Law and the “Value” of Future Expectations: Climate Change, Stranded Assets and Capitalist Dynamics

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In both direct and obvious ways, but also in ways that are often backgrounded and obscured, recent discussions that fossil fuel assets and infrastructures risk becoming “stranded assets” if legal regulations to limit global warming are imposed makes evident the critical role that law plays in (co-)constituting “value”.

The 2015 *Paris Agreement on Climate Change* sets out clear international objectives to limit global warming to 2°C above pre-industrial levels and to “pursu[e] efforts” to limit warming to 1.5°C. Scientists have calculated that in order to do so, there is a constrained “carbon budget”, or approximately 886GtCO_2e for the period 2011-2050. Given that the carbon dioxide contained in the known global resources of fossil fuels – coal, gas and oil – is approximately 11,000 GtCO_2e, many times in excess of this “carbon budget”, the unavoidable conclusion is that the majority of fossil fuel reserves will need to stay below ground, unextracted and unburnt if we are to have any chance of avoiding catastrophic climate change. The necessity of keeping fossil fuels in the ground unavoidably raises complex questions of equity and fairness around what or whose fossil fuels should be left in the ground, how such decisions should be made and whether compensation should be paid to those who leave fossil fuels in the ground, and if so why whom. Advocates and commentators have also highlighted that if the target to limit warming to 2°C is “rigorously applied” and the vast majority of reserves become “unburnable carbon” the resulting “carbon bubble” could generate serious risks for investors and financial markets as assets become “stranded”. Some estimates suggest that the up of $1.6 trillion of fossil fuel resources could be “stranded”.

The example of “stranded assets” therefore speaks to how the “value” of such fossil fuel reserves and infrastructures is both reflective of, and a product of, the broader legal and regulatory environment. The concept of “stranded assets” extends beyond fossil fuel reserves, to include also investments, infrastructures, equipment, contracts and even knowledge that is losing or has lost value due to market transitions (Boas and Gupta, 2019). Definitions of “stranded assets” identify them as assets in which investments have been made that will no longer earn an economic return, prior to their anticipated economic end of life (Caldecott, 2017: 2). In particular, the definition by Generational Foundations, of a “stranded asset” as an “asset which loses economic value well ahead of its anticipated useful life, whether that is a result of change in legislation, regulation, market forces, disruptive innovation, societal

norms, or environmental shocks" (ibid), makes explicit how changes in law and regulation can lead to changes in an asset's "value".

Moreover, at stake are not just the future "value" of such assets, but also how expectations of the future shape "values" in the present. As climate activist Bill McKibbon highlighted in a widely read *Rolling Stone* article, although these reserves of coal, oil and gas are "still technically in the soil", they are "already economically aboveground" insofar as their value is "figured into share prices, companies are borrowing money against it, nations are basing their budgets on the presumed returns from their patrimony". Some estimates suggest that around $900 billion, or one third of the *current* value of the big oil and gas companies, could "evaporate" if laws to enact the *Paris Agreement* objectives were properly implemented.

Regulatory responses to the risk of "stranded assets"

The dominant legal or regulatory responses to the "problem" of "stranded assets" further illuminates a number of different ways through which law operates to co-constitute "value". Economic sociology scholars have demonstrated how imaginations and assumptions of the future are central to how the net present value of investments are calculated. As Jens Beckert shows in *Imagined Futures: Fictional Expectations and Capitalist Dynamics* the making of imagined futures, through calculative practices, is key to capitalist dynamics, as fictional expectations enable actors to coordinate their actions, generate shared conventions about the future that inform present behaviours and thereby, through shaping behaviour in the present, *affect* the future and bring certain futures into being (p. 11). Beckert therefore suggests that value "is constituted in practical processes by means of the narrative staging of expected future returns on an investment, supported by calculative tools" (p. 140). His analysis further gestures to how the "contingent nature of expectations" and the "fundamental uncertainty engendered by the openness of the future" can destabilise assumed values (p. 58). This is key to generating the specific dynamics of capitalism: it both drives a competitive pressure for constant entrepreneurial risk taking but also creates the potentiality of systemic crisis.

Yet, against this backdrop of market-driven processes of "creative destruction" legal techniques have been developed to reduce the contingency of the future or make an inherently uncertain future, less uncertain, or at least uncertain in a more calculable and predictable way (Luhmann, 2004: 142-3). The protection and enforcement of property rights is central to ensuring the "value" of assets. Additionally, forms of legal "coding" have been developed to protect "value" including by "extend[ing] the life span of assets and asset pools" or extending priority claims through time (Pistor, 2019: 14). Below I discuss two different regulatory responses to the "problem" of "stranded assets" to illustrate two different ways in which legal techniques operate to protect – and thus co-constitute – "value". Firstly, I discuss regulatory responses that promote greater information disclosure in order to manage and mitigate the systemic risk that the rapid devaluation of "stranded assets" could pose to global financial markets. Secondly, I discuss how suggestions that investors should be compensated

for the value of “stranded assets”, that treat value as “a purely *factual* matter, and valuation as a purely *technical* endeavor”, are premised on legal arrangements that operate to constrain the openness of the future and foreclose particular possibilities.

Financial disclosure regulation and managing the systemic risk from “stranded assets”

In recent years the problem of “stranded assets” has become a key issue in broader discussions about the significant risks that climate change could pose to the global financial system. Discussions on the risks climate change poses to the financial system have focused both on (i) the risks related to the *physical* impacts of climate change, including both acute and chronic risks; and (ii) the risks related to the *transition* to a lower-carbon economy, including policy and legal, technology, market and reputational risks. My analysis is concerned with the latter “risks”, namely that the transition to a low-carbon economy will require transformative changes across a number of economic sectors, and that the resulting changes in market dynamic could affect the valuation of organisation’s assets, and in some cases trigger the re-pricing of assets resulting in sudden losses in asset “value” potentially leading to the write-off or early retirement of assets. Financial experts are particularly concerned about potential *systemic* risks that sudden revaluations could create for the global financial system as a whole, and have warned that sudden changes in investors’ perception of the profitability and of financial assets and resulting loss of market “value”, could potentially trigger fire sales and/or a financial crisis. For example, in 2016 Mark Carney, Governor of the Bank of England, suggested that a rapid reassessment and re-evaluation of climate risks “could destabilise markets, spark a procyclical crystallisation of losses and lead to a persistent tightening of financial conditions” and thereby create “a climate Minsky moment”.

To assist financial markets in better managing these risks, in 2015 the Financial Stability Board of the G20 established the industry-led Taskforce on Climate-related Risk Disclosure to identify the information that investors, lenders and insurance underwriters need in order to assess and price climate related risks and opportunities. In 2017 the Taskforce released a report that provided highly influential recommendations for voluntary climate-related risk disclosure guidelines. These voluntary recommendations are increasingly being adopted in corporate disclosure frameworks including stock market listing rules, in order to address concerns that inadequate information could lead to the mispricing of assets and to encourage the development of better valuation models. This regulatory response therefore demonstrates another way in which law co-constitutes “value”, namely how corporate disclosure regulation operates to protect “value” that might otherwise be at risk by managing a “smoother” transition to a low-carbon economy and avoiding the sort of sudden loss of value that may potentially trigger a financial crisis. It thus highlights how regulatory mechanisms operate to protect “value” in the financial sector as a whole, by helping to re-align expectations, manage transitions and fend of de-stabilising shocks.

Protecting investor "value" by narrowing future possibilities

A different response to the discussions on "stranded assets" has been suggestions that investors or companies should be compensated if climate regulations at the international or domestic level would prevent fossil fuels from being extracted or otherwise lead to the depreciation in asset values. Some companies are already calling for compensation for "stranded asset" risk. A recent research report by the Bank of International Settlements (BIS) *The Green Swan* controversially suggested that Central Banks should intervene more actively to address climate related financial risks, including potentially buying "assets devalued by physical or transition impacts". In such discussion, "value" is generally presented as a *factual* rather than *speculative* matter, and as something stable rather than fluctuating. Kyra Bos and Joyeeta Gupta suggest that in the international context, "states may be forced to compensate multinationals when investments were made under multinational or binational contracts with investor-state arbitration" (Boas and Gupta, 2019: 9). They point to a number of examples where states have been sued through investor-state dispute settlement processes when companies were deprived of mining rights or environmental policies impacted on company profits. They further suggest that in the national context, although companies are unlikely to recover full compensation for industry closure, they may receive partial compensation.

These discussions draw attention to the numerous background ways through which law "enables expectations to crystallize as expectations which are stable and give guidance" and thus direct present and future behaviours (Luhmann, 2004: 152). Key amongst them is the modern law of contract, which as it evolved in the 19th century to gradually recognise expectation damages, was transformed from a mechanism for the transfer of property to an "instrument for protecting against changes in supply and price in a market economy" (Horwitz, 1977: 174). The legal rules around "regulatory takings" that require governments to pay compensation, based on expected market returns, if regulatory action results in the expropriation of private property, is another way in which law protects and stabilises certain specific future expectations of investors. More recently, the expansion of a dense network of multilateral and bilateral investment treaties and investor-state dispute resolution mechanisms are operating to protect investor expectations of future value, through international arbitration. These doctrines make visible some of the ways in which law is central to the co-constitution of "value" and moreover, the politics of how legal systems protect and stabilise certain expectations – of future economic growth and returns – entertained by specific actors, namely investors. Moreover, by stabilizing specific expectations and making it possible for present behaviour to be guided by specific assumptions about the future, such legal regimes incentivise present conduct that contributes towards creating particular imagined futures.

However, critically examining these legal doctrines makes visible, as Akbar Rasulov identifies, that they are premised on the recognition that "the market value of any given property could indeed be severely diminished or even completely destroyed by altering the background regulatory framework affecting the rights of use for the

respective category of assets, the conditions for its transferability, possession, judicial protection etc." Recognising how all market value is already constituted by law thus makes evident the political bias in categorising regulatory actions as a *taking,* especially in a context where, as Rasulov notes, unsurprisingly no doctrine of regulatory *givings* exists.

Thus, in response to the predictable calls for compensation for stranded assets, made by some of the companies most responsible for the climate crisis – just 90 companies are responsible for two-thirds of global emissions since the Industrial revolution – it is important not to simply accept the supposed "value" of these assets as pregiven facts, but to interrogate how the "value" of such assets is already a product of legal arrangements, designed to enable capitalist dynamics by protecting future expectations. At a moment when the climate crisis threatens millions of species and human societies and indeed the future habitability of the world, the stakes of interrogating how law (co-)constitutes value by protecting future expectations has never been higher. The legal protection of certain future expectations already has become a key site of struggle over what decisions will be made now, in the present, to bring different futures into being. In order to properly acknowledge the immeasurable "value" of a liveable world, it is urgently necessary to contest the way in which law has operated to protect certain "values" over others, in order to collectively create a more just and ecological future.

References

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