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Climate's value, prices and crises

Geopolitical limits to financialization's ecological fix

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The Leverhulme Centre for the Study of Value

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Climate's value, prices and crises: Geopolitical limits to financialization's ecological fix

Patrick Bond

Abstract.

Is it appropriate to 'internalise externalities' to solve what is generally considered the world's worst market failure, climate change, through a carbon pricing mechanism? Or should we instead view the emissions trading strategy at the heart of current global environmental management as a symptom of 'climate-crisis capitalism', one bound to fail because it exceeds not only the technical but also the geopolitical limits of an 'ecological fix' to ongoing economic crises? The recent rounds of world climate negotiations reveal severe flaws in the character of global capitalism, the role of the state in its transformation and state-capitalist relations. The hope for our – and other vulnerable – species' survival has been vested in a combination of multilateral emissions rearrangements and national regulation, which since 1997 have hinged on the premise that market-centric strategies such as emissions trading and offsets can allocate costs and benefits appropriately. In constructing market arrangements and, later, an accompanying Green Climate Fund to support emissions mitigation and climate change adaptation, there has necessarily arisen a high degree of uneven geographical development. The sources and impacts of greenhouse gas emissions are diverse, with 'common but differentiated responsibilities' acknowledged since 2002, and compensation for 'loss and damage' recognized as a vital component since 2012. But these global strategies are unfolding not within the parameters of state control of market dynamics. Instead, they remain subordinated to the ongoing neoliberal accumulation strategy known as 'financialization'. This process is fraught with contradictions, resulting in amplified crises and increasing resort to both temporal and spatial fixes, as well as accumulation by dispossession – the three modes of crisis displacement (not resolution) identified by David Harvey. In this context, recent United Nations Framework Convention on Climate Change summits since Durban in 2011 confirm that with the demise of the Kyoto Protocol's binding commitments on the wealthy countries to making emissions cuts, a renewed effort is underway to promote market-incentivized reductions. In spite of widely-acknowledged emissions market failure, especially in Europe, several 'emerging markets' – including within the Brazil, Russia, India, China, South Africa network – have begun the process of setting up markets or expanding their offset strategies now that, after 2012, they no longer qualify for Kyoto's Clean Development Mechanism credits. The social, geopolitical and ecological implications are sobering, especially for a Climate Justice movement that seeks to radically reduce GreenHouse Gas emissions in a way that permits Southern industrialization, to decommission carbon markets and to enforce payment of the North's 'climate debt.' Aligned against that agenda, re-articulated state-capitalist relations are both formidable with respect to crisis-management, and futile on their own terms given the contradictions implicit within the spatial and ecological fixes to climate-crisis capitalism. It is, in short, inappropriate to retain standard economic valuation strategies when competition in emissions laxity across the world confirms both crashing carbon prices and continuing capitalist crises.

Keywords. market failure, financialization, climate change, carbon trading, BRICS

1. Introduction

What might be termed climate-crisis capitalism is the global environmental managerial elites' strategy of turning a medium/long-term humanity-threatening prospect – already responsible for extreme, immediate damage to infrastructure and agriculture – into a short-term source of speculative profit (Bond 2012). The deals done to resurrect market strategies include the commodification of nearly everything that can be seen as a carbon sink, especially forests but also agricultural land and even the ocean's capacity to sequester carbon dioxide (CO₂) for photosynthesis via algae. The financialization of nature is proceeding rapidly, bringing with it all manner of contradictions. The visionary idea behind the European Union Emissions Trading Scheme, the Kyoto Protocol's Clean Development Mechanism, offsets and other for-profit climate financing programs, is to harness and direct liquid financial capital towards lowering Green House Gas (GHG) emissions in productive investments, public transport, renewable energy and various kinds of sinks. However, all the evidence suggests that the worst-ever case of market failure, as Nicolas Stern (2007) described GHG emissions causing climate change, cannot be solved by recourse to the world's chaotic, crisis-ridden financial markets (Lohmann 2006, 2012). Moreover, due to internecine competition between blocs influenced by national fossil fuel industries, the United Nations appears unable to either cap or regulate GHG pollution at source, or jump-start the emissions trade in which so much hope is placed (European and UN turnover plummeted from a peak of \$140 billion in 2008 to \$130 billion in 2011, \$84 billion in 2012, and \$53 billion in 2013), even as new carbon markets began popping up (Reuters 2014).

This is all proceeding at a time the world economy continues to suffer over-accumulation crisis tendencies, with poor prospects for strengthening the international financial architecture, aside from slap-dash repairs (Bond, 2009, 2014). These crisis tendencies are rarely resolved to the extent that they were in the 1930s-40s, i.e. with a far-reaching devalorization of capital that sets the stage for a new round of capital accumulation and restructured class, social and state relations. Instead, today's crises that are manifest in financial markets tend to be displaced by bailouts, as identified by David Harvey using at least three distinct crisis-management techniques corresponding to space, time and economic power: the 'spatial fix', the 'temporal fix' and 'accumulation by dispossession'. For our purposes of exploring how the fixes affect society-nature relations, these concepts refer in the pages below, respectively, to: *globalization's* ability to *shift* problems around spatially, without actually solving them; *financialization's* capacity to *stall* problems temporally, by generating credit-based techniques – including securitization of toxic loans and commodified nature – that permit the purchase of products today at the expense of future arrears and defaults when the upside-down pyramid topples; and *imperialism's* compulsion to *steal* from weaker territories via extra-economic extractive systems, variously termed 'articulations of modes of production', 'primitive accumulation', 'uneven and combined development', the 'shock doctrine', and accumulation by dispossession.

The shifting-stalling-stealing strategy is at the heart of the management and mismanagement of capitalist crises, most spectacularly in 2008–9, when vast taxpayer bank bailouts were required as financial bubbles burst, followed by three bouts of ‘Quantitative Easing’ by the US Federal Reserve, to push dollars into the economy as an artificial stimulant. These techniques, in turn, set the stage for another coming round of subprime disasters, including further bubbles bursting, more sovereign debt defaults, inflation and devaluation of the dollar – as well as a faster push by capital into nature under the auspices of the ‘Green Economy’. That push is explored by Harvey:

It may be perfectly possible for capital to continue to circulate and accumulate in the midst of environmental catastrophes. Environmental disasters create abundant opportunities for a ‘disaster capitalism’ to profit handsomely. Deaths from starvation of exposed and vulnerable populations and massive habitat destruction will not necessarily trouble capital (unless it provokes rebellion and revolution) precisely because much of the world’s population has become redundant and disposable anyway. And capital has never shrunk from destroying people in pursuit of profit. Private property entails enclosure of nature’s commons. While some aspects of nature are hard to enclose (such as the air we breathe and the oceans we fish in), a variety of surrogate ways can be devised (usually with the help of the state) to monetize and make tradable all aspects of the commons of the natural world. State interventions are also often developed to correct for market failures (2014, 167).

Yet there are limits to state facilitation of financialized nature, as pricing failures continue to mark broader capitalist crisis. As Harvey remarks,

Their effect is to further promote the penetration of market processes and market valuations into all aspects of our life-world. This is the case with carbon trading and the growing market in pollution rights and ecological offsets. When the natural commons are privatized, then all things, objects and processes therein are assigned a value (sometimes arbitrarily by bureaucratic fiat) no matter whether any social labour has been expended on them or not. This is how capital creates its own distinctive ecosystem. Private individuals are then free to extract social wealth from their ownership of a commodified nature. They can even capitalize it as monetary wealth. This creates a basis for the formation of a potentially powerful rentier (including landowning) class, which regulates access to the store of use values by virtue of its class monopoly power and the rents it extracts from the land. This class ‘owns’ the nature we need in order to live and it can threaten the perpetuation of capital by monopolizing all wealth for itself. Capital’s ecosystem is riddled with inequalities and uneven geographical developments precisely because of the uneven pattern of these transfers. Benefits pile up in one part of the world at the expense of another. Transfers of ecological benefits from one part of the world to another underpin geopolitical tensions (2014, 167-168).

What we must take into consideration are *limits* to crisis displacement using spatial and ecological fixes such as Harvey identifies. The first major round of carbon trading, centered in the European Union but with a few outlying North American regional markets, hit a ceiling at around \$140 billion per annum, and that a new set of emissions trading schemes are popping up in the so-called emerging markets. Harvey’s earlier work on *The New Imperialism* already identified how these economies would fit into the world system:

The opening up of global markets in both commodities and capital created openings for other states to insert themselves into the global economy, first as absorbers but then as producers of surplus capitals. They then became competitors on the world stage. What might be called ‘subimperialisms’ arose... Each developing center of capital accumulation sought out systematic spatio-temporal fixes for its own surplus capital by defining territorial spheres of influence.

But most importantly, for the sake of tracking how spatial and temporal fixes find their way into nature, recall how far the international financial system has overextended itself, perhaps most spectacularly with derivatives and other speculative instruments. The rise of non-bank lenders doing ‘shadow banking,’ for example, was by 2013 estimated to account for a quarter of assets in the world financial system, \$71 trillion, a rise of three times from a decade earlier, with China’s shadow assets increasing by 42 percent in 2012 alone. *The Economist* (2014) acknowledged that ‘potentially explosive’ emerging-market shadow banking ‘certainly has the credentials to be a global bogeyman. It is huge, fast-growing in certain forms and little understood.’ In this milieu, the United Nations Department of Social and Economic Affairs (2013, 32) reported, world economic managers have faced – and failed to conquer – a profound challenge:

to accelerate regulatory reforms of the financial sector. This will be essential in order to avoid the systemic risks and excessive risk-taking that have led to the low-growth trap and financial fragility in developed countries and high capital flow volatility for developing countries. Steps have been proposed in some national jurisdictions, but implementation is lagging behind. Moreover, insufficient coordination between national bodies appears to result in a regulatory patchwork. Global financial stability is unlikely to be achieved in the absence of a comprehensive, binding and internationally coordinated framework. This is needed to limit regulatory arbitrage, which includes shifting high-risk activities from more to less strictly regulated environments.

Financialization failures cause an uneven retreat of globalization

The world’s largest investment banks and commercial banks have become ‘too big to fail’ on account of the inability of regulators to properly manage the temporal and spatial fixes in the form of expansion into distant territories. These are often offshore financial centers where regulation is non-existent. The lack of global oversight capacity is illustrated by how few of the derivatives in world financial markets are regulated or even understood: only \$650 trillion or so, which is probably only a third of the outstanding obligations. Multilateral institutions appear impotent to halt contagion, even with the International Monetary Fund’s \$750 billion Special Drawing Rights issuance in 2009 which played a mildly stimulatory role, or the US budget stimulation of roughly the same amount. In contrast, the more successful Quantitative Easing strategy kept funds pumping into the world economy in 2009-13, but at the same time degraded the US dollar and British pound. Extremely low real interest rates – often in negative territory and in Japan’s case, lasting nearly a quarter century – did not re-establish the conditions for renewed fixed investment. There were simply too many financial and monetary fixes in the form of bandaids, at the same time global uneven development pushed value creation towards the South and East. Yet the rules of the global financial game were so skewed

to the North that when the crisis hit hardest in late 2008, emanating from US real estate markets and bankrupted US financial institutions, ironically the safe haven for nervous investors across the world was the dollar. That compelled dramatic rises in the interest rates that smaller countries had to pay so as to retain fast-flowing financial capital within their own markets.

As a result, one hope expressed by many global-scale reformers is that ‘rising powers’ from emerging markets – especially the Brazil-Russia-India-China-South Africa (BRICS) network – will enhance democratic instincts in multilateral institutions or offer their own distinct alternative to rebalance global power relations (e.g. Desai 2013, Ford 2013, Martin 2013, Pesek 2013, Shubin 2013, Third World Network 2013). For example, South African finance minister Pravin Gordhan publicly complained of his G20 peers’ ‘inability to find coherent and cohesive responses across the globe to ensure that we reduce the volatility in currencies in particular, but also in sentiment’ (England and Harding 2013). To reduce volatility, China’s financing of Washington’s massive trade deficit continued, as Beijing held more than \$1.3 trillion of US Treasury Bills and only very slowly began diversifying currency holdings and yuan-based trading relationships. Although in mid-2013 the Chinese sold around \$40 billion net of T-Bills, this would not genuinely weaken Washington’s power, much less serve to catalyze a new currency that the world could more democratically manage, instead of the Fed with its bias to the interests of the world’s largest banks. Indeed at this very time, the Fed’s monetary policy signaling was helping to tear apart the BRICS. Notwithstanding rhetoric about increasing use of BRICS currencies or barter trade, not much more is being done to end the destructive system in which the US dollar has world ‘seignorage’: i.e., it is the world’s reserve currency, no matter how badly Washington officials abuse that power. If China really wants the renmimbi to one day take its place, the pace at which this is happening is agonizingly slow. In the meantime, as mid-2013 financial chaos showed, the other BRICS paid the price.

And in another reflection of dysfunctional global governance, in order to assist in the elusive search for global regulatory coherence, the BRICS’ 2012 contribution of \$75 billion to the IMF’s recapitalization should have at least permitted voting power adjustments and additional seats on the board, regardless of whether or not the BRICS leaders might generate any meaningful change in IMF ideology and practice. There is every reason to doubt such change; before turning over his Treasury’s scarce funds, Gordhan publicly called for the IMF to become more ‘nasty’ to Europe, for example (*Moneyweb* 2011). But in January 2014, a refusal to reform IMF governance was announced by the Republican Party controlling the US House of Representatives, confirming dismal prospects for reducing US voting influence or – given Republican paranoia – increasing China’s. Beijing’s vast IMF capital contributions – and a GDP amended for Purchasing Power Parity that made China the world’s largest economy in 2014 – meant its voting power did rise a small amount (in turn leaving Africa’s to decrease). But when a new managing director was chosen in 2011, it was a European, Christine LaGarde. As for the World Bank, in a fit of arrogance, its presidency was grabbed by Barack Obama for his

nominee Jim Yong Kim in 2012, without a united response from the BRICS or even a chance for a public debate and questioning of Kim (Fry 2012). The Brazilians nominated a progressive economist, Jose Antonio Campo; the South Africans nominated neoliberal Nigerian finance minister Ngozi Okonjo-Iweala; and the Russians supported Kim. As for China, the reward for not putting up a fight was getting leadership of the Bank's International Finance Corporation for Jin-Yong Cai. An Indian, Kaushik Basu, was made World Bank chief economist.

The terribly unsatisfying intra-elite rivalry for the commanding heights of the Bretton Woods Institutions meant, however, that new multilateral financial institutions began to emerge. Notably, the BRICS declined to support the main alternative multilateral institution already in place: the Bank of the South. Founded by the late Venezuelan president Hugo Chavez in 2007 and supported by Argentina, Bolivia, Ecuador, Paraguay and Uruguay, Banco del Sur already had \$7 billion in capital by 2013. It offered a more profound development finance challenge to the Washington Consensus, especially after Ecuadoran radical economists led by Pedro Paez improved the design, in spite of Brazilian officials' attempt to sabotage the institution's more transformative options. In contrast, new BRICS-supported institutions appear to favor stabilization of the world financial *status quo*, rather than radically changing the most unfair and intrinsically destabilizing components. For example, the Chiang Mai Initiative Multilateralization was established after the 1998 East Asian financial crises as a project directly linked to the application of IMF conditionalities, and by 2014 had reached \$240 billion in size. Then in 2012-13 there were BRICS announcements of a future \$50 billion New Development Bank and \$100 billion Contingent Reserve Arrangement, one of whose objectives, according to South African officials, is to 'complement existing international arrangements' (Republic of South Africa Department of National Treasury 2012). These appeared likely to reach fruition at the 2014 Fortaleza heads-of-state summit, at a time Russia was being excluded from the G8 and potentially G20 on grounds of its role in Ukraine. In early 2014, sanctions against Russia crashed its currency and stock market, a fate witnessed in the prior year's financial turmoil by Brazil, India and South Africa, along with Turkey and Indonesia.

These latter were soon nicknamed the 'fragile five', and to make matters more complicated, in November 2013 the Goldman Sachs investment guru, Jim O'Neill, expressed interest in a new group, 'MINT', comprising Mexico, Indonesia, Nigeria and Turkey. Whether or not this was just another Goldman-style financial 'flipping' strategy aiming to churn investments in emerging markets, it showed how frivolous the world investment scene had become by late 2013. Many concluded that, as *The Economist* (2013a) put it, 'booming emerging economies will no longer make up for weakness in rich countries.' Influential Swedish economist Anders Aslund (2013) of the Peterson Institute for International Economics was scathing in a *Financial Times* article: 'The BRICS party is over. Their ability to get going again rests on their ability to carry through reforms in grim times for which they lacked the courage in a boom.' Added former South African opposition party leader Tony Leon (2013), 'The investor community's love affair with developing-market economies has soured. The romance has been replaced by

recrimination.’ O’Neill considered the acronym he created a dozen years earlier: ‘If I were to change it, I would just leave the “C”’ (Magalhaes 2013).

Tempting as it is to write off the more schadenfreud-suffused and neoliberal of BRICS-pessimist commentators, their confidence grows from several countries’ deep-seated problems, not just momentary financial fluctuations. As Tsinghua University economist Li Dokui argued in September 2013, the inevitable winding down of the US Fed’s Quantitative Easing printing press is ‘good news for the renminbi’ which need no longer rise in value (Tian 2013). But in the process, he went on, ‘the concept of the BRICS may vanish, leaving just China versus other emerging economies.’ According to Merrill Lynch economist Lu Ting, ‘China will be largely immune to the impact due to its sustained current-account surplus, low foreign debt, huge exchange reserves, high savings and capital controls’ (Tian 2013). Offering official multilateral acknowledgment of severe danger, deputy IMF managing director Zhu Min warned that if China opens its capital account by liberalizing the currency, it would ‘exacerbate’ the global crisis – which is typically an observation an IMF man would repress (Tian 2013). At that stage, *The Economist* (2013b, 1-2) seemed to sense limits to financial and geographically-diverse investment ‘fixes’, with a cover story entitled ‘The Gated Globe’ frankly acknowledging that

Globalization has clearly paused. A simple measure of trade intensity, world exports as a share of world GDP, rose steadily from 1986 to 2008 but has been flat since. Global capital flows, which in 2007 topped \$11 trillion, amounted to barely a third of that figure last year. Cross-border direct investment is also well down on its 2007 peak... hidden protectionism is flourishing, often under the guise of export promotion or industrial policy... Capital controls, which were long viewed as a relic of a more regulated era, have regained respectability as a tool for stemming unwelcome inflows and outflows of hot money... the UN Commission for Trade and Development shows that restrictions [on foreign direct investment] are increasing.

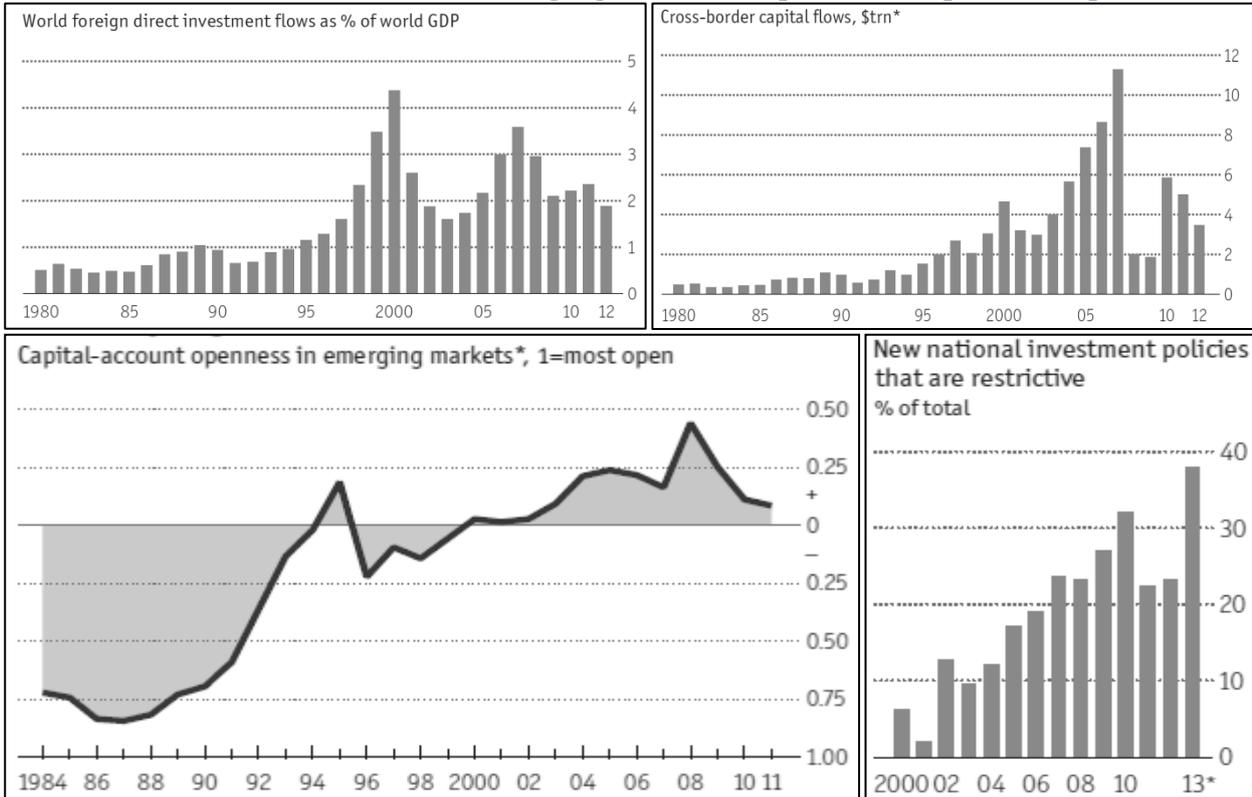
The pause button will no doubt be lifted. Yet in what was otherwise a celebration of global flows, the consulting firm McKinsey Global Institute (2014, 5) also acknowledged that a peak had been reached in 2007 with \$29.3 trillion worth of flows – 52 percent of world GDP – which then sunk substantially in relative terms over the subsequent five years, to just 36 percent:

Financial flows remain almost 70 percent below their pre-crisis level, falling from 21 percent of global GDP to only 5 percent in 2012. This reflects the correction from the global credit bubble and deleveraging of the financial system. Financial flows have changed direction, too, with outflows from emerging markets rising from 7 percent of the global total in 1990 to 38 percent in 2012. The share of financial flows among developed regions fell from 89 percent in 2002 to 57 percent in 2012.

Two leading corporate advisors, Pankaj Ghemawat and Steven Altman (2013, 12-15), identify the 21st century’s main economic story as the ‘big shift’: which emerging markets will grow 5.2 percent annually from 2012-18 (leaving them with 54 percent of world GDP), while wealthy countries will grow just 2.2 percent. This means that ‘while the big shift has continued and even surged since the crisis began, some kinds of globalization have gone into reverse... Emerging

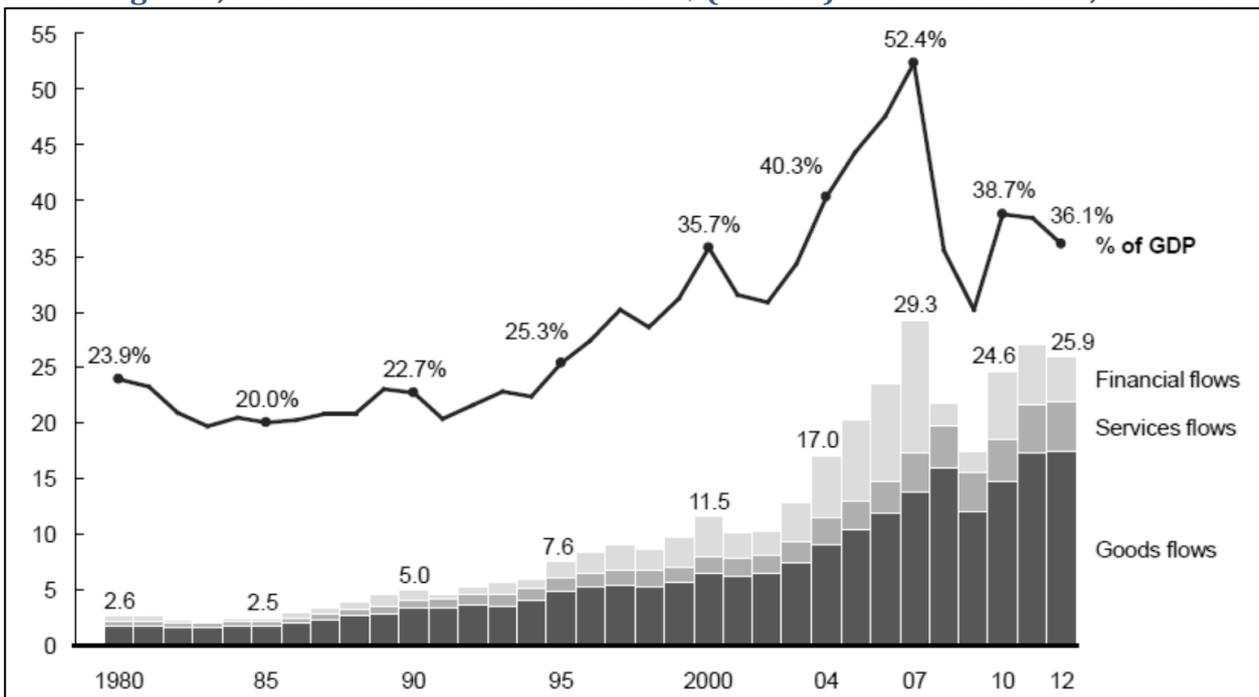
markets have seemingly gone from hot to not overnight. Financial markets swing violently from “risk-on” to “risk off” and back again.’ In addition to deleveraging – in Marxist terms, the devalorization of overaccumulated fictitious capital – the basis for the most recent episode of financial deglobalization was a shift in Washington’s monetary policy fix to the crisis.

Indicators of ‘The Gated Globe’: emerging limits to capitalism’s spatio-temporal fixes



Source: *The Economist* (2013)

Flows of goods, services and finance: absolute \$ (trillion) and share of GDP, 1980-2012



Source: McKinsey (2014, 14)

Beginning in May 2013, investors roiled at least five major emerging markets when the US Federal Reserve's Quantitative Easing began to be phased out ('tapered'). With US interest rates slightly higher, outflows hit the fragile five. Even China's fabled property boom appeared ready to burst, as the China Real Estate Index System reported sales by volume in the country's 44 largest cities down 19 percent in the year between April 2013 and 2014 (*Wall Street Journal*, 2014). Because of the turmoil in BRICS, Indonesia, Turkey and similar sites, it is wise to recall the United Nations (2013, 32) warning, that the world's financial markets welcome opportunities for 'shifting high-risk activities from more to less strictly regulated environments,' especially sites where massive state-subsidized and guaranteed infrastructure projects are envisaged. In these sites, including the BRICS, both borrower and lender are facing intense levels of desperation: to sink excess funds into new mega-projects on behalf of multinational capital. That process will in turn require more attention to the prospects for the BRICS New Development Bank and other public financing systems that aim to leverage other forms of capital, directed to risky investments.

High-risk activities in unregulated markets

Former World Bank chief economist Stern (2013) bragged to a conference (that he must have presumed was not video-recorded) about being co-instigator of the very idea of a BRICS Bank, but in telling the story to his peers in a jovial way, he emphasized the merits of a bank facilitating deals between states and multinational corporations:

If you have a development bank that is part of a [major business] deal then it makes it more difficult for governments to be unreliable... What you had was the presence of the European Bank for Reconstruction and Development (EBRD) reducing the potential for government-induced policy risk, and the presence of the EBRD in the deal making the government of the host country more confident about accepting that investment. *And that is why Meles Zenawi, Joe Stiglitz and myself, nearly three years ago now, started the idea - and are there any press here, by the way? Ok, so this bit's off the record. We started to move the idea of a BRICS-led development bank for those two reasons. Coupled with the idea that the rich countries would not let the balance sheets of the World Bank and some of the regional development banks expand very much, and they would not allow their share in those banks to be diluted. So essentially by refusing to come up with more money and by refusing to let other people come up with more money by not allowing those shares to be diluted, you're essentially limiting what the existing World Bank and existing regional development banks can do. (emphasis added)*

Two years earlier, Stern and Joe Stiglitz (2011, 1) had written an idealistic memo to the BRICS leaders:

A new institution is required to ensure a better allocation of hard-earned savings of developing and emerging economies away from risky portfolios, much of which is in rich countries, and onto sound investments in the developing and emerging world. Low-carbon infrastructure and

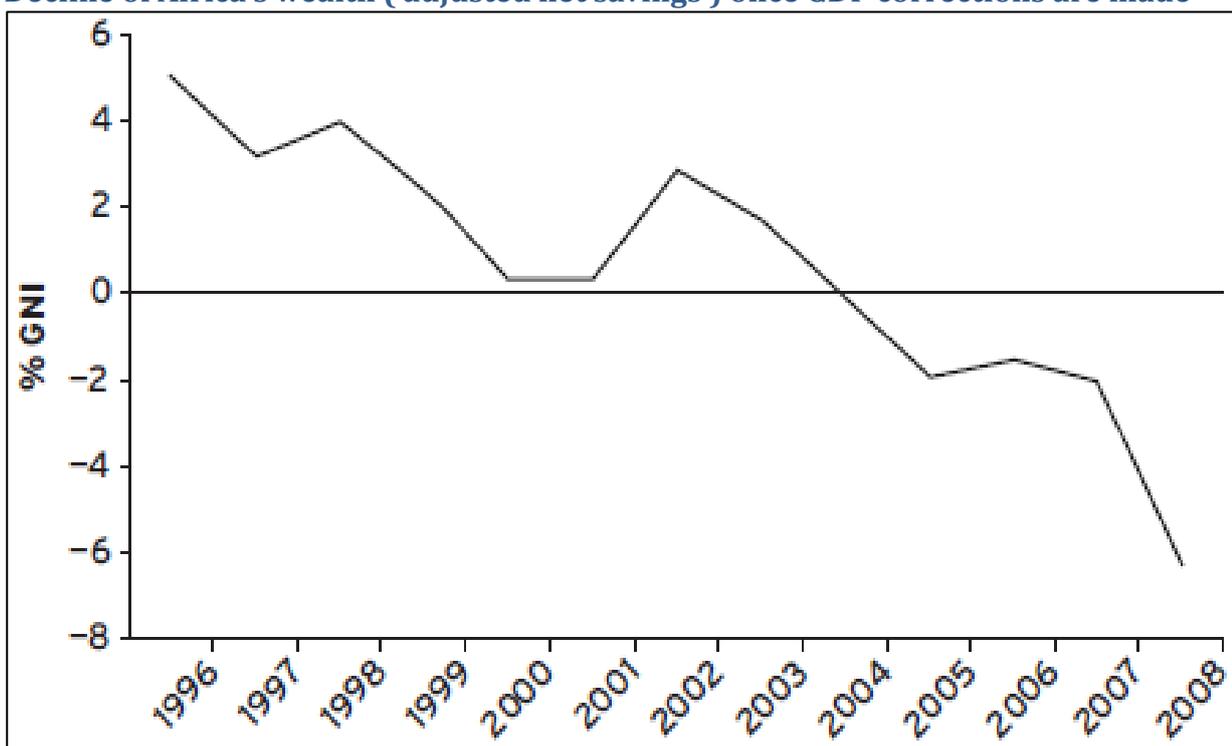
technologies, in particular, are crucial to lay different and more resilient foundations for growth in the next decades. Investments are urgently required to both mitigate the risks and adapt to climate change, generate economic growth, reduce poverty and promote stability and security. These are the great challenges of the 21st century. Failure on one is likely to imply failure on the others.

Will this vision of infrastructure for genuine sustainable development – with climate consciousness – be realized, or instead, will a more frenzied strategy of high-carbon mega-projects result? At the same time the BRICS Bank was being worked out, the Chinese government also capitalized a new \$50 billion Asian Infrastructure Bank which, according to chief economist at the Agricultural Bank of China Xiang Songzuo, ‘would replace some of the functions of the Asian Development Bank. The aim is partly to undermine an institution that is dominated by Japan and the United States’ (Wilson, Rowley and Gilmore 2014). Simultaneously, the ‘Program for Infrastructure Development in Africa’ was developed for continental mega-projects by the African Union Commission, the African Development Bank (which suffers from undue US influence given its share-ownership-centred governance structure) and the New Partnership for Africa’s Development (a long-dormant suffering project of South Africa, once described by the US State Department as ‘philosophically spot-on’) (Bond, 2005). The Program strategy includes \$47 billion in short-term mega-hydro and related energy projects across Africa, for which financing is desperately needed by impoverished African states. The biggest long-term project is on the Congo River: the \$100 billion Inga Hydropower Project, which will have the capacity to export to markets as far north as Italy and as far south as Cape Town, and which with 42,000 megaWatts of power, will be three times larger than China’s Three Gorges. Another that is likely to receive funding is South Durban’s \$25 billion expansion of Africa’s largest port and petrochemical-refinery complex, whose driver – the South African parastatal Transnet – received a \$5 billion loan from China at the 2013 BRICS Summit in Durban. That loan is also funding a major increase in coal export capacity – rail lines, locomotives and port upgrading at the world’s largest coal-export site, Richards Bay harbour – with the output mainly destined for China and India.

The merits of such mega-projects are dubious, because they invariably come in far above initial costs, they do enormous ecological damage (including climate change and facilitation of extraction on disadvantageous terms), and their end-user prices are typically beyond the affordability levels of the ordinary low-income Third World consumer, especially for electricity, irrigation water and transport (e.g. tolled roads). Typically, it is mines and plantations that get access to the main infrastructure benefits, and in Africa, this has resulted in profit rates for multinational corporations far above the global average, simultaneous with a durable lack of access to services for the

majority of Africans. It is revealing to consider the ‘non-renewable resource depletion’ associated with minerals extraction facilitated by such infrastructure. If deducted from standard GDP measurements (along with three other minor corrections), the increase in extractive activity in Africa leads not only to the rhetorical ‘Africa Rising’ GDP increase, but more importantly, to a *rapid decline in the continent’s net wealth*. Very little beneficiation of minerals occurs in Africa, and the Western and BRICS multinational corporations have no problem in expatriating not only minerals but also profits – often through transfer pricing and other illicit means – to their overseas headquarters (Bracking and Sharife, 2014). Even the World Bank’s (2011) latest *Changing Wealth of Nations* calculations (conservatively) estimate the resulting decline in wealth (‘adjusted net savings’) at more than 6 percent per annum (by 2008 when commodity prices had an initial peak, and most regained their price levels after the crash that year). While there are many reasons *not* to count ecological values using ‘natural capital’ pricing (Sullivan 2014), in this case the results are striking:

Decline of Africa’s wealth (‘adjusted net savings’) once GDP corrections are made



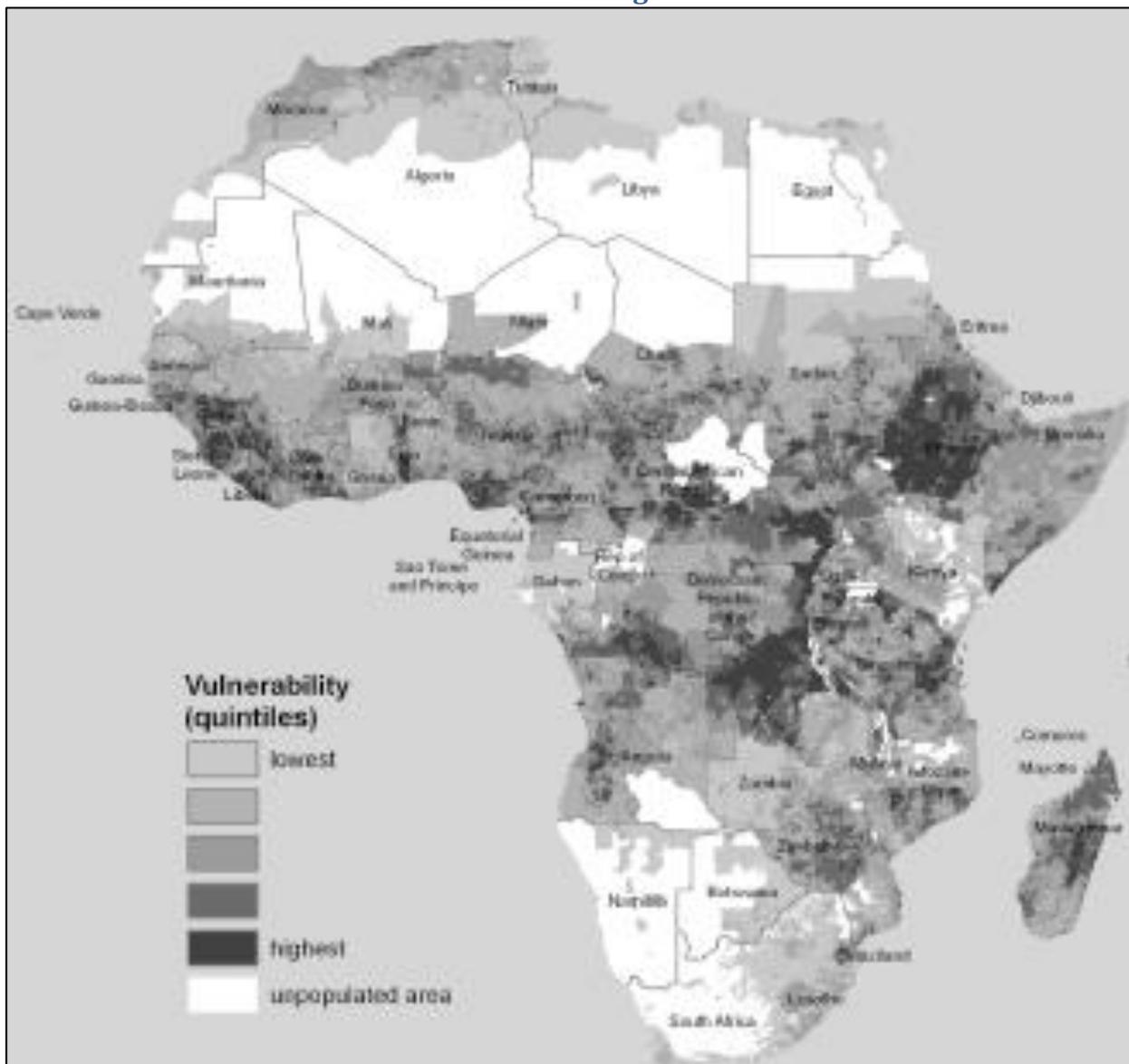
Source: World Bank (2011)

Financializing the climate

As difficult as matters are for poor people in poor countries under these conditions of both ‘globalization’ and the ‘big shift’, the next stage of the environmental commodification and the ‘financialization of nature’ represents an even more acute threat. Land grabs across Africa are a major problem, with BRICS countries India, South Africa and China leading the acquisition process in search of mineral and

agricultural takings (Ferrando 2013). Climate change is illustrative because in Africa it will mainly affect the most vulnerable people in the poorest countries, who are already subject to extreme stress as a result of war-torn socio-economic fabrics in west Africa, the Great Lakes and the Horn of Africa (University of Texas 2013). What appears important to the Pentagon-funded University of Texas's Strauss Center is the extent to which social unrest will emerge as a result. The growing role of the US military's Africa Command in dozens of African countries bears testimony to the overlapping needs for maintaining control amidst rising Islamic fundamentalism in countries from the Sahel to Kenya, which are also in the vicinity of large petroleum reserves (Turse 2013, 2014).

Areas of Africa most vulnerable to climate change



Source: University of Texas (2013)

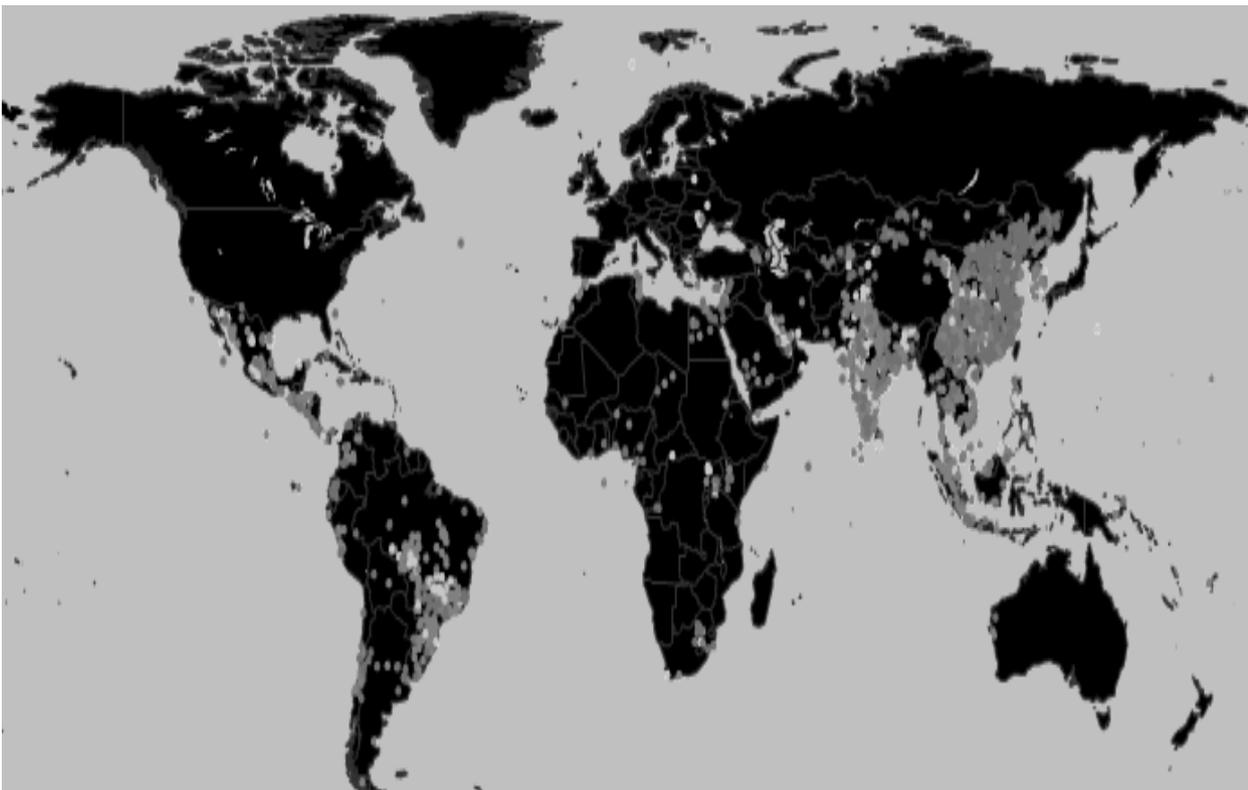
Moreover, notwithstanding multiple failures to date, the primary strategy for addressing this most systemic of risks is what can be termed 'privatization of the air': carbon markets and offsets. These have had a flawed record in delivering resources to ordinary people, especially in

The old and new carbon markets



Source: World Bank (2013)

The location of Clean Development Mechanism projects prior to 2012 rule change



Source: United Nations Environment Program (2013)

Africa (Bond et al 2012). Moreover, there is often severe damage done by emissions markets or voluntary offset systems to the climate itself, in the way that the Catholic church's indulgence system legitimated bad behavior by offering a mere confessional. A 'climate debt' system based

upon a different set of solidaristic values, direct economic transfers and projects that leave fossil fuels untouched would be preferable (Sharife and Bond 2013), but in Kyoto in 1997, carbon markets were set up as the idealized way to solve a market problem with a market solution by internalizing externalities.

This is important, because not only did the EU and North American regional carbon trading schemes perform far below expectations during the first period of operations. Revealing the geographical diffusion of financialized nature, those BRICS countries whose elites might have done more to leapfrog carbon-intensive accumulation strategies (or at least not repeat the most ecologically disastrous strategies of western industrialization) witnessed backsliding: e.g., along with Japan, Australia and Canada, Russia dropped out of the Kyoto Protocol and, along with South Africa remained in the top-ten per capita GHG emitters. South Africa celebrated its award of hosting the Durban COP17 climate summit in 2011 by committing to build three new coal-fired powerplants, including one – Medupi – that received the World Bank’s largest-ever project loan in 2010. Meanwhile, China became the world’s leading GHG emitter in absolute terms. To address the prolific emissions, in the last few years, three BRICS established or announced future promotion of carbon markets and offsets as strategies to deal with their prolific emissions: China started a set of urban carbon markets, and South Africa and Brazil committed to doing so, after the three economies enjoyed – along with India – disproportionate access to the Clean Development Mechanism (CDM) until the rules changed in 2012 (CDM Pipeline 2013), and by then the price of CDM credits had sunk so low there was little point in any case.

As Steffen Böhm, Maria Ceci Misoczky and Sandra Moog (2012 , 1629) argue, the BRICS move to carbon markets has a consistent logic:

The subimperialist drive has remained the same: while domestic capital continues to invest heavily in extractive and monocultural industries at home, it is increasingly searching for investment opportunities in other peripheral markets as well, precipitating processes of accumulation by dispossession within their broader spheres of influence. This mode of development can be observed in many semi-peripheral nations, particularly in the BRICS... China’s extensive investment in African arable land and extractive industries in recent years has been well documented. What is perhaps less well recognized in the development literature, however, is the extent to which financing from carbon markets like the CDM is now being leveraged by elites from these BRICS countries, to help underwrite these forms of subimperialist expansion.

Confirming the climate-crisis capitalism strategy, South Africa’s official 2004 *National Climate Change Response Strategy* had endorsed carbon trading, declaring ‘up-front that the CDM primarily presents a range of commercial opportunities, both big and small’ (Republic of South Africa, 2004). There was intense contestation of this stance, especially given the multiple failures and fraud, not to mention environmental racism, associated with the main pilot project in Durban, a \$15 million CDM aimed at converting landfill methane to electricity (Bond 2012). However, as the emissions markets collapsed after 2008, ultimately losing as much as 90 percent

of their price at the trough, Pretoria backed away. Neither the 2010 *National Climate Change Response Green Paper* nor 2011 *White Paper* nor a 2013 Treasury carbon tax proposal endorsed carbon trading, in part because of the monopsony anticipated given there are two vast emitters, the state electricity company Eskom and the former parastatal Sasol which squeezes coal and natural gas to make liquid petroleum at the world's single largest emissions point source, near Johannesburg. But by April 2014 carbon trading was back on the official policy agenda (Republic of South Africa, 2014). And the 2013 carbon tax proposal was next to worthless in any case, because even though a year earlier, Treasury (2012) officials anticipated that 'a tax of \$7/t CO₂e, increasing to around \$18/t CO₂e would be both feasible and appropriate to achieve the desired behavioural changes and emissions reduction targets,' the final plan scaled back the tax dramatically: 'When the tax-free threshold and additional relief are taken into account, the effective tax rate will range between \$1 and \$4.50 per ton of CO₂e (and zero for Agriculture and Waste).' Even more beneficial to corporations, 'one of the ways to recycle the expected carbon tax revenue is by reducing other taxes. One such tax that could be reduced is the existing electricity levy on electricity produced from non-renewable sources (e.g. coal) and nuclear energy.' Meanwhile, with all the carbon-intensive infrastructure under construction, the official Copenhagen voluntary promise made by Zuma – cutting GHG *emissions* to a 'trajectory that peaks at 34 percent below a Business as Usual trajectory in 2020' – appeared to be impossible to uphold, just four years after it was made.

Pretoria's largest single infrastructure project was expanding the world's largest coal terminal at Richard's Bay to benefit a projected 40 new coal mines, in spite of the extreme eco-health dangers these pose to local communities and nature. The second biggest project – with a full price tag of an estimated \$25 billion – was the South Durban port and petrochemical expansion, including a \$2 billion doubling of the oil pipeline from Durban to Johannesburg, redirected from white upper class areas through low-income black areas. Other major state infrastructure investments included a new stable of airplanes for the national carrier (which regularly loses \$500 million per annum), and ten new or refurbished Fifa World Cup 2010 sports stadia (nearly all achieving 'white elephant' loss-making status immediately after the soccer ended). Aside from very slow implementation of renewable energy, Pretoria's allocation for public transit investment was overwhelmingly geared to elite customers, in a fast subway to select Johannesburg and Pretoria locations, starting at the expensively-refurbished international airport. Another approach to climate is a Carbon Capture and Storage strategy costing around \$80 million, aiming to compress carbon dioxide from the petro-chemical and energy complex into potentially unstable underground storage sites. The state and the country's two biggest polluters – Eskom and Sasol – are gambling on the technique even though its boosters are in rapid retreat from Norway to the US (Physorg, 2013). Critics have successfully argued that it violates the Precautionary Principle, imposes excessive costs, increases energy to produce power by 25 percent, is an unproven technology, is at least a decade away from implementation, and prolongs the extraction of coal.

The dubious climate projects promoted by the BRICS, including carbon markets, meant that these important economies were locked into the systems of global environmental governance, which in reality translated into geopolitical competition in emissions laxity. Other BRICS countries have similar power configurations, and in Russia's case it led to a formal withdrawal from the Kyoto Protocol's second commitment period (2012-2020) in spite of huge 'hot air' benefits the country would have earned in carbon markets as a result of the industrial economy's disastrous exposure to world capitalism during the early 1990s. That economic crash cut Russian emissions far below 1990 Soviet Union levels during the first (2005-2012) commitment period. But given the 2008-13 crash of carbon markets – where the hot air benefits would have earlier been realised as €33/tonne benefits but by early 2013 fell to below €3/tonne – Moscow's calculation was to promote its own oil and gas industries helter-skelter, and hence binding emissions cuts were not in Russia's interests, no matter that 2010-11 climate-related droughts and wildfires raised the price of wheat to extreme levels and did tens of billions of dollars of damage.

The same pro-corporate calculations are being made in the other BRICS, although their leaders occasionally postured about the need for larger northern industrial country emissions cuts. However, the crucial processes in which UN climate regulatory language was hammered out climaxed at the COP17 in Durban in December 2011 in a revealing manner. 'The Durban Platform was promising because of what it did not say,' bragged US State Department adviser Trevor Houser to the *New York Times*. 'There is no mention of historic responsibility or per capita emissions. There is no mention of economic development as the priority for developing countries. There is no mention of a difference between developed and developing country action' (Broder 2012).

Conclusion: Climate-crisis capitalism displacement strategies – and their limits

The attraction of carbon trading in the new markets, no matter its failure in the old, is logical seen within a triple context: a longer-term capitalist crisis which has raised financial sector power within an ever-more frenetic and geographically ambitious system; the financial markets' sophistication in establishing new routes for capital across space, through time, and into non-market spheres; and the mainstream ideological orientation to solving every market-related problem with a market solution, which even advocates of a Post-Washington Consensus and Keynesian economic policies share. Stiglitz and Paul Krugman (2009) are just the most famous, yet interestingly, even Krugman (2013) has had second thoughts, for after reading formerly pro-trading environmental economist William Nordhaus' (2013) *Climate Casino*, he remarked, 'the message I took from this book was that direct action to regulate emissions from electricity generation would be a surprisingly good substitute for carbon pricing.' Krugman observed that Environmental Protection Agency regulation 'will probably prevent the construction of any new coal-fired plants.'

While not yet eco-socialism, Krugman's U-turn is the sort of hard-nosed realism that will be needed to disprove Naomi Klein's (2014) convincing thesis that capitalist crisis and climate crisis are conjoined. Instead, however, climate-crisis capitalism has so distorted the playing field, that the 'Green Economy' and similar ecological-modernization narratives are bound to continue generating new, futile attempts at an ecological fix. 'The current financial and climate crises are consciousness-raising opportunities all round, but green new deals designed to revive the faltering international system will delay fundamental change,' according to Ariel Salleh (2010, 215). In the same spirit, Samir Amin (2010), Africa's leading political economist, offers this argument about economic theory applied to ecology:

Capture of ecology by vulgar ideology operates on two levels: on the one hand by reducing measurement of use value to an 'improved' measurement of exchange value, and on the other by integrating the ecological challenge with the ideology of 'consensus.' Both these manoeuvres undermine the clear realization that ecology and capitalism are, by their nature, in opposition.

This capture of ecological measurement by vulgar economics is making huge strides. Thousands of young researchers, in the United States, and, imitating them, in Europe, have been mobilized in this cause. The 'ecological costs' are, in this way of thinking, assimilated to external economies. The vulgar method of measuring cost/benefit in terms of exchange value (itself conflated with market price) is then used to define a 'fair price' integrating external economies and diseconomies. For Amin, there are obvious limitations to these sorts of reforms based on actually existing power relations within capitalism:

It goes without saying that the work – reduced to mathematical formulas – done in this traditional area of vulgar economics does not say how the 'fair price' calculated could become that of the actual current market. It is presumed therefore that fiscal and other 'incentives' could be sufficiently effective to bring about this convergence. Any proof that this could really be the case is entirely absent. In fact, as can already be seen, oligopolies have seized hold of ecology to justify the opening up of new fields to their destructive expansion. Francois Houtart provides a conclusive illustration of this in his work on biofuels. Since then, 'green capitalism' has been part of the obligatory discourse of men/women in positions of power, on both the Right and the Left, in the Triad (of Europe, North America and Japan), and of the executives of oligopolies.

Amin faults Stiglitz for having 'openly embraced this position', proposing 'an auction of the world's resources (fishing rights, licences to pollute, etc.). A proposal which quite simply comes down to sustaining the oligopolies in their ambition to mortgage further the future of the people of the South.' This is the core idea that has come to be known as 'ecological modernization'. If we set aside for the moment the moral challenges Amin raises about the maintenance of unfair North-South power relations, another part of the problem is that the market does not readily map on to natural phenomena that are only now being understood by the world's leading climate scientists, such as the sequestration of carbon in forests, oceans and grasslands. As Harvey (2006, 96) warns: '[T]he spatio-temporality required to represent energy flows through ecological systems accurately, for example, may not be compatible with that of financial flows through global markets. Understanding the spatio-temporal rhythms of capital

accumulation requires a quite different framework to that required to understand global climate change.’

The increased commodification of nature runs under such constraints of uncertainty into various limits, Harvey (2010) is quick to point out, in part because spatio-temporal rhythms of crazed financial markets now drive global-scale public policy, even when it comes to addressing the crucial problem of global climate change. Hence there arose the notion in vulgar economic ideology that financial solutions really do exist for the purpose of mitigating greenhouse gas pollution. Exemplifying vulgarity in the expression of financial market power, there is no one better than Larry Summers, who as a leading US Treasury Department official arranged Wall Street bailouts in 1995 (Mexico), 1997–8 (East Asia) and 2009–10 (across the world but mainly helping Wall Street and the City of London) through extreme devaluations visited upon vulnerable countries and people. This tendency to devalue other people’s wealth and lives harks back to 1991 when, as World Bank chief economist, Summers (1991) wrote (or at least signed a memo written by Lant Pritchett) that ‘the economic logic behind dumping a load of toxic waste on the lowest-wage country is impeccable and we should face up to that . . . African countries are vastly underpolluted’.

The implications of Summers’ analysis and strategy – which extreme as these words sound, in modified form still represent the ecological modernization philosophy to which the World Bank and its allies adhere – are that the US and other Northern polluters should: first, *shift* problems associated with environmental market externalities to the South; second, *stall* a genuine solution to the problems by instead opening up the field of pollution-trading for a future market solution, using financialization techniques, derivatives and imaginary ‘offsets’ ostensibly aimed at building tomorrow’s sinks so as to mop up today’s dangerous forms of Northern pollution; and third, *steal* more of the world’s environmental carrying capacity – especially for greenhouse gas emissions – and perhaps pay a bit back through commodification of the air (resorting to mythical carbon markets and offsets) while denying climate debt responsibilities. Yet while emissions markets as tools for management of economic and ecological crises are attractive (to capital) in principle, they appear *impossible to implement in practice*, largely because of ongoing disputes about how the deeper capitalist crisis is displaced. Capitalist ‘crisis’ is, Harvey (2010, 45) tells us in *The Enigma of Capital*, drawing on Marx’s *Kapital*:

a condition in which surplus production and reinvestment are blocked. Growth then stops and there appears to be an excess overaccumulation of capital relative to the opportunities to use capital profitably. If growth does not resume, then the overaccumulated capital is devalued or destroyed. The historical geography of capitalism is littered with examples of such overaccumulation crises.

How does the capitalist system ultimately address this underlying tendency to over-accumulate? ‘In a general crisis, a lot of capital gets devalued,’ Harvey (2010, 46) argues. ‘Devalued capital can exist in many forms: deserted and abandoned factories; empty office and retail spaces;

surplus commodities that cannot be sold; money that sits idle earning no rate of return; declining asset values in stocks and shares, land, properties, art objects, etc.’ (Climate change may well visit such destruction on vulnerable sites; after all, Hurricane Sandy did \$60 billion worth of devalorization in a few hours in October 2012, requiring New York mayor Michael Bloomberg to develop a \$20 billion climate proofing strategy for the city.) But in lieu of sufficient devaluation of over-accumulated capital, those responsible for crisis management attempt various other crisis displacement tactics. One of these, the rise of carbon trading, can be compellingly understood using a theory of capitalist crisis developed in the tradition of Marxian political economy. Here, accumulation by dispossession allows capital to interact with society and nature on non-capitalist terrain, in search of scarce profits, in the way Rosa Luxemburg (1968) argued was central to capitalist crisis management a century ago. Across the world there are a great many examples that Harvey (2003, 145) traced back to Marx’s idea of primitive accumulation, including ‘conversion of various forms of property rights (common, collective, state, etc.) into exclusive private property rights; suppression of rights to the commons; ... colonial, neocolonial and imperial processes of appropriation of assets (including natural resources)... and ultimately the credit system as radical means of primitive accumulation.’ From such origins of understanding capitalist/non-capitalist power relations, a theory of imperialism emerged based on accumulation by dispossession, perhaps best articulated by Luxemburg (1968, 347) in 1913:

Accumulation of capital periodically bursts out in crises and spurs capital on to a continual extension of the market. Capital cannot accumulate without the aid of non-capitalist organizations, nor . . . can it tolerate their continued existence side by side with itself. Only the continuous and progressive disintegration of non-capitalist organizations makes accumulation of capital possible.

These concepts help us to better locate the carbon markets and other emissions trading and offset strategies as vehicles for displacing over-accumulated capital, during a period of extended crisis. The Kyoto Protocol’s opportunities for profit from the trade in rights to engage in environmental degradation are considered in *The Ecological Rift*, by John Bellamy Foster, Brett Clark and Richard York (2010, 70-71):

By the perverse logic of the system, whole new industries and markets aimed at profiting on planetary destruction, such as the waste management industry and carbon trading, are being opened up. These new markets are justified as offering partial, ad hoc ‘solutions’ to the problems generated non-stop by capital’s laws of motion . . . Such schemes continue to be advanced despite the fact that experiments in this respect have thus far failed to reduce emissions. Here, the expansion of capital trumps actual public interest in protecting the vital conditions of life. At all times, ruling-class circles actively work to prevent radical structural change in this as in other areas, since any substantial transformation in social-environmental relations would mean challenging the treadmill of production, and launching an ecological-cultural revolution. Indeed, from the standpoint of capital accumulation, global warming and desertification are blessings in disguise, increasing the prospects of expanding private riches.

It is through the lens of capitalist crisis and, consequently, the more desperate search for profit that we can substantially understand how over-accumulated capital found spatial, temporal and

imperialist routes to flow through, over the past three decades, eventually landing in the emissions markets over the last decade. Financial markets are central to the story, for they exploded in size and reach once the temporal fix began in earnest with liberalization and a shift to a higher-interest rate regime in the late 1970s. As productive sector profit rates in the North declined and financial returns boomed, financial expansion into various exotic derivative investments permitted virtually any notional value to be marketed as a credit for packaging and onward sale, including emissions of SO₂ in the US in the early 1990s, carbon in Europe by the late 1990s and a new round of sales of nature and its derivatives within both the North and the emerging markets in the coming decade. With this sort of lubrication, the commodification of the environmental commons proceeded apace, with water privatization, biopiracy, genetic modification and other processes controlled by multinational corporations generating expectations for what became the world's largest artificial market, i.e., carbon emissions.

The contradictions are extreme: estimates of a \$3 trillion carbon market by 2020 were overblown (the peak year was probably 2008 at \$140 billion, though with China's seven pilot projects launched in 2014 ostensibly covering 700 million tons of CO₂ emissions, renewed estimates are being made of a \$3.5 trillion market there alone by 2020) (Responding to Climate Change 2013). The financial markets over-extended geographically during the 1990s–2000s as investment portfolios diversified into distant, risky areas and sectors. Global and national financial governance proved inadequate, leading to bloated and then busted asset values ranging from subprime housing mortgages to illegitimate emissions credits. Likewise, geopolitical tensions emerged over which sites would be most vulnerable to suffer devalorization of over-accumulated capital after 2008, i.e., which regions or countries would bear the brunt of the deep financial sector and real economic downturns. The geopolitical context during the 2000s featured a sole military superpower oriented to neoconservative imperialism (especially in relation to US energy needs and hence in-built climate-change denialism), but mitigated somewhat by a global class politics of neoliberalism. This arrangement evolved somewhat since 2010, what with BRICS becoming the most coherent emerging-market network. But as BASIC countries' (Brazil, South Africa, India and China) leaders Lula da Silva, Jacob Zuma, Manmohan Singh and Wen Jiabao showed in 2009, they were perfectly willing to agree to a Copenhagen Accord that served Northern – and elite Southern – interests of GHG emissions without constraint. That deal's non-binding, voluntary approach would raise world temperatures by 4 degrees C by 2100, even conservative scientists conceded (Bond 2012). Competition in emissions laxity is the only way to describe the COPs under present circumstances, in which delegates appear to come to summits in carbon-intensive countries – Mexico in 2010, South Africa in 2011, Qatar in 2012 and Poland in 2013 – where the UN Framework Convention on Climate Change secretariat is led by a carbon trader (Christiana Figueras) and each of the summit presidencies bore the market of local fossil industry power.

In sum, valuing nature through markets, to save it from for-profit externalities, isn't working, precisely because price failure is an integral part of the problem: *distorted prices reflect capitalist crises*

(Harvey 1982). As expressed at the Rio+20 counter-summit by Joan Martinez-Alier and Joachim Spangenberg (2012): ‘Unsustainable development is not a *market failure* to be fixed but a *market system failure*: expecting results from the market that it cannot deliver, like long-term thinking, environmental consciousness and social responsibility.’ No better examples can be found of the irrationality of capitalism’s spatial-ecological fix – and the limits of shifting-stalling-stealing strategies – than two remarks from London. First, in 2010, said Tory climate minister Greg Barker: ‘We want the City of London, with its unique expertise in innovative financial products, to lead the world and become the global hub for green growth finance. We need to put the sub-prime disaster behind us.’ In that spirit, *World Finance* magazine’s ‘Western European Commodities Broker of the Year’ award in March 2012 went to Simon Greenspan, who bragged of his City firm: ‘At Tullett Brown we’ve only ever invested in areas of the market that have truly stood the test of time, such as gold and silver and property. When our analysts were looking for the next great area of growth it was fairly obvious to them. It was the planet, it was the environment.’ Within days, though, British financial authorities forced Tullett Brown into provisional liquidation and at the executives’ fraud trial a few months later, the suspects in this financial-ecological crime could not even afford a lawyer (Penman, 2012).

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