register a temporary reversal of the decline that led them into the nadir of the 1980s.

¹³ While the onset of financialization was to some extent an unplanned outcome of policy changes made in the 1970 and early 1980s, it was nonetheless quickly recognized by American policymakers who starting in the early 1980s saw it as part of their economic strategy (Krippner 2011).

interest on loans to the inter-bank rates that regulated borrowing among banks. In this context, the London Inter-Bank Offer Rate and the U.S. interest rate, in particular, emerged as the variables that regulated the flow of capitals in the 1970s (Griffith-Jones and Sunkel 1986; Ocampo 2013). While real interest rates in the United States were low—and at times negative—vulnerabilities were ignored. Capital massively flowed into the global South, especially to Latin America. The effect was that for a short period net transfers of global financial capital were positive for Latin America and a fraction of the global South (the period on the left side of the vertical line in Figure 4). In fueling world accumulation, cheap money substituted for the cheap energy that had disappeared after the first oil price hike. For a time, the industrializing and the rentier states of the semi-periphery saw their prospect rise.

Figure. 4 Real Interest Rates and Global South Net Transfers on External Debt¹⁴



Source: Author's elaboration with data from World Bank (2022a, 2022b).

The proximate cause of the global South debt crisis of the 1980s was the extraordinarily high interest rates that resulted from the United States' policy turn regarding interest rate regulation. Caught in the fight against domestic inflation, which at the time was blamed in part on high oil prices, American policymakers (under both the Carter and the Reagan administrations) kickstarted a process of domestic interest rate deregulation. This process entailed the dismantling of ceilings and controls on the amount of interest paid on various financial products. The guiding notion in the late 1970s and early 1980s was that the liberation of credit provision via the capacity to offer higher interest rates on various forms of deposits would curb inflation—via the movement of money back into investments and away from demand—and simultaneously alleviate the problem of capital scarcity that was theorized as another source of the economic slowdown (Krippner

¹⁴ The lines “World Bank’s ‘Developing Countries’” and “Latin America” refer to these grouping’s net transfers on total external debt. This indicator, in turns, refers to net lending (difference between disbursements received and principal repaid) minus interest payments made during the year. A negative ratio indicates a net transfer made by the borrower to the creditor.

2011). In this context, 1979–1980 constitutes a turning point, since both the elimination of interest rate controls and the monetarist experiment of controlling inflation via tightening the money supply converged in skyrocketing U.S. interest rates while also making cost of indebtedness for global South loans tied to those rates unbearable (Lipietz 1987; Ocampo 2013). This change made the competition for mobile capital costlier and thus excluded many competitors incapable to match what the United States—the issuer of world money—could do: compete for it at almost any price.

By the mid-1980s, when the initial monetarist orthodoxy led to a major recession in the United States, pure monetarism was abandoned (Lipietz 1984; Krippner 2011). But the so-called monetarist shock established a new interest rate regime and with it contributed to the cementing of financialization. While the Reagan administration abandoned the fiscal discipline advocated by the monetarists—including Paul Volcker—the higher interest rate regime became the new normal (Krippner 2011). The logic of short-circuited accumulation via interest-bearing capital—in Marx’s terms, $M-M'$ instead of $M-C-M'$ —became increasingly dominant. This turn of events redirected the flow of finance capital from the semi-periphery to the core states and provided impetus to the financial expansion (Arrighi 1994; Arrighi, Silver, and Brewer 2003; Krippner 2011; Soener 2022). This is implicit in Figure 4. Since the early 1980s, developing countries began transferring capital abroad in order to pay for the debts obtained in the 1970s. During and after the debt crisis, key semi-peripheral economies—for example, in Latin America and the former Soviet Union—suffered the imposition of an export-led model that focused on debt repayment and the transfer of financial capital abroad (Martinez-Alier 1997; Kagartlitsky 2007; Ocampo 2013). Latin America and the former Soviet Union had obtained dollar-denominated debts when rates were low and now had to radically restructure their economies under the pressure of debt-servicing, exporting labor-intensive products or natural resources under increasing downward pressure on domestic currencies, wages and public investment (Kagartlitsky 2007; Ocampo 2004). This new strategy entailed a reproduction of unequal exchange that undervalues local natural resources and transfers savings mainly to global North financial centers.

Of course, core economies and the financialized bourgeoisie benefited from this new redirection of capital from South to North. This larger redirection of capital flows cemented the United States’ role as the issuer of *de facto* world money while also transforming it into the leading recipient of global finance capital. In what is in hindsight a clever way of weathering its own crisis, the impromptu recycling of petrodollars by core states’ financial institutions and governments paved the road for global North finance’s new centrality in the world-economy, especially when higher interest rates redirected capital towards the states and institutions capable of competing on these new terms. Financialization thus transformed the brief challenge to undervaluation of global South energy represented by the oil price revolution into a new wave of global North financial accumulation via interest-bearing capital invested in the global South and in Eastern Europe. While states and peoples in these regions saw their fortunes plummet with the debt crisis, capitalists across both North and South, meanwhile, saw their profits recover—especially financial profits (Duménil and Levy 2004b; Durand 2017; Soener 2022). Via its financial dominance global North

capital weathered its accumulation crises by transferring the weight of adjustment onto semi-peripheral and peripheral economies and ecologies.¹⁵

A Deadly Symbiosis: Finance Capital and Climate Crisis

Developmentalism was not the only casualty of early financialization. Effective environmental policy was another. The 1970s oil crisis took place just as a new mainstreaming of environmental activism and of environmental policies emerged across core capitalist nations (Podobnik 2006; McNeill 2010). While it was admittedly dominated by neo-Malthusian ideology, the emerging global environmental consciousness of the 1970s had a salient role in debates about the “energy crisis.” Of course, the oil crisis had nothing to do with physical limits to growth. Nonetheless, its coincidence with a number of historic oil spills and with bourgeois concerns with conservation of resources made it a convenient point of entry for proposals that would deal with the crisis in an ecologically sustainable manner (McNeill 2010). This turn of events—combined with other concerns regarding nuclear energy, chemical-intensive industrial agriculture, and overall degradation of ecosystems, among others—produced a global wave of environmental activism and state-led environmental action between the late 1960s and the early 1970s (McNeill 2010; McNeill and Engelke 2014; Longhofer et al. 2016; Smith et al. 2018). One indicator of this wave was the doubling in the enactment of major environmental laws that took place in the global North between 1971 and 1975 (McNeill and Engelke 2014). On a more cultural and granular level, moreover, in places like the United States the crisis contributed to a revival of citizens’ interest in alternative, and potentially greener, forms of mass mobility: most significantly, masspublic transit and bicycles (Fiege 2012).¹⁶ In all instances, however, the transformations implied in the new activism and in the collective reconsideration of alternative forms of mobility were in direct contradiction to the emerging financial regime. Whether it was laws requiring careful environmental assessments of new mining and extraction projects or an increase in funding for alternatives mode of transportation, these alternatives implied economic planning, state regulations, and the use of other non-market mechanisms to replace (or combine the use of) oil and other fossil fuels with renewable sources.

By the end of the 1980s, however, and in line with the overall turn in economic policy, the environmentally minded approach to the 1970s energy crisis was defeated by the finance-led ideology that accompanied the neoliberal counterrevolution. This was part of a more general

¹⁵ This finance-led regime has been extended to global South economies. However, as Soener (2022) shows, just as in the core, Southern elites and large firms are the main beneficiaries of this process, especially of foreign financial inflows. This has given rise to what Soener calls a “financial comprador bourgeoisie.”

¹⁶ While the oil crisis was not the determining factor in this revival, it definitely contributed to it (Fiege 2012). After a postwar period when cheap oil and a state/corporate push for highway and road construction contributed to a declining interest in public transit and bicycles, funding for (and use of) public transit increased significantly in the early 1970s. In addition, the number bicycles sold in the United States almost doubled between 1971 and 1973 (Fiege 2012). There was also important new funding for bikeways—while it offered zero funding for these in 1972, the Federal Highway Act introduced US\$120 million for bikeways in 1973 (Fiege 2012: 394).

process of pacification of environmental protests. During the decades after 1970, international non-governmental organizations became more influential in determining the direction of national environmental policy than local organizations rooted in traditions of bottom-up mobilization (Longhofer et al. 2016). In some instances, moreover, global North and transnational non-governmental organizations shaped the trajectory of local movements. This influence contributed to the transformation of a number of important environmental organizations into bureaucratic organizations that coordinate with neoliberal states and who appeal to market discourse and technical expertise to make the case for environmental action (Alonso and Maciel 2010; Klein 2014). While this new institutionalization of environmental activism produced important reforms and protection of vulnerable ecologies, on the whole it was incorporated into the new pro-market ideology, needing to frame its arguments in terms of positive financial outcomes (Klein 2014; Elliot 2016). It is no coincidence that even after decades of environmental activism—from below and from above—most salient approaches to ecological crises either include financial mechanisms or are simply insufficient.

In sum, while the “energy crisis” contributed to a general sense that the current state of affairs is unsustainable in the long run, the approach offered by neoliberal financialization emerged dominant (Elliot 2016; Wellum 2020). As Wellum (2020) shows, neoliberal technocrats and powerful financial institutions shaped policy makers’ view that the crisis resided mainly in the inflationary effect of high oil prices and that this problem could be solved by creating an integrated financial market for oil. The victory of financial discourse was materialized in the successful centering of prices rather than environmental concerns in shaping states response to the crisis. In practice, this was reflected in the creation of a new oil futures markets that have taken over oil pricing and oil trade since the 1980s (Wellum 2020; see also Mitchell 2011). While oil prices declined because internal disorganization in OPEC and the simple expansion of oil production, however, oil futures markets were being celebrated as a successful response to the “energy crisis” (Wellum 2020).¹⁷ As the cost of oil, raw materials, and even of labor declined during the 1980s and up until the new century, the deepening financialization of the global North economies corresponded with a decades-long upswing in the rate of profit (Duménil and Levy 2004a; McNally 2011). A disastrous outcome materialized: capital accumulation prospects temporarily improved, oil prices declined reaching a nadir in the late 1990s, oil consumption increased, and carbon dioxide emissions grew non-stop. This is where the perverse aftermath of the 1970s conjuncture joins the ongoing climate crisis. The lessons in both cases—the 1970s oil crisis and the ongoing climate crisis—imply an understanding of how the general contradictions of historical capitalism intersect with specific crises. Although the sources of the crisis are different than in the 1970s, the current climate crisis implies declining productivity and profitability across many areas of the capitalist system (Moore 2015; Ortiz 2020a). Moreover, just as in the 1970s, financialization strategies still function as a response to a decline in profitability prospects. This is where the new

¹⁷ British Petroleum (2018) data shows that—after registering some decline in 1974–1975 and 1980–1983—world oil production has traced a mostly upward march since the mid-1980s.

expansion of accumulation through finance attains its fullest meaning: in light of the decline in accumulation prospects, those at the top engage more and more in financial coordination, intermediation, and ultimately appropriation than in accumulating through new production (Arrighi 1994; Krippner 2011; Durand 2017). Global North finance and its junior partners in the South weathered the 1970s slump via this finance-led strategy. Today, this process is being recreated in the context of the climate crisis.

The dominance of finance capital in the context of the climate crisis is particularly problematic now that capitalism, finance, and the fossil fuels industry are more intertwined than before. There is rigorous statistical evidence that key capitalist dynamics—for example, the rate of exploitation—are positively associated with carbon emissions (Soener 2019). And there is significant empirical evidence of the centrality of oil as a commodity traded in global financial markets and of a corresponding growth of investments made by financial institutions in oil markets (Labban 2010; Pollin and Heintz 2011; Wellum 2020; Hanieh 2021b). Durand highlights this convergence between capital, finance and fossil fuels when he notes that:

The contemporary accumulation of fictitious capital on the stock markets is closely connected to the addiction to fossil fuels. Current market trends show capital's projections for a future still based on carbon. Indeed, the hydrocarbon reserves claimed by the major oil companies very largely determine their valorization, because they constitute the basis for forecasting future profits. However, according to IPCC estimates, if we are to keep the temperature rise beneath the 2°C limit, then we will have to leave somewhere between two-thirds and four-fifths of these reserves unused. Companies in the energy sector, together with those in the directly affected industrial sectors, represent close to one-third of worldwide stock-market capitalization. Taking the political measures necessary to halt fossil fuel extraction would immediately result in a knock-on destabilization of the financial markets. (Durand 2017: 63)

This means that a relatively fast, direct and climate justice-oriented transition to a post-fossil energy system would require not only a return to economic planning but also a devaluation of massive amounts of financial capital and, as a potential consequence, some sort of nationalization of finance. If not, we are stuck with the inevitably slow-paced and not necessarily democratic implementation of indirect solutions (for example, solar geoengineering and carbon capture technologies) or, worse, the deepening financialization of the crisis itself.¹⁸ In other words, while the climate crisis could—as in the road *not* taken in the 1970s—become an opportunity to create a truly sustainable system, it might as well end up in a repetition of the 1970s conjuncture. In the deepening financialization scenario, which is the emerging but not the only possible future, the climate crisis will enhance the dominance of finance capital over the capitalist system (Ortiz 2020b). We can already see the opportunities for commodification through financialization created

¹⁸ I call solar geoengineering and carbon capture “indirect solutions” because these technologies can address some of the impacts of climate change while not requiring reductions in carbon emissions. Of course, the Left might need to adopt these technologies as part of its tactical approach to the crisis, but it has to be in under a democratic and ecological justice-oriented strategy that phases them out in favor of truly sustainable energy sources.

by the climate crisis. Carbon markets and the growing field of “green bonds” are examples of this tendency. While carbon markets expand the scope of fictitious capital by commodifying greenhouse gases via tradable emission credits, green bonds demarcate areas now defined as “green” and where “climate change-mitigating” investments will be made (Lohmann 2010; Ferrando et al. 2021).¹⁹ In addition, there is the inflation of insurance premiums—a form of financial accumulation—as companies in the sector seek to cover the costs of climate-related events by increasing rates. Alternatively, they might lower their costs by simply dropping the most vulnerable clients from their coverage (Copley, Hersher, and Rott 2023; Kamin 2023). All in all, these are financial mechanisms that seek to—supposedly—address the climate crisis while simultaneously ensuring financial capital accumulation. This is a contradiction since dominant global North financial conglomerates—for example, Blackrock, J.P. Morgan, Morgan Stanley, and Vanguard, among others—are already owners of significant shares of fossil energy companies that contribute *directly* to the climate crisis (Hanieh 2021b).

This financialization of climate-related dynamics offers a profitable way for capitalists to manage the ongoing crisis without tackling the underlying (and destructive) structures and processes of capital accumulation. Considering this, and using Wacquant’s (2001) terms in a different context, what we see today is the cementing of a “deadly symbiosis” represented by the functional relationship that exists between world-ecological crises and financialization (Moore 2010b; Ortiz 2020b). Contemporary financialization first emerged in part to weather the 1970s accumulation crisis in a profitable way. Today, the same financialized regime—now with decades of economic and political dominance—is seeking new accumulation opportunities in the climate crisis. In doing so, financial instruments are not dealing the crisis, but actually fueling it by making fictitious capital accumulation partly dependent on the unfolding climate disaster. There is clear evidence of the human and extra-human costs of climate change for the global North—stronger hurricanes and more intense wildfires in the United States, heat waves and massive wildfires in Canada, historic floods in Germany, and so on. The most disastrous effects of climate change, however, will end up being transferred, to the extent that this is possible, to the places and peoples that because of centuries of colonial domination and unequal development are more vulnerable and less prepared to deal with these costs (Roberts and Parks 2007b; Ferrando et al. 2021).

Conclusion

The intertwined trajectories of the political ecology of oil and the uneven developments of core and semi-peripheral growth show how the conjuncture of the 1970s provided one of the bases for

¹⁹ In fact, green bonds are part of a larger process of “green washing” taking place in global capital markets today. The UNCTAD (2020) says that US\$29 trillion in the capital market are “responsible investments” funds that *could* contribute to sustainable development. This is out of a world capital market of 95 trillion. That said, the UNCTAD itself admits that little more than 1 percent of the capital market (between US\$1.2 and 1.3 trillion) are actually “sustainability-oriented funds.” More than 90 percent are of these funds are managed in the global North (UNCTAD 2020).

contemporary financialization. At first, the so-called oil shock represented a challenge to core capital's appropriation of global South energy on the cheap. Petrodollar windfalls constituted a manifestation of the structural link between de-accelerating accumulation in the core and accelerating accumulation in the capitalist semi-periphery. Moreover, petrodollars linked the trajectory of the former socialist world into the world configuration. The improvised ways in which states and capital in the North responded to the crisis, however, transformed this configuration into a propellant of financial accumulation and unequal exchange. It made global accumulation and developmentalism subordinate to the structures of global North finance. In light of this vulnerability, the so-called monetarist shock was a death blow to the configuration of the 1970s and the symbolic beginning of global North financial dominance (Duménil and Lévy 2004a). Today the same financial logic is mobilized by the dominant fraction of the transnational capitalist class to frame its solutions to the climate crisis.

While the ongoing crisis is still unfolding, one could argue that the current moment can end up replicating the 1970s turn of events.²⁰ In a new deadly symbiosis between financial accumulation and climate crisis, global North finance capital will continue to manage the crisis of accumulation implied in climate change by transferring the costs of adjustment onto the global working class—a disproportionate share of which is located in the global South. In this process finance capital will enhance its power and wealth while simultaneously fueling the climate crisis via its insufficient fixes. For this reason, the only real way out is a truly non-capitalist world-ecological trajectory that ensures that the tools of economic planning and collective ownership are used democratically and are geared towards economic justice *and* ecological sustainability. This trajectory is still possible but increasingly difficult to imagine.

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²⁰. Of course, one question not addressed in this paper—one that could imply a different future trajectory than the one implied here—is the potential role of China in reshaping the world-system. In particular, there is the question whether China's world-economic rise—indicated by its non-stop upward trend in relative income level since the late 1970s (see Figure 3)—could modify the dynamics described in this paper and thus redirect the world-economy into a more ecologically sustainable path. Future research, then, should examine whether the aspects of China's path that suggest its *potential* to become a force in the reigning in of global finance and in the creation of post-carbon development outweigh those traits that tie it to fossil-fueled accumulation (e.g., Arrighi 2007; Mann and Wainwright 2018; Tsui, Zhixiong, and Xiaohui 2021; Li 2021).

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References

- Adelman, M. A. 1995. *The Genie Out of the Bottle*. Cambridge, MA: The MIT Press.
- Alonso, Angela, and Débora Maciel. 2010. "From Protest to Professionalization: Brazilian Environmental Activism After Rio-92." *The Journal of Environment & Development* 19(3): 300–317.
- Amin, Samir. 1976. *Unequal development*. Sussex, UK: The Harvester Press.
- Amin, Samir, Giovanni Arrighi, Andre Gunder Frank, and Immanuel Wallerstein. 1982. *Dynamics of Global Crisis*. New York: Monthly Review Press.
- Arrighi, Giovanni. 1990. "The Developmentalist Illusion: A Reconceptualization of the Semiperiphery." Pp. 11–42 in *Semiperipheral States in the World-Economy*, edited by W. G. Martin. New York: Greenwood Press.
- _____. 1994. *The Long Twentieth Century*. New York: Verso.
- _____. 2007. *Adam Smith in Beijing*. New York: Verso.
- Arrighi, Giovanni, Beverly J. Silver, and Benjamin D Brewer. 2003. "Industrial Convergence, Globalization, and the Persistence of the North-South Divide." *Studies in Comparative International Development* 38(1): 3–31.
- Bazdresch, Carlos, and Levy Santiago. 1991. "Populism and Economic Policy in Mexico, 1970–1982." Pp. 223–259 in *The Macroeconomics of Populism in Latin America*, edited by R. Dornbusch and S. Edwards. Chicago: University of Chicago Press.
- Bina, Cyrus. 1985. *The Economics of the Oil Crisis*. London, UK: Merlin Press.
- Bolt, Jutta, and Jan Luiten van Zanden. 2014. "The Maddison Project: Collaborative Research on Historical National Accounts." *Economic History Review* 67(3): 627–651.
- Brenner, Robert. 2006. *The Economics of Global Turbulence*. New York: Verso.
- British Petroleum. 2018. *Statistical Review of World Energy 2018*. London, UK: BP.
- Carneiro, Ricardo. 2004. *Desenvolvimento em Crise*. Campinas, Brazil: Editora de Unicamp.
- Carrillo, Jorge, and Patricia García. 1987. "Etapas Industriales y Conflictos Laborales: la Industria Automotriz en México." *Estudios Sociológicos* 5(14): 303–340.
- Castro, Antonio Barros de, and Francisco Eduardo Pires de Souza. 1985. *A Economia Brasileira em Marcha Forçada*. São Paulo, Brazil: Paz e Terra.
- Copley, Michael, Rebecca Hersher, and Nathan Rott. 2023. "How Climate Change Could Cause a Home Insurance Meltdown." *National Public Radio*, July 22.
- Coronil, Fernando. 1997. *The Magical State*. Chicago: University of Chicago Press.

- Derluigian, Georgi. 2005. *Bourdieu's Secret Admirer in the Caucasus*. Chicago: University of Chicago Press.
- Dietrich, Christopher. 2017. *Oil Revolution*. New York: Cambridge University Press.
- Duménil, Gérard, and Dominique Lévy. 2004a. *Capital Resurgent*. Cambridge, MA: Harvard University Press.
- _____. 2004b. "The Real and Financial Components of Profitability." *Review of Radical Political Economics* 36(1): 82–110.
- Durand, Cédric. 2017. *Fictitious Capital*. New York: Verso.
- Elliott, Brian. 2016. *Natural Catastrophe*. Edinburgh, UK: Edinburgh University Press.
- Emmanuel, Arghiri. 1972. *Unequal Exchange*. New York: Monthly Review Press.
- Erten, Bilge, and Ocampo, José A. 2012. "Super-Cycles of Commodity Prices since the Mid-Nineteenth Century." *United Nations Department of Economic and Social Affairs, DESA Working Paper No. 110*.
- Ferrando, Tomaso, Gabriela De Oliveira Junqueira, Marcela Vecchione-Gonçalves, Iagê Miola, Fábio Marques Prol, and Hector Herrera. 2021. "Capitalizing on Green Debt: A World-Ecology Analysis of Green Bonds in the Brazilian Forestry Sector." *Journal of World-Systems Research* 27(2): 410–438.
- Fiege, Mark. 2012. *The Republic of Nature: An Environmental History of the United States*. Seattle: University of Washington Press.
- Foran, John. 1993. *Fragile Resistance*. Boulder, CO: Westview Press.
- Frey, R. Scott, Paul. K. Gellert, and Harry F. Dahms. 2019. *Ecologically Unequal Exchange*. London, UK: Palgrave MacMillan.
- Galeano, Eduardo. 1973. *Open Veins of Latin America*. New York: Monthly Review Press.
- Griffith-Jones, Stephanie, and Osvaldo Sunkel. 1986. *Debt and Development Crises in Latin America*. New York: Oxford University Press.
- Hanieh, Adam. 2021a. "Petrochemical Empire: The Geo-Politics of Fossil-Fueled Production" *New Left Review* 130: 25–51.
- _____. 2021b. "The Commodities Fetish? Financialization and Finance Capital in the US Oil Industry." *Historical Materialism* 29(4): 70–113.
- Harvey, David. 2005. *A Brief History of Neoliberalism*. New York: Oxford University Press.
- _____. 2010. *The Enigma of Capital and the Crisis of Capitalism*. New York: Oxford University Press.
- Hobsbawm, Eric. 1996. *The Age of Extremes*. New York: Vintage Books.
- Huber, Matt. 2013. *Lifeblood*. Minneapolis: University of Minnesota Press.
- Kagarlitsky, Boris. 2007. *Empire of the Periphery*. London, UK: Pluto Press.
- Kamin, Debra. 2023. "Home Insurance Premiums Rise as Americans Flock to Weather-Worn States." *New York Times*, May 5.
- Klein, Naomi. 2008. *The Shock Doctrine*. New York: Metropolitan Books.
- _____. 2014. *This Changes Everything*. New York: Simon & Schuster.

- Kotkin, Stephen. 2010. "The Kiss of Debt: The East Bloc Goes Borrowing." Pp. 81–93 in *The Shock of the Global*, edited by N. Ferguson, C. S. Maier, E. Manela, and D. J. Sargent. Cambridge, MA: Harvard University Press.
- Krippner, Greta. 2011. *Capitalizing on Crisis*. Cambridge, MA: Harvard University Press.
- Labban, Mazen. 2010. "Oil in Parallax: Scarcity, Markets, and the Financialization of Accumulation." *Geoforum* 41(4): 541–552.
- Landsberg, Martin. 1975. "Black Gold and the Re-emergence of the Dollar Standard." *Review of Radical Political Economics* 7(1): 69–78.
- _____. 1976. "Oil and the Eurocurrency Market: Out of the Frying Pan and into the Fire." *Review of Radical Political Economics* 8(4): 42–55.
- Li, Minqi. 2021. "China: Imperialism or Semi-Periphery?" *Monthly Review* 73(3): 47–74.
- Lohmann, Larry. 2012. "Financialization, Commodification and Carbon: The Contradictions of Neoliberal Climate Policy." Pp. 85–107 in *Socialist Register 2012*, edited by L. Panitch, G. Albo, and V. Chibber. London, UK: Merlin Press.
- Longhofer, Wesley, Evan Schofer, Natasha Miric, and David John Frank. 2016. "NGOs, INGOs, and Environmental Policy Reform, 1970–2010." *Social Forces* 94(4): 1743–1768.
- Maito, Esteban E. 2013. "La Transitoriedad Histórica del Capital: la Tendencia Descendente de la Tasa de Ganancia desde el Siglo XIX." *Razón y Revolución* 26: 129–159.
- Mandel, Ernest. 1978. *The Second Slump*. London, UK: New Left Books.
- Mann, Geoff, and Joel Wainwright. 2018. *Climate Leviathan*. New York: Verso.
- Martinez Alier, Joan. 1997. "Deuda Ecológica y Deuda Externa." *Ecología Política* 14: 157–173.
- Marx, Karl. [1867] 1976. *Capital, Vol. I*. New York: Penguin Books.
- McNally, David. 2011. *Global Slump*. Oakland, CA: PM Press.
- McNeill, J. R. 2010. "The Environment, Environmentalism, and International Society in the Long 1970s." Pp. 263–278 in *The Shock of the Global*, edited by N. Ferguson, C. S. Maier, E. Manela, and D. J. Sargent. Cambridge, MA: Harvard University Press.
- McNeill, J.R., and Peter Engelke. 2014. *The Great Acceleration: An Environmental History of the Anthropocene since 1945*. Cambridge, MA: Harvard University Press.
- Mitchell, Timothy. 2011. *Carbon Democracy*. New York: Verso.
- Mommer, Bernard. 2002. *Global Oil and the Nation State*. New York: Oxford University Press.
- Moore, Jason. 2010a. "The End of the Road? Agricultural Revolutions in the Capitalist World-Ecology, 1450–2010." *Journal of Agrarian Change* 10(3): 389–413.
- _____. 2010b. "Cheap Food and Bad Money: Food, Frontiers, and Financialization in the Rise and Demise of Neoliberalism." *Review* 33(2/3): 225–261.
- _____. 2015. *Capitalism in the Web of Life*. London, UK: Verso.
- Ocampo, José A. 2004. "La América Latina y la Economía Mundial en el Largo Siglo XX." *El Trimestre Económico* 71(284): 725–786.

- Ocampo, José A. 2013. "The Latin American Debt Crisis in Historical Perspective." Paper presented at the International Economic Association Project on Debt Crises and Resolution, March 25.
- Ominami, Carlos. 1986. *Le Tiers Monde dans la Crise*. Paris, France: La Découverte.
- Ominami, Carlos, and Ricardo Hausmann. 1985. "Crisis e Internacionalización." *El Trimestre Económico* 52(206): 411–463.
- Ortiz, Roberto J. 2020a. "Oil-Fueled Accumulation in Late Capitalism: Energy, Uneven Development, and Climate Crisis." *Critical Historical Studies* 7(2): 205–240.
- _____. 2020b. "Financialization, Climate Change, and the Future of the Capitalist World-Ecology: On Kim Stanley Robinson's *New York 2140*." *Soundings* 103(2): 264–285.
- Parboni, Ricardo. 1986. "The Dollar Weapon: From Nixon to Reagan." *New Left Review* I(158): 5–18.
- Podobnik, Bruce. 2008. *Global Energy Shift*. Philadelphia, PA: Temple University Press.
- Pollin, Robert and James Heintz. 2011. "How Wall Street Speculation is Driving Up Gasoline Prices Today." *Political Economy Research Institute Research Brief*, June 21.
- Roberts, J. Timmons, and Bradley C. Parks. 2007a. "Fueling Injustice: Globalization, Ecologically Unequal Exchange and Climate Change." *Globalizations* 4(2): 193–210.
- _____. 2007b. *A Climate of Injustice*. Cambridge, MA: The MIT Press.
- Salazar-Carrillo, Jorge, and Bernadette West. 2004. *Oil and Development of Venezuela during the 20th Century*. Westport, CT: Praeger.
- Sargent, Daniel J. 2010. "The United States and Globalization in the 1970s." Pp. 49–64 in *The Shock of the Global*, edited by N. Ferguson, C. S., E. Manela and D. J. Sargent. Cambridge, MA: Harvard University Press.
- Shaikh, Anwar. 1999. "Explaining the Global Crisis." *Historical Materialism* 5(1): 103–144.
- Silver, Beverly J. 2003. *Forces of Labor*. New York: Cambridge University Press.
- Smith, Jackie, Basak Gemici, Samantha Plummer, and Melanie M. Hughes. 2018. "Transnational Social Movement Organizations and Counter-Hegemonic Struggles Today." *Journal of World-Systems Research* 24(2): 372–403.
- Soener, Matthew. 2019. "Profiting in a Warming World: Investigating the Link Between Greenhouse Gas Emissions and Capitalist Profitability in OECD States." *Sociological Forum* (34)4: 974–998.
- Soener, Matthew. 2022. "Financialization Goes South: Foreign Capital Flows and Financial Accumulation in Emerging Markets." *International Journal of Comparative Sociology*, OnLine First. <https://doi.org/10.1177/00207152221133058>.
- Spiro, David S. 1999. *The Hidden Hand of American Hegemony*. Ithaca, NY: Cornell University Press.
- Sunkel, Osvaldo, and Luciano Tomassini. 1980. "Los Factores Ambientales y el Cambio en las Relaciones Internacionales de los Países en Desarrollo." Pp. 288–319 in *Estilos de Desarrollo y Medio Ambiente en la América Latina*, edited by O. Sunkel and N. Gligo. Mexico: Fondo de Cultura Económica.

- Tsui, Sit, He Zhixiong, and Yan Xiaohui. 2021. "Legacies of Definancialization and Defending Real Economy in China." *Monthly Review* 73(3): 31–46.
- UNCTAD. 2020. *World Investment Report*. New York: United Nations Publications.
- U.S. Central Intelligence Agency. 1982. *USSR: Measures of Economic Growth and Development, 1950–1980*. Washington, DC: Government Printing Office.
- U.S. Energy Information Administration. 2022. "Oil and Petroleum Products Explained: Oil Imports and Exports." Retrieved November 10, 2022
<https://www.eia.gov/energyexplained/oil-and-petroleum-products/imports-and-exports.php>
- Vasudevan, Ramaa. 2009a. "Dollar Hegemony, Financialization, and the Credit Crisis." *Review of Radical Political Economics* 41(3): 291–304.
- _____. 2009b. "From the Gold Standard to the Floating Dollar Standard: An Appraisal in the Light of Marx's Theory of Money." *Review of Radical Political Economics* 41(4): 473–491.
- Vitalis, Robert. 2020. *Oilcraft*. Stanford, CA: Stanford University Press.
- Wacquant, Loïc. 2001. "Deadly Symbiosis: When Ghetto and Prison Meet and Mesh." *Punishment & Society* 3(1): 95–133.
- Wallerstein, Immanuel. 1974. *The Modern World-System I*. New York: Academic Press.
- _____. 1995. *Historical Capitalism with Capitalist Civilization*. New York: Verso.
- _____. 2006. "The Curve of American Power." *New Left Review* 40: 77–94.
- Wellum, Caleb. 2020. "Energizing Finance: The Energy Crisis, Oil Futures, and Neoliberal Narratives." *Enterprise & Society* 21(1): 2–37.
- World Bank. 1983. *World Development Report 1983*. New York: World Bank.
- _____. 1986. *World Development Report 1986*. New York: World Bank.
- _____. 1991. *World Development Report 1986*. New York: World Bank.
- _____. 1992. *World Development Report 1986*. New York: World Bank.
- _____. 2022a. International Debt Statistics.
<https://databank.worldbank.org/source/international-debt-statistics>.
- _____. 2022b. World Development Indicators. <https://databank.worldbank.org/source/world-development-indicators>.