# 1AC

## 1AC — Shipping (KU HW, UMN)

### 1AC — Mega Ships

#### The Advantage is Mega Ships —

#### The international shipping industry is immune from antitrust suits

O’Shea 17, an attorney who works on transportation and infrastructure issues, (Sean, October 3, 2017, Congress Must Stop Foreign Ocean Carriers From Harming U.S. Economy, https://morningconsult.com/opinions/congress-must-stop-foreign-ocean-carriers-from-harming-u-s-economy/)

Currently, U.S. ports and shippers are exposed to foreign ocean carrier cartels that band together to protect their financial interests while squashing port profits and stifling competition. Over the past several years, these ocean carriers have largely consolidated into three alliances that represent such a large share of the market that they can threaten to steer substantial amounts of cargo away from U.S. ports that balk at fees the alliance offers. Under normal circumstances, the whole scheme likely would run afoul of the Sherman Anti-Trust Act, which Congress adopted at the end of the 19th century in response to oil, steel and sugar trusts that attempted this same kind of market manipulation. But in the Shipping Act of 1916, Congress created an exemption from antitrust laws for alliances approved by the Federal Maritime Commission. When Congress revisited the law in 1984, it added a provision that allows a carrier alliance to go into effect automatically, providing antitrust immunity to its member lines, unless the FMC obtains a court injunction within 45 days. Even then, the only acceptable grounds for issuing an injunction are when a proposed alliance will impair shippers. The court cannot consider the potential harm to ports, dock workers or other waterfront service providers. The law further says that only the FMC, and not the Department of Justice, may file such lawsuits, and private parties are expressly barred from intervening in any case the FMC does bring. This special treatment in the current law gives foreign containership lines a virtual antitrust immunity when dealing with U.S. marine terminals, stevedores, tug and towing companies, and other equipment and service providers. This has created an environment in which U.S. laws favor the interests of big foreign vessel operators at the expense of American port terminal companies, shippers and workers. Today, exactly zero U.S. ship owners participate in the three ocean carrier alliances recognized by the FMC. This means our laws now do more to shield foreign carriers from being sued for antitrust violations than it does to promote the domestic shipping industry.

#### The container shipping industry is increasing use of mega ships driving out those who want to operate smaller ships

Murray 16, Midshipman in United States Merchant Marine Academy, (William, “Economies of Scale in Container Ship Costs” https://www.usmma.edu/sites/usmma.dot.gov/files/docs/CMA%20Paper%20Murray%201%20%282%29.pdf)

On the extreme end of this increase in ship size is the development of mega container ships. These ships, capable of carrying 10000 TEU or more, have become a facet of the container shipping industry. While there are undeniably more ships on the low capacity end of the spectrum than on the high capacity end, mega ships are being built a staggering rate. In 2014 there were 196 vessels over 10000 TEU, with 66 of those being larger than 13300 TEU. In 2015, there were 265 ships over 10000 TEU, with 96 larger than 13300 TEU. This represents a 35% increase in the number of vessels over 10000 TEU, and a 45% increase in those greater than 13300 TEU. Ultra large container ships are undoubtedly in vogue. It is not difficult to determine why ship owners are building more ships; it is in response to the demand for containerized freight. To meet this demand, more capacity must be available. This can only be accomplished by either building more ships or by increasing the size of those already built. While some owners have undertaken jumboizations in order to increase existing vessels’ capacities, the majority prefer to build new ships. In efforts to capture as large a market share as possible, these ships are built to carry as many containers as possible. Competing carriers have few ways to differentiate themselves. While on time performance and customer service are important, there is a distinct lowest cost advantage. That carrier which can offer the lowest freight rates is better positioned than its competitors. Ship owners believe that these mega ships offer a cost advantage, although it is worth noting that the costs associated with these vessels are vast. Owners must weigh the costs of these larger ships against the potential economic benefits they offer.

#### The acquisition and use of megaships are anticompetitive practices that drive out smaller ships

Veitch 16, Head of Policy for the Global Shipping Foundation, (Alex, Nov 2016, Report by Global Shipping Foundation, “The Implications of Mega-Ships and Alliances for Competition and Total Supply Chain Efficiency: An Economic Perspective”, <https://paperzz.com/doc/9427398/the-implications-of-mega-ships-and-alliances-for-competit>...)

The container shipping Market is undergoing considerable change. The development of the mega ship has had a profound impact. They have led to the creation of new strategic Global alliances and quickened the pace of consolidation in the industry. This paper analyzes the impacts for shippers, the customers of container ship operators, and in particular the Wider supply chain implications of Mega ships and the potential impact on competition between competitors and their shipper customers. This paper comes in two parts: the first provides an economic assessment of megaships, alliances and consolidation of the container ship industry; the second part, in the form of an Annex (Annex 1) takes a competition policy analysis of megaships, strategic alliances in the impacts of consolidation in the industry. the paper draws on various detailed studies and sources, including the recent Organization for Economic Cooperation and Development (OECD) International Transport Forum report on Mega ships and the oecd competition committee report on competition issues in liner shipping , but it also provides its own independent economic and competition assessments. The following key findings, conclusions, and recommendations for carriers, regulators and competition authorities, and shippers are summarized below. Economic Issues: Mega ships and the associated commercial practices of strategic alliances and mergers are driving consolidation in the container shipping sector. This is harmful to shippers because megaships and strategic alliances reduce supply chain efficiency and rivalry unimportant parameters of competition, including capacity, sailing frequency, de transit times, ports of call and Associated service quality. The higher economies of scale associated with megaships mean that fewer ships can operate in a market of a given size. Higher barriers-to-entry are likely to reinforce the trend towards fewer independent operators, with smaller operators being driven out of the major trades into niche markets faced with a trend towards consolidation and cooperation due to Mega vessels. It is unlikely competition problems associated with consolidation and megaships will be solved by new entrance into liner shipping. The report asks whether the time is right to question the received wisdom that shipping alliances and Consortium are preferable to consolidation between carriers because Shipping Lines operating common capacity cannot compete amongst themselves with regards to the Consortium has agreed capacity, sailing frequency, transit times, ports of call and Associated service quality.

#### The size of those megaships are about to explode, drastically shaking up the entire industry

Fickling 21, Reporter for The Print. (David, March 30, 2021, Get ready for future, giant next-gen cargo vessels will make ‘Ever Given’ look like bath toy, <https://theprint.in/opinion/get-ready-for-future-giant-next-gen-cargo-vessels-will-make-ever-given-look-like-bath-toy/630839/>)

If you think the ultimate reason the Suez Canal got blocked last week is because container ships are getting too big, get ready for the future. The next few generations of cargo vessels are going to make the Ever Given look like a bath toy. Big enough to carry 20,124 twenty-foot equivalent units, or TEUs — the standard measure for cargo, representing a single shipping container — the Ever Given was one of the world’s largest such vessels when it was launched in 2018. The first container ship to break the 20,000 TEU mark had been at sea for less than a year. One famed 1999 study, written at a time when the largest boats carried less than 8,000 TEUs, argued it would prove impossible to build craft bigger than 18,000 TEUs. The Ever Given, finally floating on its way again, is now distinctly in the second class of mega freighters. There are nearly 100 ships carrying more than 20,000 TEUs on the seas or under construction, and the bigger vessels being assembled in Chinese and South Korean shipyards are mostly around the 24,000 TEU mark. A quarter of the capacity moved by the world’s largest container line, AP Moller-Maersk A/S, is on boats above the 17,500 TEU mark. That’s unlikely to be the end of it. Chinese shipyard Hudong-Zhonghua Shipbuilding Group Co. has already registered designs for a 25,000 TEU vessel, and it has become relatively commonplace to predict that 30,000 TEU monsters will be plowing the oceans before the decade is out. Such enormous hulls may cause problems that will put the Ever Given’s mishap into the shade. At Rotterdam, the largest ships already have to arrive at high tide to ensure there’s enough clearance for them to get through the channel, according to a 2019 study by Nam Kyu Park of South Korea’s Tongmyong University. Larger vessels will soon be unable to berth at Shanghai, Busan and Hong Kong even at high tide, unless channels are dredged out further, Park wrote. There are similar problems with infrastructure on dry land. Modern ports are astonishingly efficient at unloading, and can turn around a fully laden 20,000 TEU vessel in a couple of days. But the time spent waiting for a berth can cut deep into the wafer-thin economics of a container line. Longer quays may have to be built to accommodate the larger ships, as well as cranes that can reach across wider decks, larger loading yards for tens of thousands of containers, and faster rail and road terminals to take cargo to its next destination. Current vessels are already at the limits of what can fit along major shipping lanes. The Ever Given is too bulky to squeeze through the Panama Canal, where boats must be lifted over its mountainous spine with massive lock gates. At 24 meters (79 feet) deep, the Suez Canal has more capacity — but it’s roughly as deep as the Straits of Malacca and Singapore, so dredging it further to accommodate bigger ships won’t help much. The binding constraint on East-West trade at this point isn’t engineering, but geology. Extending 15.7 meters below the water line, the Ever Given shouldn’t, on paper, have trouble making it through any of those channels, which typically require 3.5 meters of clearance from the bottom. Next-generation ships with a 20-meter draught, on the other hand, would be at constant risk of grounding. How have container ships managed to defy expectations that their size would hit fundamental limits? A large part of it is because the economies of scale are so compelling. Bigger vessels use more fuel, but relative to the number of boxes stacked on their decks they’re far more efficient. They can also turn around a larger number of containers at a time and serve a wider array of feeder ports, ensuring they can defray their massive capital costs quicker. There’s little sign that this is about to change. New International Maritime Organization regulations against the burning of sulfur-intensive fuel oil introduced last year mean current ships are using costlier diesel, putting more pressure on naval architects to come up with yet more efficient designs. Beyond that, the IMO now has plans to reduce carbon dioxide emissions by 40% in 2030 compared with 2008, and by 70% by 2050. Even with a switch to cheaper, less polluting liquefied natural gas as the main fuel, that’s going to mean further drastic improvements in efficiency, not to mention propulsion technologies that don’t exist yet. To date, the best way to chip away at fuel consumption and emissions is by increasing size. It’s hard to know how the industry is going to cope with this. Perhaps Suez, Malacca and Singapore can be dredged to accommodate even bigger vessels. Perhaps shipyards will find ways to squeeze a few more inches out of existing channels. If not, alternative routes around the Cape of Good Hope and through the deeper Straits of Sunda and Lombok between Indonesia’s islands may prove the only viable way to accommodate such massive boats. Should that happen, those economies of scale will have to be drastically larger to make up for the longer sailing time. We’ve seen container ships leap from 10,000 TEUs to 24,000 TEUs. Don’t be shocked to see 50,000 TEU vessels plying the sea in your lifetime.

#### Scenario 1 is Port Expansion —

#### That forces massive, unwanted port expansions that ensures constant environmental destruction around the world

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According to (Baik, 2017), mega ships can impact the port infrastructure in many ways. As a brief example: The berth of a port determines what vessels can dock, larger vessels require larger berths and quays to support the length, weight, and height of the vessels. Large vessels also require larger gantry cranes to support the loading and unloading of cargo in large volumes. The cranes are required to be large and therefore are heavy with longer reach but this then requires the piers to be reinforced and expanded in order to support the weight and size. Yap & Loh (2019) informs that all these changes are caused by the size and length of a vessel which goes to show the vast amount of investment that is needed to make the port accessible to mega ships. “The bigger the ship is, the larger the risk is”, larger vessels also add a lot of risk regarding port congestion and can have heavy impacts on the environment if an accident were to occur in the port (Baik, 2017). According to Park & Suh (2019), if in the future a mega container ship with a volume capacity of 30,000 TEU is in operation then ports need to dredge and increase the water depth by more than 20 m and that will have to be the new standard for ports and container terminals.

#### Megaships independently cause port access disparities and expansions that produce environmental and social dislocations and result in Southeast Asia conflict

Iyer 19, Fellow with the ORF Maritime Policy Initiative. She tracks ocean governance policies and international maritime trade sustainability for global development. (Gayathri, Mega-ships in the Indian Ocean: Evaluating the impact and exploring littoral cooperation, https://www.orfonline.org/research/mega-ships-in-the-indian-ocean-evaluating-the-impact-and-exploring-littoral-cooperation-53235/)

The emergence of mega-ships and mega-ports necessitates that governments respond to several traditional and non-traditional maritime security threats and vulnerabilities. Securing maritime supply chains against disruption presents an enormous challenge. The increased size of ships increases the safety, security and rescue concerns at ports proportionally as mega-ships generate larger and more concentrated flows of containers in docks, stores and the hinterland. Mega-ships also increase the concentration of risk in the transit choke points that can have severe global food and energy security implications.[41] While more cargo on ships implies less number of ships, the supply chain becomes less resilient due to the large volume of goods on decreasing number of vessels.[42] The potential threat to international commerce by naval mines makes mega-ships most vulnerable near geographical bottlenecks, especially on routes that carry large oil and food supply. Destabilising any one choke point could not only lead to massive losses of goods, it may have considerable economic and even life-safety repercussions around the globe. Experts have already identified the growing threat of naval mines in the Strait of Mandeb that ties the Red Sea to the Gulf of Aden.[43] The joint naval mine countermeasure and clearing exercise off the coast of Bahrain in 2012—which saw participation from 30 states from six continents—[44] drew attention to the need for greater clarity on the law governing the use of naval mines in times of both peace and war. The 1907 Hague VIII Convention, which is the only treaty that expressly governs naval mines in international law, is expressly limited to contact mines.[3] Since larger container vessels can ply only in limited sea-lanes of communications and dock only in a few mega-ports, they are aggravating the disparity among maritime trade regions and stakeholders. There are inequalities arising in some littorals because of being left out of the direct port calls and the changes in the traditional sea-lanes of communication. These rapid changes in sea-lanes of communication can catalyse conditions for the rise of non-state actors. They can disrupt maritime supply chains and threaten the global economy. Unplanned port expansion activities impact urban crime and human rights violation patterns. With the exception of India, the bulk of Asia’s population of 3.5 billion is coastal or near-coastal. Over 60 percent — 2.1 billion people — live within 400 kilometres of a coast. Such population clusters along coasts commonly results in serious conflicts over shared resources including water and land, unplanned urbanisation, and continued pollution of coastal waters.[45] The current coastal population growth is not being managed equitably, reflecting these concerns.[46] Port developments may also produce tensions based on historical development and socio-cultural composition. The social composition of most ports has been influenced by centuries of migration. Ports serve as entry and exit points for migration and act as employment hubs; as a result, port demographics change continually over time. This has given them distinct advantages in promoting social interaction, intellectual tolerance, and religious exchanges. At the same time, however, the complex distribution of communities that has developed as a result of successive phases of migration can lead to security threats in locations where human development is compromised. Mega-port development and expansion represents an unprecedented scale of intervention in an otherwise organically constituted settlement. This in turn can lead to the relocation of people, or trigger tribal, cultural, economic, and even religious conflict.[47] Since the Indian Ocean littoral has always been vulnerable to criminals and anti-national activities[48]—some internal and localised[49] and others of global significance[50]— state policies need to move towards balancing development of human capital with physical capital to create sustainable solutions. The expansions required to accommodate mega-ships are problematic for other reasons. They are mostly unplanned—with short-term gains in mind—aggravating existing issues of urban congestion and related crime. Karachi seaport in Pakistan is cited as a prime example of a well-located international trading port asset that grapples with unplanned port expansions, population overflow, complex urban demography, urban poverty, and violent crime.[51] It is a key geopolitical asset in South Asian international trades as the largest warm water deep-seaport in South Asia, and owing to its proximity to the Strait of Hormuz. Singapore, by contrast, has been able to leverage its human capital to create wider economic benefits for its people by planning its port expansion activities. Successfully planned port development has played a significant role in the country’s development and trade competitiveness.[[52]](https://www.orfonline.org/research/mega-ships-in-the-indian-ocean-evaluating-the-impact-and-exploring-littoral-cooperation-53235/" \l "_edn52),[[4]](https://www.orfonline.org/research/mega-ships-in-the-indian-ocean-evaluating-the-impact-and-exploring-littoral-cooperation-53235/" \l "_ftn4) As the example of Karachi shows (and inversely, Singapore implies), most of developing Asia lacks the political motivation, expertise, or money to introduce comprehensive coastal management plans at individual country level. It is thus important for these countries to select best practices and introduce joint policies for port expansion and development that examine ways of permitting economic growth while ensuring a better quality of life for all coastal dwellers. The highest rate of urban land conversion (increased urban extension) in the coastal zone, is taking place in China and Southwest Asia.[[53]](https://www.orfonline.org/research/mega-ships-in-the-indian-ocean-evaluating-the-impact-and-exploring-littoral-cooperation-53235/" \l "_edn53) Trade flows between the two regions through the Indian Ocean account for almost 30 percent of world trade. The trends of urban land and population expansion rates in these and Southeast Asian coastal zones is expected to continue or even increase into the future if countries are pushed into expanding ports rapidly to accommodate mega-ships. Since littorals support intricate maritime infrastructure including ports, harbours, oil and gas terminals, and rail/road systems, they can create favourable conditions for illegal activities. Their governance can be a major challenge for civil security agencies if they are socially dysfunctional due to economic or resource disparities. It is therefore important to consider policy frameworks that examine port expansion plans taking into account not only economic development but the planning required to address issues including increasing crime, human rights violations, ethnic conflicts, and the dislocation of people.

**Instability escalates---Southeast Asia is a flashpoint.**

Ei Sun **Oh 16**, Senior Fellow, Singapore Institute of International Affairs / Principal Adviser, Pacific Research Center, Malaysia, 9-20-17, Say ‘No’ To Balkanization – The Manila Times, Manila Times, https://www.manilatimes.net/2017/09/20/opinion/analysis/say-no-balkanization/351621/351621/

There are those who bluntly question what is the point of having Asean (Association of South East Asian Nations) at all if it were not to take a proactive role in regional matters, especially those of strategic importance? The answer to this question is, alas, perhaps an existentialist one. For indeed what would Southeast Asia be if we do not at least have a regional organization in the form of Asean? Well, one possible outlook would be that we are Balkanized. And what does that mean? The Balkan Peninsula, which roughly comprises the former Yugoslavia and Albania, has been one of the world’s most ethnically and religiously diverse and thus tense regions. Within a small confine of rather rugged terrain, there live side by side Orthodox Serbs, Muslim Bosnians and Catholic Croats, to name but a few of the Balkan tribes. Their incessant bickering led to the assassination of the Austro-Hungarian heir to the throne and thus the onset of the First World War a century ago. Yugoslavians were ruled with an iron fist under the communist dictator Tito for nearly half a century after the Second World War and thus maintained a forced peace. But all hell broke loose in the 1990s, with the various former component republics of Yugoslavia at war with each other and often within themselves too, culminating in many different horrible tales of genocide, war crimes and crimes against humanity. The relative peace there now can at best be described as temporary. And at least in theory we the various nations in Southeast Asia have the comparable “ingredients” that could have led to the same, if not higher degree of havoc, as the Balkans. There are Muslims, Christians and Buddhists (and even some Hindus) among us, and we are each fiercely proud of our respective ethnic backgrounds. So, we could have each staked our claim to our pride and “greatness” and assumed a rival posture to our neighbors, instigating war at the first hint of insult. Even just as an individual commentator on regional affairs, I myself have not immune to attack but subject to that sort of war cry from a neighboring country due only to a well-meaning media comment of mine, albeit at a civil-society level. So, things could have gone the Balkan way from way back during the early days of our independence from our respective colonial yokes. And we were almost there. Right before and after Malaysia’s formation, for example, the so-called “Confrontation” was launched to oppose it, with skirmishes taking place for a few years. But wiser heads prevailed, and all our former leaders decided not to go down that mutually destructive path toward total annihilation. Instead, we decided to set aside or overlook our cultural and political differences, great that they may be, and form Asean to bring us closer together, but only to a degree of closeness that we are all comfortable with. And that degree of comfort is essential for Asean’s long-term survival as a regional platform for peace and hopefully also security, but peace with each other first and foremost. In the early days of Asean, when the Vietnam War was raging, there was a perceived “common enemy” in the likelihood of communist insurgency flipping many Southeast Asian countries red in a domino effect, so the founding members of Asean understandably came very close together in security concerns, although even then there was not an explicit military alliance forged. As the Vietnam War receded, Asean members felt that it was time to focus on their collective and respective economic development, and so the whole focus of Asean switched to that of promoting economic cooperation and coordination. Ambitious socioeconomic frameworks were envisioned and enacted, such as the various Asean free trade agreements with the major trading powers of the world, culminating in Asean’s own free-trade-plus framework, the Asean Economic Community which is supposed to promote the free flow of goods, services and many more across Asean members’ boundaries. We live in very turbulent and dangerous times, with nationalism and its attendant jingoistic sentiments on the rise across the globe, including in some of the most advanced countries. My own personal negative experience above, although only encountered online, has persuaded me that if left unchecked, such negative trends would only serve to destroy ourselves and our neighbors. Therefore, I think that while we should not presume Asean to force its member states to abandon their various nationalistic characteristics in favor of a common Southeast Asian one, as some accuse the European Union of accentuating the European nature of its various members in lieu of their various national ones, we should nevertheless wait for Asean to take the lead in promoting further, deeper and broader understanding of each other’s history, needs and even fears. There are no significantly entrenched misunderstandings among us, so there is nothing to paper over. But sometimes it is very important for all of us to listen to each other’s aspirations in a peaceful manner.

#### Independently, megaships create global pressure for port expansion that enacts devastation of environments and indigenous communities around the world

Brown 20, a freelance writer and video journalist based in Quito, Ecuador. (Kim, June 8, 2020, ‘I’ll never be ready for this port,’ locals say of Colombia’s proposed project, <https://news.mongabay.com/2020/06/ill-never-be-ready-for-this-port-locals-say-of-colombias-proposed-project/>)

Wilmsmeier says there has been global pressure to develop deepwater ports since 2008, after the shipping industry started building extra-large cargo vessels to account for a boom in trade, forcing ports to adapt and deepen. When the financial crisis hit that same year, trade volume declined, but shipping firms continued to use these new massive vessels that were now half-empty — a trend that continues today, Wilmsmeier says. As Latin America has seen a significant trade shift toward Asia, mainly China, over the past two decades, Colombia, with its port of Buenaventura, is definitely the weakest along South America’s coast, says Wilmsmeier, who is also the former economic affairs officer for the United Nations Economic Commission for Latin America (ECLAC). Neighboring Ecuador and Peru each have one dominant deepwater port on the Pacific, while Chile has two. The answer isn’t to build an entirely new port, he says, but rather to adapt the one at Buenaventura, which only operates at 40% capacity as it is. The only problem with the port is its marine accessibility, and the highway that leads from Buenaventura to the nearest city of Cali, which was never fully converted to a two-lane highway. But otherwise, he says “it’s not a bad port at all.” It would be a lot cheaper to dredge 15 or 16 meters (about 50 feet) into the harbor here, rather than build a new port from nothing. “I have until today not understood why to build a port [in Tribugá], particularly if you have port capacity in an existing port system,” Wilmsmeier says. Catalina Ortiz, a Green Party congresswoman representing the department of Valle del Cauca, where Buenaventura is located, has been an outspoken opponent of the idea of building a new port in Tribugá, in the neighboring department of Chocó. Not only would a new port be expensive, it would also cause massive environmental damage, which in this case isn’t justified since it’s not necessary, Ortiz tells Mongabay. She says she is confident ANLA will never approve the environmental studies for the project. Naranjo says the plan for Tribugá is for it to be the first “green port city,” and that the project will have little environmental impact. The design includes areas for public services, tourist areas, and urban dispatch areas, in addition to the docks. Potential construction plans for Tribugá include docks that run 3.6 km (2.2 mi) long and 15 to 20 m (49-66 ft) deep, according to an Arquimedes presentation. These docks would have the capacity to receive ships carrying up to 200,000 tons, like the Panamax and Post-Panamax class of freight ships, both of which are roughly the length of three football fields and have a draft, or portion of the ship that sits underwater, of 12 to 15 m (39-49 ft). ‘No guarantees for local communities’ While the port is proposed for Tribugá, it is only one town in the wider municipality of Nuquí, which includes eight Afro-Colombian townships and 13 indigenous communities that could also be affected. According to both national and international law, these populations must be consulted prior to any project planned on or near their territory, and have the right to refuse it. Mosquera, who is based in the municipal seat of Nuquí, says neither he nor other authorities from Los Riscales have been consulted about the port yet. He says he can’t support a project that threatens community autonomy and food security. More than 600 families here live from daily fishing or collecting shellfish like the crabs and mussels that reproduce in the roots of the mangroves, he says, which would all be at risk from this massive marine infrastructure project. The region’s nearly 5,000 hectares (12,300 acres) of mangroves are one of its unique features, according to the international marine conservation organization Marviva. These are important ecosystems where fish, invertebrates and reptiles gather to both feed and breed, which also makes them an important sources of marine protein for families in the region. But the potential traffic of massive ships entering and leaving the coast on a daily basis will destroy the mangrove ecosytems and push fish farther out to sea or displace them altogether, making it harder for local families to survive, according to Marviva. View of the town of Nuqui, looking north where the proposed port will be built. Photo by Kimberley J. Brown. The communities have long had their own development and conservation initiatives to maintain this harmonious relationship with the environment they depend on, Mosquera says. This includes practicing responsible fishing, protecting the mangroves, and carrying out small-scale community agriculture, where they plant plantains, yucca or rice for local consumption, he says. But not everyone in the town is against the port construction. The mayor of Nuquí, Yefer Gamboa, says the municipality is split over the project, with many here seeing it as a good opportunity for jobs, infrastructure like schools and hospitals, and connectivity to the rest of the country. According to state data from 2005, 60% of the population of Nuquí don’t have their basic needs met. Problems include lack of access to water, consistent electricity supply and health care. Gamboa says some of these problems are exacerbated by the municipality’s remote location on the coast, surrounded entirely by thick rainforest. No roads connect the municipality to the interior, and the only way in is by small passenger plane to the municipal center of Nuquí, which is expensive for locals, Gamboa says, or some five hours by boat from Buenaventura. Gamboa says he will support the construction of the deepwater port, if that’s what the majority of residents decide they want. But if the community rejects it, he says he expects the government to respect that decision, and work with locals on other development plans that address their ongoing needs. “We have to sit down and develop our own route for development,” Gamboa says, adding the solution doesn’t need to come from Bogotá or commercial sectors in the interior. A local resident named Pablo, a resident of Nuqui who works as an informal guide for tourists who come through the area, cuts through a fresh coconut he found on the beach in Nuqui. Photo by Kimberley J. Brown. Living off conservation One of the ways this is already happening is through ecotourism, which is the second most important part of the local economy, after fishing, says Mayor Gamboa. And it’s growing. Today, up to 10,000 people visit Nuquí per year, according to municipality figures. The vast majority of these visitors arrive between July and November to watch the migration of humpback whales (Megaptera novaeangliae), which migrate every year from the colder waters of southern Chile to Colombia’s Pacific coast to breed, and return the next year to give birth. Guide books call Nuquí one of the best places for whale-watching on the coast, precisely because of the tranquility that stems from its isolation. White sandy beaches line the shores and are virtually empty, while the lush Chocó rainforest reaches right up to the water providing hiking opportunities through narrow jungle trails to natural hot springs and waterfalls. Local tour guides also bring people on excursions to see a variety of fauna, from birds, sharks, dolphins and turtles, to the occasional jaguar sighting. Mosquera says some 40% of the population of Nuquí work in ecotourism, either as guides, cooks or lodge owners. The lodges are for the most part locally owned. A resident of Tribuga, after finishing a town meeting to discuss a new ecotourism project. Photo by Kimberley J. Brown. Kelly Rojas, communications manager with Marviva, says the port project puts these local ecosystems and the ecotourism economy that the communities rely on at risk. Marviva has been working in Nuquí since 2006, predominantly with local communities to develop protected marine areas, responsible fishing practices and markets, ecotourism projects, as well as to document marine species in the area. The organization has been able to identify a wide range of unique marine life in the Gulf of Tribugá, including turtles, piangua cockles (Anadara tuberculosa), humpback whales, sharks, dolphins, a variety of fish, important coral formations, and seven different species of mangroves. Rojas says the vibrations and contamination that would be released by the port activity and ship traffic will destroy local ecosystems and displace marine populations.It would also displace popular breeding grounds of sharks and humpback whales, he says. “[The port] goes against everything they have. You saw that their development is very focused on conservation issues, it is very focused on fisheries, it is very focused on community tourism issues, and these are all things this port construction would directly affect,” Rojas says. Connecting Nuquí to the rest of Colombia Deforestation in the Chocó rainforest is another major concern, as publicly funded highways will have to be built or expanded to connect the port to the rest of the country. Only two highways exist in the department of Chocó, which is otherwise pristine rainforest with little development. These roads connect the departmental capital, Quibdó, to the cities of Medellín and Pereira in respective neighboring departments of Antioquia and Risaralda. But both are single-lane highways that travel through winding mountain paths, and are unfit for large cargo trucks, so would have to be expanded, says Mauricio Cabrera, policy coordinator for mining with WWF. The group is part of a network called Tribugá Alliance made up of environmental organizations, researchers and local community councils that are against the port project. The proposed highway that would connect Nuquí to the interior would leave from Las Animas, some 57 km (35 mi) south of Quibdó on the road to Pereira. So far, some 55 km (34 mi) has been built, but it resembles more of a narrow trail than a road, Cabrera says. These road expansions would be expensive, but the expansion of a highway to Nuquí would also cross through pristine rainforest. The region from the Baudó River to the Pacific coast all the way up to the border with Panama is a known as the Baudó mountain range. It’s considered one of the most biodiverse places on the planet due to its high precipitation, receiving between 9,000 and 10,000 millimeters (354-394 inches) of rain per year, and because it’s completely untouched by human development, Cabrera says. . This area is also home to the indigenous Embera community, already considered in danger of cultural and physical extinction, according to the Constitutional Court, he says. The proposed Las Animas-Nunquí road is meant to cross directly through an Embera reserve, where 18 communities live. “If you build a port through these territories, you’re going against the Constitutional Court, you’re going through a zone of immense biodiversity. It’s a disaster,” Cabrera says. The region is home to endemic plants and wildlife as well as unique migratory species, including several species of birds, says Geovanny Ramirez Moreno, science director with the Pacific Environmental Research Institute (IIAP) in Chocó, part of the Ministry of Environment and Sustainable Development charged with investigating biodiversity and communities in the Chocó rainforest. Any infrastructure development threatens these ecosystems, but the creation of roads also makes it easier for illegal loggers and miners to move deeper into the rainforest and cause even further destruction, he tells Mongabay.

#### The expansion of mega ships produces structural violence on vulnerable populations

Chua 18, Phd Dissertation in Political Science University of Minnesota. (Charmaine, Containing the Ship of State: Managing Mobility in an Age of Logistics, <https://conservancy.umn.edu/bitstream/handle/11299/200214/Chua_umn_0130E_19452.pdf?sequence=1&isAllowed=y>}

“It’s a self-made crisis, really”, says the captain, shaking his head. The more megaships grow, the more megaports must be built to service them. In the fifty years since the world’s first container ship Encounter Bay (1,500+ TEU) set sail from Rotterdam in 1968, container-carrying capacities have increased by 1200%, and in the last ten years alone, by 80%. Megaships of 18,000 TEU and above have come to dominate the shipping industry with a startling rapidity. While the economies of scale provided by larger ships seem obviously beneficial from the perspective of an individual company seeking to lower its costs, this is much less the case for the industry as a whole: as the rush of megaships bloat the global shipping fleet, they exacerbate overcapacity, where the total cargo space available on all the world’s ships far exceeds the trade volumes they would help transport. In addition, ports are frequently confronted with the need to make heavy infrastructural adaptation to support the new peaks in volume that come in ever-larger waves to the container yard. None of these factors seem to deter shipping companies: the race to build the largest ship continues, exacerbating the problem of overcapacity as it does so. In this chapter the question I seek to ask is not primarily a causal one, such as ‘why does the shipping industry seems to be shooting itself in the foot by building bigger and bigger ships?’ Rather, this chapter poses a question more attentive to the spatial scale and scope of dispossession entailed by such large-scale infrastructural expansion: What are the spatial, social, and political effects of the monstrous scale of infrastructural expansion? And what does the scale of these projects tell us about capital’s imperative to expand value accumulation through the construction of a global logistics space? Although providing an account of the logics underpinning ship expansion is part of the chapter’s aim, neither neoclassical theories of a self-adjusting universal market mechanism, nor Marxian theories that focus exclusively on the operations of capital, adequately explain the paradox of megaship overcapacity, where firm-level decisions to capture economies of scale produce industry-wide infrastructural problems that impact the state, displacing the risks of over-expansion onto vulnerable populations. As corporations over-invest in the expansion of their shipping fleet carrying capacities, another form of infrastructural expansion is also demanded in the adaptation of port infrastructures, which are often funded by federal and municipal taxes. This means that while the ownership of the means of circulation are privatized, the risks of over-investment are socialized, and come to be borne by society at large in contested and uneven ways. Rather than follow the neoclassic economic logic that megaship expansions are built on the logic of economies of scale, this chapter suggests that private infrastructure expansion cannot be explained in isolation from broader shifts in the way the logistics economy is organized, and in the way the state participates in facilitating the circulation, production, and consumption of commercial capital. As such, I propose the following argument: Both state and corporate projects to expand the scale of logistics infrastructure are materialized bets on the durability of capital accumulation. As the state-capital nexus seeks to build this durable future, facilitating the expanded reproduction of capital through the growth of global logistics space, these infrastructures become burdens on the public that spatially fix concrete spaces of transit through contested and uneven processes of rescaling and dispossession. As such, it becomes important to understand the expansion of logistical infrastructure not only in terms of the physical system of circulation it enables, but also in terms of the irrational rationalities that these obsessions with monstrous expansion entail. Interrogating the interface between massive expansion of both megaships and megaports, I argue that the material systems of global supply can be understand not only as durable infrastructure - public works that stimulate local and global economic growth - but as unendurable monstrosities that imprint the violence of global circulation onto the lived spaces of populations vulnerable or precarious to the displacements and dispossession that such infrastructural expansion produce in their wake. The co-dependency of one monstrous infrastructure (the megaship) on another (the megaport) unevenly distributes violent political effects beyond the port itself, especially into spaces and populations in the global South who supply the raw materials and cheap labor for such undertakings. In this chapter, I use the term “vulnerable populations” as a way to refer to the diverse working classes, precarious lives, racialized populations, and ordinary people whose spatial and social mobility become subject to the demands of logistical flow. I choose the term to connote a general condition of susceptibility to harm under logistics, not because I wish to avoid specificity, but precisely because this chapter proposes that the interdependence of contemporary capitalist economies extend logistics’ effects beyond specific sectors of the transportation working classes and beyond demarcated geographies. Vulnerable populations do not lack agency. However, they are subject to uneven power relations that are intensified by the networked structure of logistics. In this sense, I think of vulnerability not in existential terms but through a materialist lens, where, following Judith Butler, (2012, 141) I understand vulnerability to be to a large extent “dependent upon the organization of economic and social relationships, the presence or absence of sustaining infrastructures and social and political institutions.” In expanding the networked infrastructures of commerce globally, logistics is an arrangement and mobilization of infrastructural violence that exacerbates and reproduces uneven relations of power.

#### Scenario 2 is Accidents —

#### Megaship expansion makes accidents inevitibale

Voytenko 21, professional merchant marine navigator writing for Maritime Navigation. (Mikhail, 3/26/21, Giant container ships aren’t safe, <http://www.maritimebulletin.net/2021/03/26/giant-container-ships-arent-safe/>)

The grounding of EVER GIVEN wasn’t all that accidental, it was statistically, rather high probability. If not the enormous size of EVER GIVEN, we wouldn’t have Canal blocked so effectively. Also, I’m keenly interested in the cause of a blackout which took the ship out of control. Was it a computer glitch? Inevitable failure of some wire or fuse in uncontrollable maze of ship’s equipment and cables? We’re witnessing increasing number of accidents befalling giant container ships of Post-Panamax – Neo-Panamax – ULCV types. It’s not a bad luck or coincidence, it’s already a rule. As I see it, the main cause is the sheer size of the ships, another cause is the inevitable excessive reliance on digitalization and automatization. There were major fires, there was ship lost after breaking in two, there were mass, major containers losses, and now we have a major grounding. The number of major accidents and disasters with giant container ships, will only grow, there are no achievable, available technologies and practices, to make these monsters really safe and reliable. Curiously or not, but every goal carriers claimed to achieve by designing and building these monsters, turned to be exactly the opposite. The ships are unsafe; they create jams in ports; and the rates are skyrocketing, long before the “pandemic”. We’re in to witness more major accidents, more breaks in two, major fires, container losses, collisions, etc. The only way to make container shipping safe, cheap and effective, is the way of re-directing it into a fairway of sensible, reasonable and responsible management, in a free market environment. In monopolized ocean liner sector we’re having now, this goal is absolutely unachievable. It’s Mission Impossible.

#### Mega ships increase risks of accidents

Waterson 19, Senior Vice President - Marine Hull and Liability for Lockton Companies LLP World’s Largest Insurance Broker. (Robert, Re-evaluating the risk of mega ships, https://www.locktoninternational.com/gb/articles/re-evaluating-risk-mega-ships)

“A consolidation process in the shipping transport market has contributed to a trend towards fewer but bigger ships,” says Robert Waterson, Senior Vice President - Marine Hull and Liability at Lockton. “Fleet operators have ordered larger ships and because they are newer this tends to have a positive effect on all costs including insurance premium levels. However, this does not necessarily mean claims volumes will be lower,” Waterson notes. With larger and more sophisticated vessels entering the sector – and more hazardous areas such as polar waters being explored – this is aggravating the risk of ever larger single losses, insurer AGCS warned in its “Marine claims trends 2018” report. “A major incident involving a fully loaded ultra-large container ship will easily result in a $1bn to $2bn insurance claim including damage to cargo, hull, salvage and wreck removal costs,” the report added. A number of container ship casualties recently fuelled a discussion about the growing risks associated with fires on mega-containerships. Ship fires are one of the major loss drivers in the shipping industry: In March 2018 a fatal fire on the new 15,252 TEU Maersk Honam. The incident is believed to have been triggered by mis-declared chemical cargoes causing a blast and fire which resulted in 130 people being taken to hospital. “The cargo description is often not clear and containers may contain chemicals and hazardous goods that were not supposed to be there or that were incorrectly described and thus loaded in the wrong part of the vessel,” says Waterson. Insurers’ apprehension focuses not only on large container ships but also on large passenger vessels, especially after Costa Concordia off the Tuscan holiday island of Giglio in Italy set off a chaotic evacuation of 4,229 passengers and crew, and 32 people died, according to the May 7, 2019 presentation “Megaship Challenges: The P&I Perspective” by Joe Hughes from the The American Club. Large vessels are more difficult to navigate, and grounding and/or collisions are harder to deal with as there is more cargo and fuel to salvage. Where salvage/wreck removal is required, the costs are vastly influenced by the type of cargo that has to be removed and how hazardous this cargo is. Very often this has to be accomplished in remote and difficult environmental conditions, and always within the requirements of both the local and international law. As environmental regulations tighten globally, these costs will only rise further and more cover will be required. A discussion in the insurance industry about whether large container ships might require a specific insurance rating, previously under consideration but not implemented, may now re-open as more data is available. As some underwriters withdraw from underwriting large container fleets this may affect renewals pricing and available capacity in the short term. “In hull and cargo, the specific risks attached to large ships are not being addressed. Ratings do not take this into account,” Waterson says. “Mega-ships carry higher risks and are not necessarily safer. While the claims frequency may fall, the size of a loss is likely to be much higher,” he notes.

#### Mega ships increase the risk of Arctic oil spills

Shavley 21, Reporter for Business Insider. (Kevin, May 1, 2021, The Ever Given crisis put mega ships under the spotlight. As vessels get bigger and more automated, a long-serving captain and other experts are weighing up the risks., <https://www.businessinsider.com/ever-given-suez-canal-blockage-mega-ships-sea-captain-2021-4>)

Shipping vessels have grown larger by multiples in just a few years, adding to worries among some industry insiders that a single mistake made by a massive ship could cause a global supply chain disruption, as the world saw with the Ever Given. That ship, which was stuck in the Suez Canal for about a week in March, slowed or stalled shipping traffic around the world. It was estimated to cost the global economy about $400 million per hour, and its effects have still been rippling through the economy in recent weeks. As ships like the Ever Given have grown over the last few decades, their crews have been shrinking because they're using more automated processes, said Captain Rahul Khanna, global head of marine risk consulting at Allianz Global Corporate & Specialty, whose team publishes an annual safety review. "Decades ago, the ships with 3,000 TEU — that's the number of twenty-foot containers that can fit onboard — were considered the big ones," said Khanna. Now, ships like the Ever Given carry maximum loads of more than 20,000 containers. Boat-building technology could in the years and decades ahead produce ever-larger ships, perhaps growing to 50,000 containers or more. If there's demand for such ships, modern technology could allow for such builds, Khanna said. Between 2006 and 2020, the largest shipping vessels in the world grew by 155%, according to a January report from the United Nations Conference on Trade and Development. The biggest ships are loading or unloading 125% more at each port they visit. With bigger boats, there could be more impactful accidents. "While seemingly efficient, they are too large to fit in some ports, increase dangers in storms, and highly piled containers are falling, causing product and the corresponding financial losses," said Cheryl Druehl, associate professor of operations management at George Mason University. Even the Ever Given debacle, which grabbed hold of the worldwide news cycle, could have been worse. If that ship's hull had broken, say, it would have taken even longer to fix the issue, Khanna said. It's likely that a crane would have had to have been constructed nearby to remove some or all of its load. Refloating it would have been a more complex task, likely stretching into months. As the shipping industry gets back to its normal routine, Khanna and other shipping industry insiders walked Insider through their concerns about the next big disaster. The most obvious answer was that another ship could get stuck in the Suez or Panama canals. The risk of a situation similar to the Ever Given's crash in one of those waterways was "unlikely but high impact," said Ambrose Conroy, founder and CEO of Seraph, a consulting and turnaround firm. The risk was lower at other heavily travelled shipping lanes, including the Singapore Strait, and the Strait of Hormuz, although it has geopolitical risks of its own, said Khanna. Ports in the future may also have trouble handling larger ships, but that's an issue that can be fixed with proper planning, Conroy said. Instead, it's the "black swan events" like the Ever Given that the industry needs to look out for. One concern is a shipping route that's becoming more popular. In decades past, a lane through the Arctic would open in summer months, giving ships a more direct path between Europe and Russia. As the climate crisis has reduced the amount of ice in those northern regions, that passageway is now increasingly being used in the winter. It's become so popular that the International Maritime Organization issued a revised Polar Code. As the Ever Given stalled global shipping in March, Moscow officials pointed to the Northern Sea Route through the Arctic as an alternative. But Arctic travel comes with its own risks. While it's unlikely that modern ships, with all their technology, would hit an iceberg, smaller ice floats can still damage hulls, Khanna said. An oil spill in the Arctic would also be devastating to marine life. And rescue crews might have difficulty reaching a stranded ship in such inhospitable waters.

#### An Arctic accident risks global species and ecosystem destruction

Tewari 17, IIASA Science Communication Fellow. (Parul Aug 16, 2017, What would an oil spill mean for the Arctic?, https://blog.iiasa.ac.at/2017/08/16/what-would-an-oil-spill-mean-for-the-arctic/)

While it can never be good news, an oil spill in the Arctic could be particularly dangerous because of its sensitive ecosystem and harsh climatic conditions, which make a cleanup next to impossible. With an increase in maritime traffic and an interest in the untapped petroleum reserves of the Arctic, the likelihood of an oil spill increases significantly. Maisa Nevalainen, as part of the 2017 Young Scientists Summer Program (YSSP), is working to assess the extent of the risk posed by oil spills in the Arctic marine areas. “That the Arctic is perhaps the last place on the planet which hasn’t yet been destroyed or changed drastically due to human activity, should be reason enough to tread with utmost caution,” says Nevalainen Although the controversial 1989 Exxon Valdez spill in Prince William Sound was quite close to the Arctic Circle, so far no major spills have occurred in the region. However, that also means that there is no data and little to no understanding of the uncertainties related to such accidents in the region. For instance, one of the significant impacts of an oil spill would be on the varied marine species living in the region, likely with consequences carrying far in to the future. Because of the cold and ice, oil decomposes very slowly in the region, so an accident involving oil spill would mean that the oil could remain in the ice for decades to come. Yet, researchers don’t know how vulnerable Arctic species would be to a spill, and which species would be affected more than others. Nevalainen, as part of her study at IIASA will come up with an index-based approach for estimating the vulnerability (an animal’s probability of coming into contact with oil) and sensitivity (probability of dying because of oiling) of key Arctic functional groups of similar species in the face of an oil spill. “The way a species uses ice will affect what will happen to them if an oil spill were to happen,” says Nevalainen. Moreover, oil tends to concentrate in the openings in ice and this is where many species like to live, she adds. During the summer season, some islands in the region become breeding grounds for birds and other marine species both from within the Arctic and those that travel thousands of miles from other parts of the world. If these species or their young are exposed to an oil spill, then it could not only result in large-scale deaths but also affect the reproductive capabilities of those that survive. This could translate in to a sizeable impact on the world population of the affected species. Polar bears, for example, have, on an average two cubs every three years. This is a very low fertility rate – so, even if one polar bear is killed, the loss can be significant for the total population. Fish on the other hand are very efficient and lay eggs year round. Even if all their eggs at a particular time were destroyed, it would most likely not affect their overall population. However, if their breeding ground is destroyed then it can have a major impact on the total population depending on their ability and willingness to relocate to a new area to lay eggs, explains Nevalainen. Due to lack of sufficient data on the number of species in the region as well as that on migratory population, it is difficult to predict future scenarios in case of an accident, she adds. “Depending on the extent of the spill and the ecosystem in the nearing areas, a spill can lead to anything from an unfortunate incident to a terrible disaster,” says Nevalainen. It might even affect the food chain, at a local or global level. “If oil sinks to the seafloor, some species run the risk of dying or migrating due to destroyed habitat – an example being walruses as they merely dive to get food from the sea floor,” adds Nevalainen. As the walrus is a key species in the food web, this has a high probability of upsetting the food chain. When the final results of her study come through, Nevalainen aims to compare different regions of the Arctic and the probability of damage in these areas, as well as potential solutions to protect the ecosystem. This would include several factors. One of them could be breeding patterns – spring, for instance, is when certain areas need to be cordoned off for shipping activities, as most animals breed during this time. “At the moment there are no mechanisms to deal with an oil spill in the Arctics. I hope that it never happens. The Arctic ecosystem is very delicate and it won’t take too much to disturb it, and the consequences can be huge, globally,” warns Nevalainen.

#### Collapse of Arctic biodiversity leads to extinction

Petersen et al 4, Director @ Icelandic Institute of Natural History (Aevar, “Circumpolar Biodiversity Monitoring Program,” CAFF, http://library.arcticportal.org/309/1/CircumpolarBiodiversityFramework.pdf )

The circumpolar Arctic region, as defined for the purpose of CAFF at its inaugural meeting (see Figure 1 - CAFF map of the Arctic), covers some 14.8 million km of land and 13 million km of ocean. It plays a key role in the physical, chemical and biological balance of the globe. The Arctic region encompasses relatively pristine environments, compared to the rest of the globe. Vast wilderness areas are crucial for the preservation of the Arctic’s unique biological diversity, and the Arctic is additionally of much cultural, economic, and recreational value. The CAFF overview report (2001) highlighted such diverse actual and potential importance of Arctic biodiversity as for fuel, food (e.g. fisheries), fodder, nature tourism, ecosystem functioning, feedbacks f rom ecos y s tems to the global atmosphere, future genetic recombinations and adaptations, fiber pharmaceuticals, anti-microbial drugs and industrial enzymes (from extremophiles). The Arctic is unique in biological, physical, and chemical properties. Life in the Arctic has adapted to extreme conditions of darkness, cold and a brief summer season where food becomes plentiful. Arctic ecology is shaped by the severity of the climate and its variability in space and time. Arctic species must survive long periods when food is limited or unavailable, or otherwise migrate to more southerly latitudes, as many do to all corners of the globe. Arctic species must be adapted to respond quickly when conditions improve. The growing season is brief and intense. When sunlight reaches the oceans in the spring, plankton bloom. On land, the growth of plants begins the summer feast for the terrestrial species, allowing the breeding, raising of young, and storage for the upcoming winter. At the foundation of the intricate marine food webs are highly specialized species of phytoplankton and sea ice algae, especially adapted to the extreme conditions of darkness and cold, and the freshwater-brine conditions of the sea iceocean interface. Terrestrial and freshwater food webs are usually simpler than those in the marine environment, but are closely linked to the marine ecosystem, e.g. through run-off and many creatures which move between the different ecosystems. The complexity of Arctic biodiversity stems in part from the interplay between the terrestrial species, habitats and ecosystems, with those in the marine environment. In the overlapping structure of ecosystems, all species in a system depend to some degree on the ecological functions of other species such as good production, competition, and predation; and species behavior such as reproduction and migration are closely linked with these functions. With an integrated, ecosystem-based approach to monitoring, the impacts of stressors to these ecological functions are better identified and understood, as this type of monitoring bridges ecosystems, habitats and species. For example: seabirds nest on land but may feed in the ocean or in lakes and rivers on fish and invertebrates. Salmon, Arctic Char and certain other fish species are anadromous – crossing from the marine ecosystem to the freshwater ecosystem to breed. Polar bears den on land in snow banks, but hunt almost exclusively out on the edge of the sea ice. Seals make their homes in and on the sea ice and hunt in the ocean. Indigenous Peoples hunt across all ecosystems and habitats in the Arctic, marine, terrestrial and freshwater. Monitoring of the natural and anthropogenic impacts to the food webs and the ecological func t ions of the Arc t i c env i ronment and ecosystems provides critical information about the status and trends of Arctic species and the integrity of the food webs on which they depend for their survival. For humans, this directly relates to the socio-economic stability of their societies. The Arctic has high genetic diversity among its species. Many migratory species breed in the Arctic but spend the non-breeding season at more southerly latitudes. As a polar region, greater and faster impacts are being seen in the Arctic from climate change. Consequently Arctic biodiversity is experiencing both greater and earlier impacts than many other parts of the globe. These issues, vulnerabilities and impacts are more fully documented in Arctic Flora and Fauna: Status and Conservation (2001), and Impacts of a Warming Arctic: Arctic Climate Impact Assessment (2004). Of the approximately 450 species of birds, which breed or have bred in the Arctic region, 279 breed in significant numbers within the Arctic and spend the boreal (northern hemisphere) winter in significant numbers outside the CAFF member states. Migratory birds from the Arctic reach every part of the world except the interior of Antarctica. Thirty species reach southern Africa, 26 species reach Australia and New Zealand, 22 species reach southern South America and several pelagic species reach the southern oceans. Virtually all the world’s major ecosystems support some Arctic breeding birds during the boreal winter, with Arctic migrants occupying every major habi tat in ever y major region. The c o n s e r v a t i o n o f a l l A rc t i c b re e d i n g b i rd s throughout their migratory ranges is a global challenge, covering virtually all of the world’s major terrestrial and marine ecosystems, and requires a high level of international cooperation which can be achieved in part through the CBMP. In addition to the migrating birds, several species of land and marine mammals migrate to the Arctic in search of rich food resources. Migration routes link Arctic species to marine and terrestrial ecosystems throughout the world including the Antarctic. The Arctic’s nutrient-rich coldwater feeding grounds are crucial to the survival of many species of whales and are the foundation for the huge numbers of Arctic fish stocks. Northern waters, particularly the North Atlantic and the Bering Sea, are some of the world’s largest and most important marine fisheries. The link between the survival of humans and sustainability of the living environment is therefore obvious and of paramount importance.

#### Scenario 3 is Alliances —

#### Mega-Shipping causes container alliances and cartels

Veitch 16, Head of Policy for the Global Shipping Foundation, (Alex, Nov 2016, Report by Global Shipping Foundation, “The Implications of Mega-Ships and Alliances for Competition and Total Supply Chain Efficiency: An Economic Perspective”, <https://paperzz.com/doc/9427398/the-implications-of-mega-ships-and-alliances-for-competit>...)

The introduction of ultra large container vessels was the key driver behind the move to Mega Global alliances ( see the main body of the report- Mega ships and alliances: economic perspective) until only 4 Global alliances ( now reduced to three main alliances with the CMA-CGM acquisition of NOL subject to regulatory approval) and 50% of capacity to and from EU is provided by consortia in under 2 years, the number of big alliances doubled with 16 of world's top 20 carriers in one of four Mega Global alliances: CKYHE, G6, 2M and Ocean Three (this likely to be reduced to three main alliances).

#### They undermine all efforts to solve shipping emissions — self-regulations fail

Alger et al 21, global environmental politics scholar at the University of British Columbia. (Justin, with Jane Lister a Senior Research Fellow and Associate Director of the Centre for Transportation Studies at the Sauder School of Business, University of British Columbia, and Peter Dauvergne is Professor of International Relations at the University of British Columbia, Feb 18, 2021, Corporate Governance and the Environmental Politics of Shipping, https://brill.com/view/journals/gg/27/1/article-p144\_7.xml?language=en

. Of course, the problem is that any gains in efficiency are more than offset by the industry’s rapid growth. As projected, shipping emissions roughly doubled from 1970 to 2018.15 The IMO also projects that shipping carbon emissions will rise between 50 and 250 percent by 2050 under a business-as-usual scenario.16 Fuel efficiency matters for minimizing the environmental impact of shipping, but any gains risk being overshadowed by rising aggregate emissions. There is a similar challenge with emissions reduction efforts in ports. Despite regulatory efforts in many cities to reduce air pollution from ports, the IMO projects that port emissions are still likely to quadruple by 2050.17 The 100 most polluted ports alone affect approximately 230 million people.18 Building larger, more fuel-efficient ships is not enough to address these threats to the environment and human health. Focusing strictly on carbon emissions also risks neglecting the myriad of other environmental impacts of the shipping industry. As ships burn the lowest-grade heavy fuel oil (bunker fuel), the emissions include not just carbon but also sulfur dioxide, hydrocarbons, and various forms of nitrogen oxide, all of which have substantial environmental and human health effects. Low-grade marine fuel contains, for example, 3,500 times more sulfur than road diesel.19 According to one study, 30 percent of atmospheric sulfur aerosol around major shipping routes is directly attributable to shipping, contributing to the occurrence of acid rain and more intense storms.20 Other threats include oil spills, invasive species, disposal of hazardous material, and noise, among others. These environmental threats from global shipping have all grown since the 1970s despite progress in reducing emission rates. These trends point to a global shipping industry that looks much different today than it did in the 1970s. Transnational regulation and governance are an increasingly pervasive feature of both world affairs and scholarly analysis. An analysis of global shipping in the twenty-first century needs to account for the growing influence of corporations in global governance. Corporations, in many ways, now exert greater influence than states over global issues of stability, equity, and efficiency. This is especially true within the shipping industry. 3 The Roots of Industry Authority The shipping industry is the oldest transnational business and the transmission belt of the global economy. Historically, shipping and geopolitical power have gone hand in hand. In the past, it has been in the interest of states to limit regulations on the high seas to facilitate open competition and economies of scale in trade. The prevailing norm for high seas governance has been freedom of the seas—a norm that shipping companies have worked to reinforce in their efforts to avoid state regulation and consolidate their position. The industry’s privileged position in the global economy has made it especially effective in influencing its own governance. The freedom of the seas norm is central to why the shipping industry continues to be so difficult for states to regulate.21 This difficulty is partly the result of state design. Historically, states have advocated for minimal regulations at sea in pursuit of their strategic and economic interests. The legal justification for freedom of the seas dates back to 1609, when Dutch jurist Hugo Grotius made the case that shipping routes and ocean resources were inexhaustible resources and therefore should be available to all states equally—an important geostrategic priority for the then Dutch Republic.22 Grotius naturally could not predict the scale of extractive activity centuries later, but his legal basis for freedom of access to shipping routes largely endures today. The norm featured prominently throughout the ten-year negotiations for the UN Convention on the Law of the Sea (UNCLOS) adopted in 1982. As the world’s preeminent maritime powers throughout the nineteenth and twentieth centuries, the United Kingdom and United States viewed freedom of the seas as essential to the health of their economies. They used their collective power to enshrine it in international law. The evolution of the shipping regime since—around issues such as jurisdictional rights, damage control, and technical barriers—similarly reflects the prerogative of states to ensure free movement of ships and commerce. The historical state-based governance of shipping has, in short, worked toward enhancing industry autonomy in the name of geopolitics and commerce. States actively promoting industry autonomy gave major industry players a lot of leeway over how to organize, through their own banks and insurance companies, and most notably through loosely regulated industry “conferences” (essentially cartels).23 These conferences coordinated on maintaining control over certain shipping routes, often deliberately deploying ships on the same schedules as non-members to push them out of the market.24 Pushing smaller competitors out of the market allowed these conferences to fix prices at a higher rate, among other predatory business practices. The conference system would not endure, however. The emergence of containerization in the latter half of the twentieth century reduced shipping costs, making the market more competitive for smaller companies.25 New antitrust laws targeting conferences in Europe and the United States at the beginning of the twenty-first century followed, further undermining their viability. These regulations were intended to break up what was increasingly an unfair, oligopolistic market, but they had the unanticipated effect of providing the impetus for the further centralization of authority in the industry. This centralization of power has taken two forms: an increase in mergers and acquisitions, and the formation of shipping alliances. The high fixed-variable cost ratio of the shipping industry makes consolidation an imperative for major shipping countries.26 With the benefits of coordinating routes and prices through conferences increasingly restricted by governments, major industry players have resorted to strategic mergers and acquisitions to achieve greater economies of scale. Figure 2 depicts the sharp rise in these mergers and acquisitions in the 1990s that has continued steadily since. Some of these mergers reflect a dramatic shift in industry composition. For example, the merger of COSCO and China Shipping in 2016—China’s two largest state-owned shipping conglomerates—made COSCO Shipping the world’s fourth-largest shipping company at the time (it has since risen to third). Strategic alliances also emerged to replace conferences, and these now dominate the shipping landscape. The market share of the major alliances leaped from 30 percent in 2011 to 80 percent in 2018, depicted in Figure 3. Just three alliances—Ocean Alliance, The Alliance, and 2M Alliance—now account for 80 percent of global capacity. Formed in 2017 following a reshuffling, these three alliances allow major carriers to coordinate to enhance their global service coverage and optimize operational costs by sharing resources. The major distinction between these alliances and the conferences of old is that alliance partners do not share commercial information, including pricing. But in practice, these alliances allow a select few large shipping companies to dominate the industry even further. Minimal government antitrust efforts and lingering liner shipping block exemptions from competition policy have enabled the ongoing formation of an oligopoly in global shipping—driven by the advent of megaships and by the steady increase in industry consolidation through mergers, acquisitions, and alliances that began in the 1990s.27 The industry has, in short, been highly effective in avoiding regulation or in finding creative ways to limit its efficacy. There is perhaps no clearer instance of this than the “flags of convenience” model, by which ships can choose which country’s flag to fly. This model allows ships to fly the flag of a country of its choice, including those with minimal safety and environmental regulatory requirements. Countries that ignore IMO resolutions have an outsized ability to undermine new standards. Rather than adhering to new rules—environmental or otherwise—ships often can simply switch flags and ignore them altogether. This system has endured because it benefits all parties: flag states get more traffic, non-flag states get cheaper shipping costs, and shipping companies get increased profits.28 One possible solution is for governments to adopt an exclusion model that prohibits port access to ships that fly flags of convenience.29 But progress has been slow. In 2017, the five largest shipping fleets by flag of registration were Panama, Liberia, the Marshall Islands, Hong Kong, and Singapore.30 This model continues to allow ships to pick and choose which country’s regulations to adhere to, vastly undermining the ability of the IMO and national governments to set standards.31 The freedom of the seas norm that states have long sought to reinforce has had perverse effects on global shipping governance. Mergers and acquisitions, conferences, alliances, and flags of convenience all contribute to an industry structure that has systematically reinforced the power of major corporations. For their part, states have struggled to identify the right balance between the geopolitical and commercial importance of freedom of the seas and the need to regulate the industry (environmental or otherwise). Even when states do introduce new rules, they tend to have unintended consequences. Antitrust efforts helped break up shipping conferences, but led to today’s structure of powerful alliances. From price fixing to alliances to regulatory evasion, major corporations have significantly enhanced their market dominance and, by extension, their political power over global shipping—an outcome with perhaps unexpected consequences for the environmental governance of the industry. 4 Environmental Governance of Global Shipping The consolidation of the industry since the 1970s and the freedom of the seas approach to shipping governance have allowed major companies to exert substantial influence over their environmental governance. Consolidation can benefit states looking to better regulate industry by, most notably, making it easier to design and target regulations in an industry with fewer larger firms. But consolidation also means a few firms have substantial market power that they can leverage to shape the content of state regulation, or oppose it outright. The industry has used that leverage in tangible ways to shape the environmental governance of shipping. Historically, that influence has translated into efforts to avoid environmental regulation. The shipping industry was one of only two industries exempted from emissions cuts in the 2015 Paris Agreement on climate change—a trend that continues its similar exemption from the 1997 Kyoto Protocol. Shipping is responsible for approximately 3 percent of global carbon emissions, which would put it in the top ten global emitters if considered a country, so its exemption is a major blow to the climate regime. Environmentalists lamented the shipping exception, decrying the “corporate capture” of the IMO and UN by shipping and air transport lobbyists. But the global shipping industry has been nigh untouchable for states looking to curb the sector’s climate change impact. This untouchable status is partly by design. In addition to an embedded freedom of the seas norm, the industry further benefits from the norm of liberal environmentalism, which emerged out of the negotiations and compromises leading up to the 1992 UN Conference on Environment and Development (UNCED), often referred to as the Rio Earth Summit.32 In Rio, states confirmed the need to better protect the global environment, but with the major caveat that efforts should not interfere with economic growth and development. Ever since, this compromise has defined the state-led governance of environmental issues from climate change to deforestation to biodiversity loss. The maritime industry agreed to support the Rio agenda only as long as it could set its own regulatory agenda.33 As the transmission belt of the global economy, it was simply too essential to all countries to risk disruption. Exemptions in Paris and Kyoto, and the so-called corporate capture of the IMO, therefore merely reflect the application of this norm to global shipping and its centrality in the global economy. That is not to say that state-led governance of shipping has not been strong and successful at times. For example, states took action on oil spills by imposing stricter spill prevention standards on the industry. Oil spills can seriously damage corporate reputation, much more so than diffuse, long-term environmental impacts such as emissions. They have a lasting, visible impact, and generate public outcry. The industry has therefore been responsive to tougher IMO resolutions and technical guidelines for oil spill prevention.34 Despite the cost of implementing stricter safety standards in ship design, the industry sees the value in ceding authority on certain issues to external organizations such as the IMO. Adhering to best practices, as defined by outside governance bodies, has led to a sharp reduction in spills since the 1970s, as depicted in Figure 4. But it also provides the industry with a scapegoat in the event of a spill. Rather than a focus on internal malpractice, many oil spills become a lightning rod for reviewing the international standards set by the IMO. Oil spills can be reduced in number and their impact mitigated, but they are an inevitability of ship bunkering (refueling) and oil transport. By ceding authority on oil spills, the industry has effectively deflected the burden of responsibility to governments and international bodies on a high-profile, potentially market-damaging issue. Similarly, in 2008 the IMO adopted a sulfur cap of 0.5 percent of fuel composition to come into effect on 1 January 2020—a sizable decrease from the previous 3.5 percent limit. This regulation applies to all new and existing ships, generally requiring that ships substitute cleaner, more expensive fuel, but also requiring retrofitting of tanks and engines in many older ships. Individual flag states are still responsible for sanctions in the event of noncompliance, but the IMO has adopted a particularly aggressive stance on sulfur emissions, raising its profile as an environmental priority and effectively ratcheting up pressure on industry. Given the pressure, major industry players are expected to comply, with a projected cost for the container shipping industry of between $ 5 billion and $ 30 billion, depending on market rates for fuel.35 Regulations such as those for oil spills and the sulfur cap demonstrate that state-led governance of shipping can be effective with industry buy-in, often gained through political pressure. States can and have put limitations on certain activities with real consequences for the industry. But new safety designs, ship retrofitting, and cleaner fuels are costly. Given the potential cost of new regulations, major shipping companies have not sat idly by, instead taking the initiative to better shape the environmental governance of their industry through self-regulation. 5 Environmental Self-Governance Following the lead of their big brand customers like Coca-Cola, IKEA, Walmart, and countless others, the major shipping companies are seeking to control their regulatory fate through self-governance and CSR initiatives. By voluntarily committing to sustainability, these companies can simultaneously reduce the impetus for government-led regulation, while setting the terms of debate for future regulation.36 When companies environmentally self-regulate, even with unambitious goals, they tend to dissuade voters, activists, and government officials alike from supporting more robust regulations.37 They also create benchmarks for the rest of the industry to follow and they influence the agenda for state-led governance. In doing so, the companies enhance their autonomy from government-imposed regulation, allowing them to shape the future of the industry and protect their profitability. Put simply, through CSR major shipping companies gain political authority to decide which environmental issues to address, and how to address them in a way that will not have an oversized effect on their bottom line. The cost of these self-imposed initiatives is a price well worth paying to avoid the potential losses associated with a rigorous state-led regulatory regime. One such example was the approach that the International Chamber of Shipping (ICS) took to IMO-imposed greenhouse gas emissions reductions. Just as the IMO was advancing with a 2017–2023 road map for reducing greenhouse gases, the ICS submitted an alternative proposal to the IMO that voluntarily permitted the organization to impose reductions beginning in 2023. The ICS proposal did not specify any reduction targets. The IMO accepted the industry proposal, feeling that industry buy-in was important for compliance. But the cost of this buy-in was high. The proposal marginalized and delayed action, with the IMO ultimately setting an intensity target for 2030 while pushing back the absolute emission reduction target to 2050—letting industry off the hook in the short term. The ICS effectively co-opted the IMO reductions targets. Their watered-down proposal was representative of many CSR initiatives—weak, voluntary industry commitments that fail to adequately address the environmental problem in question.38 In this case and others, the industry used its bargaining power to supplant a more ambitious, IMO-driven plan. To the IMO—an organization that struggles with compliance—having industry on board was more important than rigorous emissions targets. In this instance, small and large firms unified through the ICS to undermine the IMO plan but, increasingly, just a few firms are able to go it alone to similar result. More recently, major industry players are moving toward greater environmental self-governance, as exemplified by green ship certification schemes. Spearheaded by industry leaders, these voluntary CSR programs, such as RightShip, Clean Cargo, Green Award, Green Ship of the Future, Environmental Ship Index, and the Clean Shipping Index, establish benchmark criteria to assess vessels on their environmental performance. They mainly measure carbon emissions and fuel efficiency. Ships that pass the mark receive a positive ranking and green seal of approval that qualifies the vessel for market incentives such as reduced port fees and better slot allocation at port. These ratings also bestow a market advantage to companies with certified vessels by allowing them to appeal to cargo customers seeking more environmentally responsible transport. More importantly, the voluntary standards are providing the industry with the opportunity to shape environmental rules. Container shipping companies representing approximately 85 percent of the world’s ocean container shipping volume, for example, participate in the Clean Cargo Program, which includes a business Climate Call to Action agenda. 6 Environmental Self-Governance at Maersk Beyond industry-led certification, there are a select few companies that are proactively pushing for better environmental regulation, most notably Maersk (or what is more formally known as A.P. Møller—Mærsk A/S). Maersk’s sustainability initiatives and its advocacy for better environmental performance by the industry have earned it a positive reputation, even among industry critics. InfluenceMap’s report on corporate capture of the IMO, for example, specifically lauds Maersk for its transparency and progressive voice in an otherwise scathing report.39 As Maersk CEO Søren Skou puts it, “Companies can no longer stay on the sidelines when it comes to global issues.”40 Maersk has been proactive on environmental governance, and its efforts are transforming not only the company but the industry itself. Other companies and associations concentrated in Northern European countries are already starting to follow suit and support environmental action such as through the Trident Alliance lobby for strong sulfur fuel regulation and enforcement. Beyond gaining political influence, there is a powerful business case for Maersk’s support for stronger environmental governance. The business value, we argue, goes beyond the standard CSR “eco-business” from enhancing environmental efficiencies, reducing waste, and gaining more control of supply chains.41 Given the nature of the global shipping industry, higher environmental standards are giving Maersk a significant competitive advantage. New environmental regulations tend to raise the costs of shipping in an industry with already low profit margins, especially for smaller carriers that cannot take advantage of economies of scale. Companies such as Maersk that benefit from the cost savings of megaships and alliances are much better positioned to absorb these kinds of financial shocks than smaller companies. Maersk wields substantial power as the market leader in an increasingly centralized industry, allowing it to pressure governments and ports to make new environmental standards compulsory and ensure “level-playing-field” enforcement to guard their competitive margins. The inevitable outcome of rising operating costs is further industry consolidation through mergers and acquisitions, smaller companies put out of business, and rising barriers to entry for aspiring companies. By escalating environmental requirements and, therefore, risks and costs on its competitors, Maersk solidifies its industry dominance. Maersk’s position on sulfur emission limits in the Port of Hong Kong exemplifies how a powerful company exerts its influence to push for stronger environmental regulations to give it a competitive advantage. In 2012, the Port of Hong Kong cut port fees in half for ships that used fuel with no more than 0.5 percent sulfur content. Maersk, along with seventeen other companies, took advantage of the program. But in 2013 Maersk threatened to switch back to cheaper, dirtier fuel if the port did not make the cleaner fuel mandatory for all. Maersk claimed the cleaner fuel cost an additional $ 2 million per year, only 40 percent of which was made up by cost savings from reduced port fees. This increased cost, Maersk argued, put it at a competitive disadvantage relative to its major competitors in East Asia.42 Maersk, however, was already using low-sulfur content fuel on its ships in part because it needed to abide by European standards. Its threat to switch to dirtier fuel was therefore somewhat hollow, as was its calculation of the additional cost to Maersk. Maersk’s incentive was certainly to level the playing field and it did so by pushing the Port of Hong Kong to adopt the same standards Maersk was already using internally. Bowing to Maersk, its largest customer, the Port of Hong Kong made the reduced-sulfur content fuel mandatory on all ships in 2015. Maersk is used here as an illustrative example, but Nordic shipping companies in particular are increasingly employing tactics similar to Maersk’s pressuring of the Port of Hong Kong. While the majority of shipping companies, often represented by the International Chamber of Shipping, remain silent on environmental issues, some of the largest shipping companies have been anything but. There are two key reasons why some of the major players like Maersk are becoming more environmentally conscious.43 The first is that they are more inclined to long-term planning. They see competitive advantage in being ahead of the curve on environmental performance, allowing them to attract environmentally conscious customers. As IKEA, Nike, Walmart, and others commit to sustainable supply chains, their public image increasingly depends on reducing the environmental cost of shipping. The CEO s of companies like Amazon, Cargill, and Walmart consistently rank in the top 100—and frequently the top 20—in lists of the most influential people in global shipping. Transnational retailers are increasingly looking to shipping emissions as one way of reducing their environmental footprints and enhancing their sustainability credentials. Large shipping companies are therefore using their strong market positions to capitalize on this growing demand for green shipping. Maersk, for example, has established “carbon pacts” with its major suppliers, notably Tetra Pak, BMW, and AkzoNobel, to meet the growing demand for greener ocean transport. Such pacts are also, however, a highly strategic means to lock customers into a long-term business relationship. The second reason is that companies such as Maersk tend to be more technologically advanced than their competition. The better environmental performance of these companies is due in large part to this technological prowess. This prowess not only includes their ability to design and build more fuel-efficient megaships, but also to conduct industry-leading research and development into the low- or zero-emissions vessels of the future. Many of these vessels will use cleaner fuels such as liquefied natural gas (LNG) and hydrogen, while others use advanced battery, fuel cell, wind, and solar technology. Whereas most shipping companies focus on operational measures such as improved maintenance and slow steaming for better fuel efficiency to address sustainability, the major industry sustainability leaders are pursuing fundamentally new ship designs. Being ahead of the curve with these advancements gives the big players an incentive to push for stricter environmental standards. Any new environmental regulations would have a greater impact on competitors lagging behind on these technologies. While the main target of these tactics may be major competitors (i.e., large Chinese shipping companies), the increased costs to smaller shipping companies are, at best, collateral damage. At worst, they represent systematic efforts by the world’s largest shipping companies to force their smaller competitors out of the market. The efforts of Maersk to use sustainability to enhance its market position is increasingly common in environmental governance. Corporations regularly look to co-opt environmental governance to set the terms for it.44 But as Strange noted in 1976, global shipping is unique in its geopolitical and commercial importance in the international system. The industry’s Paris exemption, as noted above, is perhaps the clearest indication of its exceptional status. The source of Maersk’s power is not just market dominance, but specifically market dominance in an industry that is essential to the majority of global commerce. The ongoing trend toward greater industry consolidation, particularly over the past decade, has only heightened the influence of major players. Put simply, major players such as Maersk are leveraging the industry’s status as well as their market dominance to dictate the direction and scope of environmental governance, significantly enhancing their competitiveness along the way. 7 Conclusion: The Path to Sustainability? The elephant in the room is whether, on balance, industry-driven governance is an effective mechanism for improving the overall environmental performance of the container shipping industry. It certainly is leading to short-term incremental improvements, but the answer is murkier with respect to strategic long-run advances. The progressive stance of companies such as Maersk on reducing greenhouse gas emissions is an important normative shift within the industry. It is certainly desirable that some of the largest companies in the world’s oldest transnational industry are acknowledging their environmental impacts. Such efforts are certainly better than avoidance and obfuscation, as has been common in the past. In addition, many of the technological advances in shipping are helping to decrease environmental consequences. The shipping industry is not going anywhere, so these advances are necessary if it is to become more sustainable. Yet we need to keep in mind that corporate self-governance of environmental matters is further consolidating power and authority within the shipping industry. Concentration is happening on two fronts. First, industry self-governance is co-opting governance from state-led processes. Industry increasingly decides which problems to address and how to address them. These decisions tend to lead to marginal, incremental steps that benefit business by minimizing any impact on profitability. Fuel efficiency gains, for example, do not compensate for rapid growth in global shipping. On aggregate, the environmental impact of the industry is rising despite better efficiency. As noted, international shipping currently accounts for 3 percent of global greenhouse gas emissions. One European Union study predicts that this percentage will rise to 17 percent by 2050, if left unregulated.45 Private governance alone is not enough to reduce this impact meaningfully. The problem is compounded because shipping is a derived demand industry, so its impact also depends on unregulated global consumption levels and supply chains.46 The current industry-led approach nonetheless risks being a linear solution to an exponential problem. Second, major industry players in container shipping are using environmental regulation as a tool to enhance their market dominance, leading to even greater consolidation of the industry. It is not necessarily problematic for industry leaders like Maersk to raise the bar of environmental performance and force laggards to follow suit. But as noted above, this could be problematic for global shipping because smaller companies cannot keep up in an already centralized industry with low profit margins, aggravating already existing inequities common across the international political economy. Sustainability has become, in part, a competitive tool for some corporate players to make the industry even less democratic. It can raise costs that are more easily absorbed by large companies, put a premium on economies of scale, and increase barriers to entry: all further enhancing the power and authority of major companies to dictate governance. Industry sustainability initiatives are, unexpectedly, hastening global shipping’s march toward becoming a global oligopoly, if it is not already there. We could arguably consider this trade-off between consolidation and a commitment to environmental self-governance a good thing for the industry’s performance. If it meant sustainability in global shipping, then perhaps the case could be made that a less democratic industry is an acceptable cost. The prevailing question is whether a few large container shipping companies, increasingly self-regulating, will be willing to make greater sacrifices for sustainability to prevent the bleaker projections of the industry’s environmental impact from becoming reality.

#### That independently causes runaway climate and mass suffering

Barry et al 21, Professor in the Department of Benthic Ecology San Jose State University, (James, 2021, with Madeline Rose Climate Campaign Coordinator for Pacific Environment, and Daniel Hubbell Shipping Emission Campaign Manager at Ocean Conservancy, ‘All Aboard,’ Pacific Environment and Ocean Conservancy, https://oceanconservancy.org/wp-content/uploads/2021/04/All-Aboard-US-Policy-Zero-Emissions-Report\_FINAL.pdf)

Today, in 2021, the global shipping industry is a massive global warming polluter, emitting an estimated 1 billion metric tons of carbon dioxide each year.1 If shipping were a country, it would be the sixth-largest emitter in the world, larger than Germany.2 Greenhouse gases that contribute to global warming are not the only problem caused by the industry’s emissions — communities that live in and around ports, which are most often working-class communities of color, experience deadly pollution, which causes an estimated 250,000 premature deaths and 6 million childhood asthma cases globally each year.3 Ships play a larger role in society today than ever before. Around eighty percent of all international trade, from clothes to cars to couches, is carried by ships.4 Shipping is so “efficient” now that when Scottish fishers catch cod in the North Atlantic, they ship those fish to China for filleting and ship the fish back to Scotland to be sold in local markets because shipping costs less than filleting the fish in Scotland.5 Of course, this “efficiency” does not account for the environmental costs. Not the least of which is runaway climate change. And yet ocean-going trade volumes are projected to grow by as much as 130 percent by 2050, which will lead to dangerous increases in greenhouse gases and air pollution — unless we commit to a crash program of decarbonizing shipping.6 However, we know that the shipping industry can change, and change quickly. In the early 1900s, it switched from coal to diesel in ten to twenty years.7 To prevent the worst-case scenarios of climate disruption, we urgently need a similarly rapid transformation.

#### Warming causes extinction

Kareiva 18, Ph.D. in ecology and applied mathematics from Cornell University, director of the Institute of the Environment and Sustainability at UCLA, Pritzker Distinguished Professor in Environment & Sustainability at UCLA, et al. (Peter, “Existential risk due to ecosystem collapse: Nature strikes back,” *Futures*, 102)

In summary, six of the nine proposed planetary boundaries (phosphorous, nitrogen, biodiversity, land use, atmospheric aerosol loading, and chemical pollution) are unlikely to be associated with existential risks. They all correspond to a degraded environment, but in our assessment do not represent existential risks. However, the three remaining boundaries (climate change, global freshwater cycle, and ocean acidification) do pose existential risks. This is because of intrinsic positive feedback loops, substantial lag times between system change and experiencing the consequences of that change, and the fact these different boundaries interact with one another in ways that yield surprises. In addition, climate, freshwater, and ocean acidification are all directly connected to the provision of food and water, and shortages of food and water can create conflict and social unrest. Climate change has a long history of disrupting civilizations and sometimes precipitating the collapse of cultures or mass emigrations (McMichael, 2017). For example, the 12th century drought in the North American Southwest is held responsible for the collapse of the Anasazi pueblo culture. More recently, the infamous potato famine of 1846–1849 and the large migration of Irish to the U.S. can be traced to a combination of factors, one of which was climate. Specifically, 1846 was an unusually warm and moist year in Ireland, providing the climatic conditions favorable to the fungus that caused the potato blight. As is so often the case, poor government had a role as well—as the British government forbade the import of grains from outside Britain (imports that could have helped to redress the ravaged potato yields). Climate change intersects with freshwater resources because it is expected to exacerbate drought and water scarcity, as well as flooding. Climate change can even impair water quality because it is associated with heavy rains that overwhelm sewage treatment facilities, or because it results in higher concentrations of pollutants in groundwater as a result of enhanced evaporation and reduced groundwater recharge. Ample clean water is not a luxury—it is essential for human survival. Consequently, cities, regions and nations that lack clean freshwater are vulnerable to social disruption and disease. Finally, ocean acidification is linked to climate change because it is driven by CO2 emissions just as global warming is. With close to 20% of the world’s protein coming from oceans (FAO, 2016), the potential for severe impacts due to acidification is obvious. Less obvious, but perhaps more insidious, is the interaction between climate change and the loss of oyster and coral reefs due to acidification. Acidification is known to interfere with oyster reef building and coral reefs. Climate change also increases storm frequency and severity. Coral reefs and oyster reefs provide protection from storm surge because they reduce wave energy (Spalding et al., 2014). If these reefs are lost due to acidification at the same time as storms become more severe and sea level rises, coastal communities will be exposed to unprecedented storm surge—and may be ravaged by recurrent storms. A key feature of the risk associated with climate change is that mean annual temperature and mean annual rainfall are not the variables of interest. Rather it is extreme episodic events that place nations and entire regions of the world at risk. These extreme events are by definition “rare” (once every hundred years), and changes in their likelihood are challenging to detect because of their rarity, but are exactly the manifestations of climate change that we must get better at anticipating (Diffenbaugh et al., 2017). Society will have a hard time responding to shorter intervals between rare extreme events because in the lifespan of an individual human, a person might experience as few as two or three extreme events. How likely is it that you would notice a change in the interval between events that are separated by decades, especially given that the interval is not regular but varies stochastically? A concrete example of this dilemma can be found in the past and expected future changes in storm-related flooding of New York City. The highly disruptive flooding of New York City associated with Hurricane Sandy represented a flood height that occurred once every 500 years in the 18th century, and that occurs now once every 25 years, but is expected to occur once every 5 years by 2050 (Garner et al., 2017). This change in frequency of extreme floods has profound implications for the measures New York City should take to protect its infrastructure and its population, yet because of the stochastic nature of such events, this shift in flood frequency is an elevated risk that will go unnoticed by most people. 4. The combination of positive feedback loops and societal inertia is fertile ground for global environmental catastrophes Humans are remarkably ingenious, and have adapted to crises throughout their history. Our doom has been repeatedly predicted, only to be averted by innovation (Ridley, 2011). However, the many stories of human ingenuity successfully addressing existential risks such as global famine or extreme air pollution represent environmental challenges that are largely linear, have immediate consequences, and operate without positive feedbacks. For example, the fact that food is in short supply does not increase the rate at which humans consume food—thereby increasing the shortage. Similarly, massive air pollution episodes such as the London fog of 1952 that killed 12,000 people did not make future air pollution events more likely. In fact it was just the opposite—the London fog sent such a clear message that Britain quickly enacted pollution control measures (Stradling, 2016). Food shortages, air pollution, water pollution, etc. send immediate signals to society of harm, which then trigger a negative feedback of society seeking to reduce the harm. In contrast, today’s great environmental crisis of climate change may cause some harm but there are generally long time delays between rising CO2 concentrations and damage to humans. The consequence of these delays are an absence of urgency; thus although 70% of Americans believe global warming is happening, only 40% think it will harm them (http://climatecommunication.yale.edu/visualizations-data/ycom-us-2016/). Secondly, unlike past environmental challenges, the Earth’s climate system is rife with positive feedback loops. In particular, as CO2 increases and the climate warms, that very warming can cause more CO2 release which further increases global warming, and then more CO2, and so on. Table 2 summarizes the best documented positive feedback loops for the Earth’s climate system. These feedbacks can be neatly categorized into carbon cycle, biogeochemical, biogeophysical, cloud, ice-albedo, and water vapor feedbacks. As important as it is to understand these feedbacks individually, it is even more essential to study the interactive nature of these feedbacks. Modeling studies show that when interactions among feedback loops are included, uncertainty increases dramatically and there is a heightened potential for perturbations to be magnified (e.g., Cox, Betts, Jones, Spall, & Totterdell, 2000; Hajima, Tachiiri, Ito, & Kawamiya, 2014; Knutti & Rugenstein, 2015; Rosenfeld, Sherwood, Wood, & Donner, 2014). This produces a wide range of future scenarios. Positive feedbacks in the carbon cycle involves the enhancement of future carbon contributions to the atmosphere due to some initial increase in atmospheric CO2. This happens because as CO2 accumulates, it reduces the efficiency in which oceans and terrestrial ecosystems sequester carbon, which in return feeds back to exacerbate climate change (Friedlingstein et al., 2001). Warming can also increase the rate at which organic matter decays and carbon is released into the atmosphere, thereby causing more warming (Melillo et al., 2017). Increases in food shortages and lack of water is also of major concern when biogeophysical feedback mechanisms perpetuate drought conditions. The underlying mechanism here is that losses in vegetation increases the surface albedo, which suppresses rainfall, and thus enhances future vegetation loss and more suppression of rainfall—thereby initiating or prolonging a drought (Chamey, Stone, & Quirk, 1975). To top it off, overgrazing depletes the soil, leading to augmented vegetation loss (Anderies, Janssen, & Walker, 2002). Climate change often also increases the risk of forest fires, as a result of higher temperatures and persistent drought conditions. The expectation is that forest fires will become more frequent and severe with climate warming and drought (Scholze, Knorr, Arnell, & Prentice, 2006), a trend for which we have already seen evidence (Allen et al., 2010). Tragically, the increased severity and risk of Southern California wildfires recently predicted by climate scientists (Jin et al., 2015), was realized in December 2017, with the largest fire in the history of California (the “Thomas fire” that burned 282,000 acres, https://www.vox.com/2017/12/27/16822180/thomas-fire-california-largest-wildfire). This catastrophic fire embodies the sorts of positive feedbacks and interacting factors that could catch humanity off-guard and produce a true apocalyptic event. Record-breaking rains produced an extraordinary flush of new vegetation, that then dried out as record heat waves and dry conditions took hold, coupled with stronger than normal winds, and ignition. Of course the record-fire released CO2 into the atmosphere, thereby contributing to future warming. Out of all types of feedbacks, water vapor and the ice-albedo feedbacks are the most clearly understood mechanisms. Losses in reflective snow and ice cover drive up surface temperatures, leading to even more melting of snow and ice cover—this is known as the ice-albedo feedback (Curry, Schramm, & Ebert, 1995). As snow and ice continue to melt at a more rapid pace, millions of people may be displaced by flooding risks as a consequence of sea level rise near coastal communities (Biermann & Boas, 2010; Myers, 2002; Nicholls et al., 2011). The water vapor feedback operates when warmer atmospheric conditions strengthen the saturation vapor pressure, which creates a warming effect given water vapor’s strong greenhouse gas properties (Manabe & Wetherald, 1967). Global warming tends to increase cloud formation because warmer temperatures lead to more evaporation of water into the atmosphere, and warmer temperature also allows the atmosphere to hold more water. The key question is whether this increase in clouds associated with global warming will result in a positive feedback loop (more warming) or a negative feedback loop (less warming). For decades, scientists have sought to answer this question and understand the net role clouds play in future climate projections (Schneider et al., 2017). Clouds are complex because they both have a cooling (reflecting incoming solar radiation) and warming (absorbing incoming solar radiation) effect (Lashof, DeAngelo, Saleska, & Harte, 1997). The type of cloud, altitude, and optical properties combine to determine how these countervailing effects balance out. Although still under debate, it appears that in most circumstances the cloud feedback is likely positive (Boucher et al., 2013). For example, models and observations show that increasing greenhouse gas concentrations reduces the low-level cloud fraction in the Northeast Pacific at decadal time scales. This then has a positive feedback effect and enhances climate warming since less solar radiation is reflected by the atmosphere (Clement, Burgman, & Norris, 2009). The key lesson from the long list of potentially positive feedbacks and their interactions is that runaway climate change, and runaway perturbations have to be taken as a serious possibility. Table 2 is just a snapshot of the type of feedbacks that have been identified (see Supplementary material for a more thorough explanation of positive feedback loops). However, this list is not exhaustive and the possibility of undiscovered positive feedbacks portends even greater existential risks. The many environmental crises humankind has previously averted (famine, ozone depletion, London fog, water pollution, etc.) were averted because of political will based on solid scientific understanding. We cannot count on complete scientific understanding when it comes to positive feedback loops and climate change.

### 1AC — Plan

#### The United States federal government should increase prohibitions on anticompetitive practices including the acquisition, use, and sharing of mega-ships above 10,000 TEU capacity in container shipping expanding the authority of the Federal Maritime Commission and maritime industry to pursue legal remedies.

### 1AC — Solvency

#### Solvency —

#### Removing immunity from international shipping is key

O’Shea 17, an attorney who works on transportation and infrastructure issues, (Sean, October 3, 2017, Congress Must Stop Foreign Ocean Carriers From Harming U.S. Economy, https://morningconsult.com/opinions/congress-must-stop-foreign-ocean-carriers-from-harming-u-s-economy/)

It is long past time for Congress to update the Shipping Act to give the FMC the power it needs to bring lawsuits to block foreign carriers from colluding to set unfair prices and service terms. At the same time, lawmakers also must allow U.S. port service providers to demonstrate in court how these anticompetitive practices by the foreign cartels are harming their businesses and workers. Currently, their interests are barred from being considered in antitrust actions against foreign ocean carriers. Absent reform of this outdated regulatory environment, ports will be unable to make critical infrastructure upgrades that will allow the U.S. maritime industry to continue serving as vital economic engine for the country. Ports currently support 23 million jobs and generate more than $320 billion in tax revenue each year. And if current growth projections hold, they will become even more indispensable. By 2030, America’s trade volume is expected to quadruple, including tremendous growth in the amount of freight bound for export. Within 20 years, 60 percent of the U.S. economy is expected to depend upon port-related activity. But America’s maritime industry will not be able to continue to attract private investors and lenders to build infrastructure to meet this future economic demand unless Congress takes action now to end price-fixing and other anticompetitive practices by foreign ocean carriers that stifle industry profits, put jobs at risk and stifle private investment in much-needed port infrastructure upgrades. In particular, carriers immunized from antitrust regulation are also ordering enormous, new 22,000-container ships that will require new cranes and shore facilities, but they will not provide long-term volume guarantees necessary for ports to finance these capital improvements through regular commercial markets. Aside from this obvious legislative restoration of reasonable balance to enable private industry to meet demands, the two equally unacceptable outcomes are to do without the infrastructure and pay the economic penalty when bottlenecks occur, or look to taxpayer-funded solutions. Many lawmakers in Congress have talked about the need for modernizing regulations that constrain U.S. economic and job growth. They now have the perfect opportunity to reform U.S. maritime laws so they protect America’s shipping industry and port workers instead of lining the wallets of foreign competitors. And these reforms must begin with giving the FMC and the American maritime industry the power to take legal action to block unfair, anticompetitive actions by foreign cartels.

#### Competition law should focus on prohibiting future mega ships

Veitch 16, Head of Policy for the Global Shipping Foundation, (Alex, Nov 2016, Report by Global Shipping Foundation, “The Implications of Mega-Ships and Alliances for Competition and Total Supply Chain Efficiency: An Economic Perspective”, <https://paperzz.com/doc/9427398/the-implications-of-mega-ships-and-alliances-for-competit>...)

One key question, therefore, is whether competition law will preclude further investment in ever larger ships? This question arises, by the OECD, because that investment will increase carriers fixed and variable (bunker fuel) costs, without any benefit to shippers through reduced Freight rates since the potential economies of scale are exhausted. On the contrary, the investment will create higher cost externalities for other market players, and in particular higher risk of lower quality services for shippers operating just-in-time delivery businesses.

#### Private antitrust action is necessary to deter international collusion

Lande 16, Professor of Law at the University of Baltimore School of Law, Director of the American Antitrust Institute. {Robert; Spring 2016; Antitrust, “Class Warfare: Why Antitrust Class Actions Are Essential for Compensation and Deterrence,” <https://scholarworks.law.ubalt.edu/cgi/viewcontent.cgi?article=2019&context=all_fac>)

OUR RECENT EMPIRICAL STUDIES demonstrate five reasons why antitrust class action cases are essential: (1) class actions are virtually the only way for most victims of antitrust violations to receive compensation; (2) most successful class actions involve collusion that was anticompetitive; (3) class victims’ compensation has been modest, generally less than their damages; (4) class actions deter significant amounts of collusion and other anticompetitive behavior; and (5) anticompetitive collusion is underdeterred, a problem that would be exacerbated without class actions. Recent court decisions undermine class action cases, thus preventing much effective and important antitrust enforcement.1 Class Actions Are Virtually the Only Way for Most Victims of Federal Antitrust Violations to Receive Compensation The antitrust statutes provide that violations result in automatic treble damages for the victims.2 The legislative history 3 and case law indicate that compensation of victims is a goal, perhaps the dominant goal, of antitrust law’s damages remedy.4 Class actions play an essential role in ensuring that the treble damages remedy serves its intended function of “protecting consumers from overcharges resulting from price fixing.”5 As the Supreme Court noted, “[C]lass actions . . . may enhance the efficacy of private [antitrust] actions by permitting citizens to combine their limited resources to achieve a more powerful litigation posture.”6 Accordingly, “courts have repeatedly found antitrust claims to be particularly well suited for class actions . . . .”7 Without class actions, cartels and other antitrust violators that inflict widespread economic harm would have little to fear from the treble damages remedy. This is because, as a practical matter, class action cases are virtually the only way for most victims of anticompetitive behavior to receive compensation.8 A 2013 study that Professor Joshua Davis and I conducted documents the benefits of private enforcement by analyzing 60 of the largest recent successful private U.S. antitrust cases (defined as suits resolved since 1990 that recovered at least $50 million in cash for the victims9 ). These actions returned a total of $33.8–$35.8 billion in cash to victims of anticompetitive behavior.10 These figures do not include products, discounts, coupons, or the value of injunctive relief or precedent—only cash.11 Consequently, these totals significantly understate the actual benefits of this litigation to the victims involved. And, of course, this study covered only 60 suits (albeit 60 of the largest private recoveries) out of the many hundreds of private cases filed in the United States during this period. Of these 60 large private cases, 49 were class action suits.12 These cases recovered a total of $19.4–$21.0 billion—the majority of the amount analyzed in our study.13 Since these were among the largest private actions ever filed, specific conclusions based upon these results may not generalize perfectly to all class action cases. They do suggest, however, that without class action cases, effective and significant victim compensation would be reduced dramatically. Most Successful Class Actions Involve Collusion that Was Anticompetitive Almost every private antitrust case that results in a remedy does so through a settlement,14 so the underlying merits of the plaintiffs’ claims usually have not been definitively assessed by a court or jury. Critics sometimes use this fact to support assertions that class actions usually are meritless, that plaintiffs often receive huge sums from cases not involving anticompetitive conduct, and that private antitrust actions often amount to legalized blackmail or extortion.15 Antitrust class actions arise in widely varied market and factual settings, and views about the merits of specific cases and the litigation risks involved vary as well. This makes it extremely difficult to draw objective conclusions about the merits of settlements. Nevertheless, there are good reasons to believe that the vast majority of class action cases in the Davis/Lande study involved legitimate claims. Forty-one of the 49 class actions involved allegations of collusion,16 and the same conduct supporting the settlements gave rise to criminal penalties in 20 cases; to civil relief by the FTC or DOJ in 8 cases; to civil relief by a state or other governmental unit in 9 cases; to a trial that the defendants lost and that was not overturned on appeal in 7 cases; to a class being certified in 22 cases; and to plaintiffs surviving or prevailing at summary judgment in 12 cases.17 Overall, 44 of the 49 class action suits (90 percent) exhibited at least one of these forms of legal validation as to their merits. (The 5 actions that did not have at least one of these indicia settled too early for a substantive evaluation of their merits).18 These results are broadly consistent with a finding that Professor John Connor derived from an analysis of 130 private recoveries worldwide in international cartel cases for which he could obtain the necessary data.19 He found that of the 50 largest worldwide settlements, measured by their monetary recoveries in constant dollars, 49 had been filed against international cartels.20 Of these, 51 percent were follow-ups to successful DOJ prosecutions, and another 8 percent were filed after fines by the EC or other non-U.S. antitrust authorities.21 Using a different data set, Connor and I found that 36 of 71 (also 51 percent) successful U.S. class action recoveries followed successful DOJ criminal cases.22 This data does not prove that these or any other specific class action cases involved anticompetitive conduct. But critics who assert that most antitrust class actions are little more than legalized blackmail rely only on anecdotes, hypotheticals, and opinions (often of defendants in the cases), without support from studies, and with no reliable empirical evidence that the actions lack merit or that settlement amounts are excessive compared to the anticompetitive harm.23 To be fair, one should compare the above indicia of validity to the absence of any systematic evidence underpinning the critics’ charges. Critics also sometimes assert that remedies typically secured in class action settlements are at best dubious and often are completely worthless, consisting of useless coupons, meaningless discounts, and obsolete products. They argue with regard to cash payments (without providing even a single anecdote) that “issuing [class members] a check is often so expensive that administrative costs swallow the entire recovery.”24 According to many critics the only ones to benefit from private enforcement are the attorneys involved.25 The critics who make these charges, however, never offer evidence beyond opinions, hypotheticals, and occasional anecdotes. Indeed, for the 49 antitrust class action cases that Davis and I studied, the data show that, overall, only a total of approximately 20 percent of the recoveries went for attorney fees (14.3 percent) or claims administration expenses (4.1 percent).26 The rest was returned to the victims. This result is consistent with older estimates of legal fees in antitrust class action cases in the 6.5 to 21 percent range.27 Critics also sometimes examine what happened in other areas of law and assert that these outcomes occur in contemporary antitrust class action suits as well. But they never offer systematic evidence from antitrust cases to support their opinions.28 Interestingly, only one of the lawsuits in the Davis/Lande study involved a coupon remedy—the Auction Houses cases. However, those coupons were fully redeemable for cash if they were not used for five years.29 The actions Davis and I studied were among the largest antitrust class actions ever brought and therefore might not be representative of class action cases in general. Abuses surely occur from time to time in class action cases, as they do almost everywhere in the legal system. But a majority of the critics’ most egregious examples are from other areas of law or are quite old.30 No one has ever presented reliable evidence showing that such examples occur frequently or are typical of contemporary antitrust class action cases.31 Class Victims’ Compensation Has Been Modest, Generally Less than Their Damages Even though the $19.4–$21.0 billion that Davis and I showed had been returned to victims in 49 class action cases is a significant figure when viewed in absolute terms, it probably was not nearly enough to fully compensate all of the victims involved. To ascertain “Recovery Ratios” (the percentage of the illegal overcharges that was obtained in the form of monetary payments to victims in private actions), Professor Connor and I assembled a sample consisting of every completed private case against cartels discovered from 1990 to mid-2014 for which we could find the necessary information. For each of these 71 cases we assembled neutral scholarly estimates of affected commerce and overcharges and compared these estimates to the damages secured in the private actions filed against these cartels.32 The victims of only 14 of the 71 cartels (20 percent) recovered their damages (or more) in settlement. Only seven (10 percent) received more than double damages. The rest— the victims in 57 cases—received less than their damages. In four cases, the victims received less than 1 percent of damages, and in 12 cases they received less than 10 percent of damages. Overall, the median average settlement was 37 percent of single damages. The unweighted mean settlement (a figure that gives equal weights to the cartels that operated in large and small markets) was 66 percent. The mean and median average Recovery Ratios are higher (81 percent and 52 percent, respectively), for the 36 cases that were follow-ups to DOJ prosecutions that imposed criminal sanctions.33 Because these Recovery Ratios do not include any valuations of products, discounts, coupons, or the value of injunctive relief or precedent, the actual worth of these remedies to the victims is greater than the figures reported above. Nevertheless, it fairly can be concluded that antitrust class action cases often return important recoveries to victims that are significant in absolute terms, but usually are modest when measured against the sizes of the overcharges involved. Class Actions Deter Significant Amounts of Collusion and Other Anticompetitive Behavior Private class action cases serve to deter a substantial amount of anticompetitive activity, perhaps even more than the highly acclaimed anti-cartel program of the U.S. Department of Justice, which often results in prison sentences for cartel participants.34 Virtually every contemporary analysis of antitrust enforcement assumes that deterrence is an important purpose of the private treble damages remedy provision.35 The Supreme Court has underscored this point. For example, in Reiter v. Sonotone Corp., the Court explained: Congress created the treble-damages remedy of § 4 precisely for the purpose of encouraging private challenges to antitrust violations. These private suits provide a significant supplement to the limited resources available to the Department of Justice for enforcing the antitrust laws and deterring violations.36 The government, however, cannot be expected to do all of the necessary enforcement for a number of reasons, including budgetary constraints, “undue fear of losing cases; lack of awareness of industry conditions; overly suspicious views about complaints by ‘losers’ that they were in fact victims of anticompetitive behavior; higher turnover among government attorneys; and the unfortunate, but undeniable, reality that government enforcement (or non-enforcement) decisions are, at times, politically motivated.”37 A recent study highlights the deterrence benefits of private enforcement by comparing the likely deterrent effects of private antitrust enforcement to that of criminal anti-cartel enforcement by the Antitrust Division.38The surprising result is that private enforcement—and even just antitrust class action cases considered separately—probably deters more anticompetitive behavior. From 1990 through 2011 the total of DOJ corporate antitrust fines, individual fines, and restitution payments totaled $8.2 billion. (Dis)valuing a year of prison or house arrest at $6 million39 adds another $3.6 billion in total deterrence from the DOJ’s anti-cartel cases, yielding a total of approximately $11.8 billion. This is a substantial figure, and the possibility of incurring such sanctions surely has deterred a significant number of would-be antitrust violators.40 Nevertheless, these penalties amount to approximately 50 percent of the $19.4–$21.0 billion in cash alone (not including products, etc.) secured by just the 49 studied class cases that were completed during the same period.41 These private cases were only a portion of the hundreds of successful class action cases completed during this period (albeit they were many of the largest).42 The total amount of payouts in class action cases is so high that it probably deters more anticompetitive conduct than even the DOJ’s anti-cartel enforcement efforts.

#### Those cases force a reduction in ship size, improvement in services, and lower costs

Haralambides 19, Professor of Maritime Economics and Logistics at Erasmus University Rotterdam. (Hercules, 2019, Gigantism in container shipping, ports and global logistics: a time-lapse into the future Maritime Economics & Logistics volume 21, pages1–60, https://link.springer.com/article/10.1057/s41278-018-00116-0)

Such consolidation in an industry that is already highly concentrated is bound to take place under the increasing scrutiny of the regulator who, with the final consumer in mind, is likely to encourage more competition rather than further consolidation. If the liner shipping market thus becomes more open and competitive in the future, i.e. if alliance agreements regarding vessel sharing, investment planning, etc. are scrutinized more closely for their compatibility with competition law, as I expect, the joint filling of the ship will become more difficult and ship sizes shall by necessity decrease, together with an increase in the number of ports of call. Low prices would then be achieved through higher competition rather than big ship sizes. In such a scenario, shipping companies will be forced to provide the services their customers want, rather than the ones they find it convenient to offer. Shippers do not like too much transshipment and, if they could help it, they would like their container as close to them as possible. Reduction in ship size and more direct calls could thus follow the example of the air-transport industry. The most common jet flying across the Atlantic is not the 420-seat 747 jumbo but the 200 plus-seat Boeing 767. Eight out of 10 transatlantic planes are twin-engine craft such as the 767, its bigger brother the 777, or the various airbuses. This taste for smaller international jets reflects the fact that travellers now like to shun big international hubs such as London and New York and fly directly to their destinations. This is changing the international market into a web of direct intercontinental flights rather than one big air-bridge between London and New York.

#### \*\*\*Only antitrust can reduce the size of mega ships

Haralambides 19, Professor of Maritime Economics and Logistics at Erasmus University Rotterdam. (Hercules, 2019, Gigantism in container shipping, ports and global logistics: a time-lapse into the future Maritime Economics & Logistics volume 21, pages1–60, https://link.springer.com/article/10.1057/s41278-018-00116-0)

The impact of alliances on container shipping and ports I just stated that the gigantism in shipping has been induced by both port competition and shipping alliances. Indeed, without the ability to use each other’s ships, no carrier alone would be able to achieve a capacity utilization high enough to justify the use of present day mega-ships, while at the same time offering the frequency that shippers demand. But carriers have gone a step too far: At the time of writing, three alliances carry 80% of global trade. Such consolidation, in an industry that is already highly concentrated, is bound to take place under the increasing scrutiny of the regulator who, with the final consumer in mind, is likely to encourage more competition rather than further consolidation. If this happens, i.e., if container shipping becomes more open and competitive in the future, and alliance agreements regarding vessel sharing, investment planning, etc. are scrutinized more closely for their compatibility with competition law, as I expect, the joint filling of the ship will become more difficult and ship sizes shall by necessity decrease, together with an increase in the number of ports of call. Low prices would then be achieved through more competition rather than big ship sizes. This is more so when it is doubtful if the economies of scale in shipping are passed on to the final consumer, as required by the consortia block exception from the provisions of competition law in Europe.Footnote51

# 2AC

## Adv — Mega Ships

## K — Cap

#### Antitrust restrains capitalism to reduce harmful effects

Parakkal et al 13 Raju Parakkal is Assistant Professor of International Relations, Philadelphia University, Sherry Bartz-Martinez is Visiting Assistant Professor, Department of Economics, University of Capitalism, democratic capitalism, and the pursuit of antitrust laws, Antitrust Bulletin; London Vol. 58, Iss. 4, (Winter 2013): 693-729.

An equally important reason why capitalism per se did not matter for antitrust adoption is that—notwithstanding some of their obvious links—capitalism and antitrust are “transactionally incongruent.” Capitalism demands freedom of trade and commerce. For its part, antitrust does seek to supply this freedom; however, antitrust goes further than that, and hence, the incongruity. Antitrust also aspires to create an equitable marketplace and to protect the less-empowered sections of society, typically the consumers and small and mediumsized businesses. The incongruity matters because these additional goals of antitrust are seemingly incompatible with a pure form of capitalism and therefore negate the possibility of a direct and automatic causal link between capitalism and antitrust. However, these additional goals that antitrust supplies—equity in the marketplace and protection of the weaker actors—unmistakably satisfy the demands of a democratic society. And that is why a democratic form of capitalism demonstrates a strong and positive impact on the adoption of antitrust laws. If we continue on this line of thought and analysis, we observe that an antitrust law truly embodies the goals of both capitalism and democracy by seeking to promote competition and free enterprise (largely a capitalistic goal) and protect society’s “little guys” (largely a democratic goal). 79 Therefore the synergistic nature of the relationship between capitalism and democracy easily manifests itself in an antitrust law. This synergy stems from their shared emphases on personal freedom and individual choice. It is due to this synergy that these two dominant systems can interact to produce a new kind of political economy that is called democratic capitalism. And that is the reason antitrust laws connect more intrinsically with democratic capitalism rather than with a pure form of capitalism. An antitrust law is not only compatible but it is also commensurate in its “normativity” with a political economy of democratic capitalism. The fact that antitrust laws go beyond the demands of capitalism and that democratic capitalism better explains antitrust adoption is evident from a closer examination of the national antitrust laws of some of the countries in the sample. For illustrative purposes, we focus on the competition laws enacted by India and South Africa. The Competition Act of 200280 enacted by India is an excellent illustration of the capitalism-democracy tango as reflected in its new antitrust law. Due to its above-average scores for both capitalism and democracy, India has a relatively high democratic capitalism score in the dataset used for this study. It therefore follows from the findings of this study that India would adopt an antitrust law that sought to promote the twin goals of both capitalism and democracy as discussed above. And that’s exactly what India did. In 2002, India enacted a new antitrust law that unequivocally states at the outset that its objectives are “to provide . . . for the establishment of a Commission to prevent practices having adverse effect on competition, to promote and sustain competition in markets, to protect the interests of consumers and to ensure freedom of trade carried on by other participants in markets”. 81 Promoting and sustaining competition and freedom of trade are clearly capitalistic goals while protecting the interests of consumers and other market participants satisfy the democratic aspirations of equity and fairness. The repeated emphases on the protection and promotion of competition, consumers, freedom of trade, and other market participants point to how a democratically capitalistic society adopts an antitrust law that seeks to supply the society with the demands of both capitalism and democracy.

#### The commitment to megaships is the commitment to a logic of expansionist spatial capitalism

Chua 18, Phd Dissertation in Political Science University of Minnesota. (Charmaine, Containing the Ship of State: Managing Mobility in an Age of Logistics, <https://conservancy.umn.edu/bitstream/handle/11299/200214/Chua_umn_0130E_19452.pdf?sequence=1&isAllowed=y>}

Networked uncertainty: Megaport expansions and infrastructural power The complex demands that megaships place on their corresponding ports thus reveal the deeply networked interdependency of large-scale logistical infrastructure. Because shipping networks depend on unstable and dynamic ensembles of physical, social, and financial infrastructure that are conceived and constructed at different local and regional scales, the extent to which megaships can fulfill their projected economic outcomes depends on the ability of port cities to support their monstrous bodies. In this light, the viability of infrastructural investment in megaship building directly hinges on the production of related port and terminal infrastructure elsewhere. Even though port expansion and megaship orders are pursued in relative isolation through industry-specific logics of competition, the cascading effects triggered by megaship growth demonstrate that such initiatives are in fact deeply interdependent. In this sense, in concerning itself primarily with market-mediated and profit-oriented dynamics of demand and supply, neoclassical economics fails to account for the spatial and political dynamics that are brought into relation when aspects of accumulation - in this case, the growth of megaships - require a corresponding geographical expansion. What then changes if we turn our attention to the explicitly spatial dynamics of the megaship expansion, seeking to understand the geographical implications of economies of scale and their unevenly materialization in urban infrastructure? In this section, I employ David Harvey’s notion of the ‘spatial fix’ to show that whereas neoclassical economics expect a tendency toward equalization of various spaces, an attention to the geographical intensification and expansion of capital accumulation reveals instead the deeply uneven development involved in expanding the mobile networks of trade. Harvey’s notion of the ‘spatial fix’, littered throughout his oeuvre but first theorized in The Limits to Capital ([1982] 2006), broadly designates forms of spatial reorganization and geographical expansion that serve to manage - though only temporarily - the crisis tendencies inherent in capitalist over-accumulation. As he explains, capitalism’s growth imperative requires perpetual market expansion. In periods of over-accumulation, capitalists are faced with a surplus of labor and capital without the conceivable means for bringing them together profitably, and this moment constitutes a crisis that forces capitalism to make new room for itself in either temporal or spatial terms, and thus to seek out new horizons of investment. In Harvey’s terms, seeking these new horizons often requires geographical expansion into other territories and markets - a process that necessitates moving capital across long distances and finding ways to overcome those distances. Harvey builds on Marx’s claim in Capital Vol. 2 that the productive forces of capitalism include the capacity to overcome spatial barriers by intensifying the links to spatially distant territories and regions by investing and innovating in the areas of transport and communication (Harvey 2001a). Specifically, where transportation is concerned, the continuity of the circulation of capital depends on the ability to physically move goods around, and thus depends upon the creation of “an efficient, spatially integrated transport system organized around some hierarchy of urban centers” (Harvey 2005, 377). Speeding up the transportation of goods or the communication of information can drastically reduce the turnover time of industrial capital and accelerate the circulation of commercial and financial capital, allowing capitalists to reinvest money capital into the production process. Harvey refers to this process as “socially necessary turnover time” (Harvey 2001a, 320): the average time taken for capital to be reinvested for average profit rates under normal conditions of production and circulation. Crucially, capitalists seek to shrink this turnover time by making heavy investments in fixed kinds of capital such as infrastructure or transportation: Improving modes of transportation (that is, creating faster or more efficient modes of travel) helps to overcome spatial distance, which, together with the credit system, provides the temporal stepping stone for the “annihilation of space with time” (Marx 1973, 539). As such, the spatial fix refers to a long-term investment that provides potential escape from crisis by expanding markets into regions beyond the local, validating heavy investments in fixed infrastructure at the point of production by increasing relative surplus-value and growing effective demand by expanding the consumer base to new populations. The megaship is in this sense another technology in a long line of investments that aim to speed the turnover of capital by achieving economies of scale in the delivery of commodities to new markets. Yet this only covers one transportation node in a complex network of mobile infrastructures, some of which are more fluid than others. As Henri Lefebvre has shown, the production of space is central to the reproduction of capital and capitalist social relations (Lefebvre 1970, 1976). A crucial tension that thus emerges is the contradiction between the ‘fixity’ and ‘mobility’ of capital. Harvey explains: “[A] distinction must be drawn between fixed capital that is mobile and that which is not. Some fixed capital is embedded in the land (primarily in the form of the built environment or more broadly as ‘second nature’) and therefore fixed in place. This capital is “fixed” in a double sense (tied up in a particular object like a machine and pinned down in place). There is a relationship between the two forms. Aircrafts (a highly mobile form of fixed capital) require investments in immobile airport facilities if they are to function. The dialectic between fixity and motion then comes into play even within the category of fixed capital” (Harvey 2001b, 328). While Harvey uses the example of the aircraft, the megaship might perhaps serve as an even better exemplar of this tension: if capitalism has to fix space (in the immoveable structures of transportation networks inland and in the built environment of ports and railroads) in order to overcome space, the megaship represents precisely this mobile form of fixed capital that achieves the liberty of movement across the globe while reducing transport and communication costs through economies of scale. Importantly, the demand that megaships place on port infrastructures to expand their space and technologies of operation leads to one of the central contradictions of capital: that it has to build a fixed space necessary for its own functioning, only to destroy that space (and devalue the capital invested within it) at a later point in order to make way for newer spatial fixes. “Capitalist development,” in Harvey’s explanation, “has to negotiate a knife-edge path between preserving the values of past capital investments in the built environment and destroying these investments in order to open up fresh room for accumulation” (Harvey 2001, 247). In this way, the spatial fix presupposes not an equalization of various spaces, but rather their uneven and differentiated development. Neil Smith and David Harvey have argued that infrastructure is a central force in enabling, expressing, and reproducing the uneven processes of development. The “frantic geographical expansion” of accumulation, Smith argues, “requires a continuous investment of capital in the creation of a built environment for production” (Smith 2008, 159). Here, infrastructures of mobility - “roads, railways, factories, fields, workshops, warehouses, wharves, sewers, canals, power stations” (ibid) - all function to concentrate capital and labor in metropolitan areas, while taking place alongside more “sprawling far-flung development” in which “roads and railways litter a landscape that has been indelibly and irreversibly carved out according to the dictates of capitalism” (Harvey 1999, 373). Under capitalism, Harvey shows that there is an unrelenting struggle in which capital has to build a physical landscape or infrastructure for itself, that is appropriate to its needs for accumulation at a moment in time. However, as soon as changing technologies or geographies of accumulation supersede the need for that infrastructure, capital finds that it only has “to destroy it, usually in the course of crises, at a subsequent point in time.” In this sense, while spatial fixes leave a very physical trace in the landscape with heavy infrastructure, these forms of fixed capital are constantly superseded in the need for endless expansion. Overall, Harvey stresses, this means that there is “no long-run ‘spatial fix’ to capitalism’s internal contradictions” (Harvey 2001a, 307).

#### Focusing on the impacts on mega ships is essential to undermining the logics of capital

Chua 18, Phd Dissertation in Political Science University of Minnesota. (Charmaine, Containing the Ship of State: Managing Mobility in an Age of Logistics, <https://conservancy.umn.edu/bitstream/handle/11299/200214/Chua_umn_0130E_19452.pdf?sequence=1&isAllowed=y>}

All ports fear being replaced by some other quicker passage, so they invest billions to remain competitive. In terraforming land to create new terminals and ports in some places, removing islands to make way for ships in others, and slicing land open to create waterways, these efforts to adapt ports to megaships reflect the “opposition between countervailing forces” which, for David Harvey, constitutes the basis of the uneven development of the geography of capitalism. As “diverse intersecting forces” operate “within the overall unity of the circulation process,” particular forms are fixed into the landscape in order to allow capital to flow, making for “geographical concentration or dispersal” in the circulation of capital (Harvey 1982, 419). Turning our focus onto ports and the immobility of their fixed capital reveals a complex tension. The speed and volume of megaship expansions places an undue burden on ports to frequently upgrade their infrastructure to service ever-larger ships. In this respect, it is important to consider that the dynamics of decision-making between various actors in the logistics and transportation sector are very much dependent on the mobility of their fixed capital. Owners of fixed capital that is rooted in place (e.g., port authorities, terminal operators) are at a disadvantage relative to owners of fixed capital that is geographically mobile (e.g., shipping lines). Even though ships are “fixed” infrastructure in some respect, in that they contain the value of investment sunk in them, they are also geographically mobile in that they are able to flexibly change their scheduled routes to dock at ports that can accommodate them, and can incite competition among territorially bound actors to their own benefit. In contrast, port authorities and terminal operators have operations that are fixed to the location of the port. The relation between ports and shipping lines can thus be said to constitute a networked spatial fix. Heavy infrastructures of circulation are not just fixed in place in terms of their locations, but the viability of an infrastructural investment in one location also hinges on the production of related infrastructures that can connect it across the intermodal container network. Importantly, there are also locational decisions to be made about where immobile fixed capital should be built, and what they might build over or supersede in their place: as Harvey argues, any endeavor to understand the spatial organization of accumulation must lie at “the interface between transport and communication possibilities on the one hand and locational decisions on the other” (Harvey 2001a, 328). This, however, is where Harvey’s argument of the spatial fix reaches a limit in its ability to explain specifically logistical forms of expansion, and to which I wish to add another dimension. Despite Harvey’s extraordinary work to advance the argument that transport infrastructures play a crucial role in the geographical mobility of capital, he has rarely engaged transportation infrastructure as sites of analysis in themselves. Transportation networks are the conditions of possibility for geographic mobility: “the capacity to move commodities depends upon the construction of a sophisticated, efficient, and stable transport system” (2001b, 330). But they largely only function as the conduit through which Harvey engages in analysis of the sphere of production. For Harvey, individual capitalists can profoundly shape the geography of production into distinctive spatial configurations by making particular locational decisions about where to build their factories or plants. Here, infrastructures of mobility - roads, ships, railways, etc. - aid the geographical expansion of accumulation by creating a built environment that releases capitalists from spatial constraints.40 Capitalists can “increase the range of possible substitutions” through transportation networks because these infrastructures loosen their dependence on local labor costs, raw materials, energy sources, and so forth (Harvey 2001b, 328). But transportation networks, in this way, serve only as the physical stepping-stones for the “annihilation of space by time.” Transport systems are thus the enabling conditions - quite literally the underlying, infra-structure for a broader set of shifts in the productive realm. It is not the aim of this chapter to speculate as to why Harvey did not spend more time on an analysis of transport infrastructure. What is important to register, however, is that focusing on transportation systems illuminates crucial aspects of the relations between the state, capital, and immobile, fixed infrastructure. The next section turns to such an analysis.

#### By challenging megaships the affirmative challenges the logic of capital accumulation and expansion

Chua 18, Phd Dissertation in Political Science University of Minnesota. (Charmaine, Containing the Ship of State: Managing Mobility in an Age of Logistics, <https://conservancy.umn.edu/bitstream/handle/11299/200214/Chua_umn_0130E_19452.pdf?sequence=1&isAllowed=y>}

Two lessons are worth drawing from this account: First, Smith eschewed a view of public works as spectacles of any kind, rejecting the idea that large-scale infrastructural systems should serve functions other than that of facilitating commerce. Second, even though Smith explicitly defined public works as a social tool for the “instruction of the people” (779), he primarily understood its ‘public’ function to be that of ensuring the flow of commerce in general. Why are these lessons significant? In chapter 2 of this dissertation, I argued that one key implication of the centrality of circulation to capital accumulation is that the overall economic wellbeing of the population comes to replace the particular wellbeing of the people, often producing the latter as secondary in importance to the former. In other words, as the circulation of the economy, and aggregate economic growth in general, becomes central to the political order, the institutions, rationalities, and organizations of state that would otherwise be associated with politics come to impose order on the polity so as to facilitate commerce in general. In Adam Smith, we can already see the logic by which the centrality of transport infrastructures to “commerce in general” takes precedence over the function of infrastructures as a kind of “public good.” By the 1950s, the use of the term public works began to decline, and the civil engineering term ‘infrastructure’ began to be adopted by bureaucrats in two new global programs of spatial expansion: supranational military coordination through NATO’s Common Infrastructure Program, and in international development discourse (Carse 2016). As the word expanded in use in the next few decades, what came to replace any notion of public good was an emphasis on physical networks that provided the means for global transportation, communication, and logistics networks (Easterling 2014). Rather than reflecting its function to the public, the terminological turn to infrastructure reflected an association with forms of calculative reason that served to organize material networks that facilitate contemporary economic and social organization. ‘Infrastructure’ designated the whole–part relations of sociotechnical “systems” (Edwards 2003), the nodal connections of “networks” (Castells 1996), and the heterogeneous alliances of “assemblages” (Bennett 2005). These definitions share a common agreement: infrastructures are the underlying systems that structure the successful circulation of other objects. In this sense, as Julie Chu (2014) argues, infrastructures “typically manifest as second-order agents of distribution; they are partial objects always gesturing to other flows and transactions for their completion as meaningful social forms” (353). We can now establish connections between state investments in port infrastructure, the history of infrastructural projects as public works, and a contemporary scholarly understanding of infrastructure as the mobilization of matter into other social 244 forms. If we understand transport infrastructures to be the underlying material networks that regulate the mobility of capital over the mobility of people, then in a capitalist economy their function to both capital and the state goes beyond purely microeconomic concerns with slot costs or firm-level profits. Infrastructures of mobility also gesture toward the state and capital’s faith in the durability of economic wellbeing: heavy investments in transportation infrastructure are a speculative bet on the continued growth of trade volumes, and thus the continued wealth of the nations. Megaships that are unveiled in grand ceremonies by the port and nudged into the water with a champagne bottle; heavy state investment in the automated technologies and grand vistas of the commercial port; these grandiose infrastructures, often insensible in the size and speed of their expansion, are as much figurations and projects of modernity as they are utilitarian economic objects.42 At the heart of logistical projects are monumental projections of the durability of capitalism’s future, more so than they are about collective provisioning. Infrastructures, despite the recent terminological shift, have never only been durable public works that stimulate local economic development or collectively provision the public. Instead, once we contextualize the development of infrastructure within a history of global capital that sought to construct technical systems and spaces to ensure the flow of capital across longdistances, we can better understand that the apparent durability and scale of these infrastructures as sources of both speculative fragility and durable monstrosity. As monstrous and grandiose infrastructural forms, they are materialized promises and bets on the future of capitalist growth. This is an element of concrete infrastructure that the theory of the ‘spatial fix’ does not account for: In addition to their role in the circulation and realization of capital, megaships and megaports also perform semiotic and symbolic functions that graft projections of economic power onto the body of monstrous logistical infrastructures.

#### Capitalism is sustainable — technological progress has successfully dematerialized economic growth

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Capitalism and technological progress are the first pair of forces driving dematerialization. This statement will come as a surprise to many, and for good reason. After all, it’s exactly this combination that caused us to massively increase our resource consumption throughout the Industrial Era. As we saw in chapter 3, the ideas of William Jevons and Alfred Marshall point to the distressing conclusion that capitalism and tech progress always lead to more from more: more economic growth, but also more resource consumption.

So what changed? How are capitalism and tech progress now get ting us more from less ? To get answers to these important questions, let’s start by looking at a few recent examples of dematerialization.

Fertile Farms

America has long been an agricultural juggernaut. In 1982, after more than a decade of steady expansion due in part to rising grain prices, total cropland in the country stood at approximately 380 million acres. Over the next ten years, however, almost all of this increase was reversed. So much acreage was abandoned by farmers and given back to nature that cropland in 1992 was almost back to where it had been almost twenty-five years before. This decline had several causes, including falling grain prices, a severe recession, over-indebted farmers, and increased international competition.

A final factor, though, was the ability to get ever-more corn, wheat, soybeans, and other crops from the same acre of land, pound of fertilizer and pesticide, and gallon of water. The material productivity of agriculture in the United States has improved dramatically in recent decades, as we saw in chapter 5. Between 1982 and 2015 over 45 million acres—an amount of cropland equal in size to the state of Washington—was returned to nature. Over the same time potassium, phosphate, and nitrogen (the three main fertilizers) all saw declines in absolute use. Meanwhile, the total tonnage of crops produced in the country increased by more than 35 percent.

As impressive as this is, it’s dwarfed by the productivity improvements of American dairy cows. In 1950 we got 117 billion pounds of milk from 22 million cows. In 2015 we got 209 billion pounds from just 9 million animals. The average milk cow’s productivity thus improved by over 330 percent during that time.

Thin Cans

Tin cans are actually made of steel coated with a thin layer of tin to improve corrosion resistance. They’ve been used since the nineteenth century to store food. Starting in the 1930s, they began also to be used to hold beer and soft drinks.

In 1959 Coors pioneered beer cans made of aluminum, which is much lighter and more corrosion resistant than steel. Royal Crown Cola followed suit for soda five years later. As Vaclav Smil relates, “A decade later steel cans were on the way out, and none of them have been used for beer since 1994 and for soft drinks since 1996.… At 85 g the first aluminum cans were surprisingly heavy; by 1972 the weight of a two-piece can dropped to just below 21 g, by 1988 it was less than 16 g, a decade later it averaged 13.6 g, and by 2011 it was reduced to 12.75 g.”

Manufacturers accomplished these reductions by making aluminum cans’ walls thinner, and by making the sides and bottom from a single sheet of metal so that only one comparatively heavy seam was needed (to join the top to the rest of the can). Smil points out that if all beverage cans used in 2010 weighed what they did in 1980, they would have required an extra 580,000 tons of aluminum. And aluminum cans kept getting lighter. In 2012 Ball packaging introduced into the European market a 330 ml can that held 7.5 percent less than the US standard, yet at 9.5 g weighed 25 percent less.

Gone Gizmos

In 2014 Steve Cichon, a “writer, historian, and retired radio newsman in Buffalo, NY,” paid $3 for a large stack of front sections of the Buffalo News newspaper from the early months of 1991. On the back page of the Saturday, February 16, issue was an ad from the electronics retailer Radio Shack. Cichon noticed something striking about the ad: “There are 15 electronic gimzo type items on this page.… 13 of the 15 you now always have in your pocket.”

The “gizmo type items” that had vanished into the iPhone Cichon kept in his pocket included a calculator, camcorder, clock radio, mobile telephone, and tape recorder. While the ad didn’t include a compass, camera, barometer, altimeter, accelerometer, or GPS device, these, too, have vanished into the iPhone and other smartphones, as have countless atlases and compact discs.

The success of the iPhone was almost totally unanticipated. A November 2007 cover story in Forbes magazine touted that the Finnish mobile phone maker Nokia had over a billion customers around the world and asked, “Can anyone catch the cell phone king?”

Yes. Apple sold more than a billion iPhones within a decade of its June 2007 launch and became the most valuable publicly traded company in history. Nokia, meanwhile, sold its mobile phone business to Microsoft in 2013 for $7.2 billion to get “more combined muscle to truly break through with consumers,” as the Finnish company’s CEO Stephen Elop said at the time of the deal.

It didn’t work. Microsoft sold what remained of Nokia’s mobile phone business and brand to a subsidiary of the Taiwanese electronics manufacturer Foxconn for $350 million in May of 2016. Radio Shack filed for bankruptcy in 2015, and again in 2017.

From Peak Oil to… Peak Oil

In 2007 US coal consumption reached a new high of 1,128 million short tons, over 90 percent of which was burned to generate electricity. Total coal use had increased by more than 35 percent since 1990, and the US Energy Information Administration (the official energy statisticians of the US government) forecast further growth of up to 65 percent by 2030.

Also in 2007 the US Government Accountability Office (GAO), a federal agency known as “the congressional watchdog,” published a report with an admirably explanatory title: “Crude Oil: Uncertainty about Future Oil Supply Makes It Important to Develop a Strategy for Addressing a Peak and Decline in Oil Production.” It took seriously the idea of “peak oil,” a phrase coined in 1956 by M. King Hubbert, a geologist working for Shell Oil. As originally conceived, peak oil referred to the maximum amount of oil that we could annually produce for all of humanity’s needs.

The first oil wells pumped out the crude oil that was closest to the earth’s surface or otherwise easiest to access. As those wells dried up, we had to drill deeper ones, both on land and at sea. As the world’s economies kept growing, so did total demand for oil, which kept getting harder and harder to obtain. Peak oil captured the idea that despite our best efforts and ample incentive, we would come to a time after which we would only be able to extract less and less oil year after year from the earth. Most of the estimates summarized in the GAO report found that peak oil would occur no later than 2040.

The report did not mention fracking, which in retrospect looks like a serious omission. Fracking is short for “hydraulic fracturing” and is a means of obtaining oil and natural gas from rock formations lying deep underground. It uses a high-pressure fluid to cause fractures in the rock, through which oil and gas can flow and be extracted.

The United States and other countries have long been known to have huge reserves of hydrocarbons in deep rock formations, which are often called shales. Companies had been experimenting with fracking to get at them since the middle of the twentieth century, but had made little progress. In 2000 fracking accounted for just 2 percent of US oil production.

That figure began to increase quickly right around the time of the GAO report. Not because of any single breakthrough, but instead because the suite of tools and techniques needed for profitable fracking had all improved enough. A gusher of shale oil and gas ensued.

Thanks to fracking, US crude oil production almost doubled between 2007 and 2017, when it approached the benchmark of 10 million barrels per day. By September of 2018 America had surpassed Saudi Arabia to become the world’s largest producer of oil. American natural gas production, which had been essentially flat since the mid-1970s, jumped by nearly 43 percent between 2007 and 2017.

As a result of the fracking boom the United States has experienced peak coal rather than peak oil. And the peak in coal is not in total annual supply, but instead in demand. Fracking made natural gas cheap enough that it became preferred over coal for much electricity generation. By 2017 total US coal consumption was down 36 percent from its 2007 high point.

The phrase peak oil is still around, but, as is the case with coal, it usually no longer refers to supply. As a 2017 Bloomberg headline put it, “Remember Peak Oil? Demand May Top Out Before Supply Does.” Even though the extra supply from fracking has helped push down oil and gas prices, many observers now believe that energy from other sources—the sun, wind, and the nuclei of uranium atoms—is getting cheaper faster and becoming much more widely available. So much so that, as a 2018 article in Fortune about the future of oil hypothesized, “This wouldn’t be just another oil-price cycle, a familiar roller coaster in which every down is followed by an up. It would be the start of a decades-long decline of the Oil Age itself—an uncharted world in which… oil prices might be ‘lower forever.’ ” Analysts at Shell, the company from which the phrase peak oil originated, now estimate that global peak oil demand might come as soon as 2028.

Taking Stock of Rolling Stock

My friend Bo Cutter started his career in 1968 working for Northwest Industries, a conglomerate that owned the Chicago and North Western Railway. One of his first assignments was to help a team tasked with solving a problem that sounds odd to modern ears: figuring out where CNW’s railcars were.

These cars are massive metal assemblies, each weighing thirty tons or more. In the late 1960s CNW owned thousands of them, representing a huge commitment of both material and money. Across the railroad industry, the rule of thumb then was that about 5 percent of a company’s railcars moved on any given day. This was not because the other 95 percent needed to rest. It was because their owners didn’t know where they were.

CNW owned thousands of miles of track in places as far from Chicago as North Dakota and Wyoming. Its rolling stock (as locomotives and railcars are called) could also travel outside the company’s network on tracks owned by other railroads. So these assets could be almost anywhere in the country.

When the railcars weren’t moving, they sat in freight yards. At the time Cutter started his job, freight yards didn’t keep up-to-date records of the idle rolling stock they contained because, in the days before widespread digital computers, sensors, and networks, there was no way to cost-effectively know or communicate the location of each car. So it was impossible for CNW or any other railroad to systematically track its most important inventory, even though doing so would be hugely beneficial to the company’s bottom line. For example, Cutter’s team knew that if they could increase the percentage of cars moving each day from 5 percent to 10 percent, they would need only half as many of them. Even a single percentage point increase in freight-car use would yield major financial benefits.

When Cutter started his assignment, CNW and all other railroads employed spotters, who visited yards and watched trains pass, then telegraphed their findings to the head office. Other railroads passed on similar information to collect the demurrage charges they were owed for each CNW car on their tracks and in their yards. Cutter’s team improved on these methods by making them more systematic and efficient. They put in place a better baseline audit of where railcars were, employed more spotters, painted CNW cars differently so they were easier to see, and explored how to make more use of a new tool for businesses: the digital computer.

That tool and its kin are now pervasive in the railroad industry. In the early 1990s, for example, companies started putting radio-frequency identification tags on each piece of rolling stock. These tags would be read by trackside sensors, thus automating the work of spotting. At present over 5 million messages about railcar status and location are generated and sent throughout the American railway system every day, and the country’s more than 450 railroads have nearly real-time visibility over all their rolling stock.

The Rare Earth Scare

In September of 2010 the Japanese government took into custody the captain of a Chinese fishing boat that had collided with Japanese patrol vessels near a group of uninhabited islands in the East China Sea claimed by both countries. China responded by imposing an embargo on shipments of rare earth elements (REE) to the Land of the Rising Sun.

Even though Japan relented almost immediately and released the captain, a global panic began. This is because rare earths are “vitamins of chemistry,” as USGS scientist Daniel Cordier puts it. “They help everything perform better, and they have their own unique characteristics, particularly in terms of magnetism, temperature resistance, and resistance to corrosion.”

By 2010 China produced well over 90 percent of the world’s REE. Its actions in the wake of the maritime incident convinced many that it could and would take unilateral action to control the flow of these important materials, and panicked buying soon followed (along with its close cousin rampant speculation). A bundle of REE that would have sold for less than $10,000 in early 2010 soared to more than $42,000 by April of 2011. In September of that year the US House of Representatives held a hearing called “China’s Monopoly on Rare Earths: Implications for US Foreign and Security Policy.”

China didn’t attain its near monopoly because it possessed anything close to 90 percent of global reserves of REE. In fact, rare earths aren’t rare at all (one, cerium, is about as common in the earth’s crust as copper). However, they’re difficult to extract from ore. Obtaining them requires a great deal of acid and generates tons of salt and crushed rock as by-products. Most other countries didn’t want to bear the environmental burden of this heavy processing and so left the market to China.

In the wake of the embargo, this seemed like a bad idea. As Representative Brad Sherman put it during the congressional hearing, “Chinese control over rare earth elements gives them one more argument as to why we should kowtow to China.” But there was never much kowtowing. By the time of the hearing, prices for REE were already in free fall.

Why? What happened to the apparently tight Chinese stranglehold over REE? Several factors caused it to ease, including the availability of other supply sources and incomplete maintenance of the embargo. But as public affairs professor Eugene Gholz noted in a 2014 report on the “crisis,” many users of REE simply innovated their way out of the problem. “Companies such as Hitachi Metals [and its subsidiary in North Carolina] that make rare earth magnets found ways to make equivalent magnets using smaller amounts of rare earths in the alloys.… Meanwhile, some users remembered that they did not need the high performance of specialized rare earth magnets; they were merely using them because, at least until the 2010 episode, they were relatively inexpensive and convenient.”

Overall, the companies using REE found many inexpensive and convenient alternatives. By the end of 2017 the same bundle of rare earths that had been trading above $42,000 in 2011 was available for about $1,000.

What’s Going On?

There is no shortage of examples of dematerialization. I chose the ones in this chapter because they illustrate a set of fundamental principles at the intersection of business, economics, innovation, and our impact on our planet. They are:

We do want more all the time, but not more resources. Alfred Marshall was right, but William Jevons was wrong. Our wants and desires keep growing, evidently without end, and therefore so do our economies. But our use of the earth’s resources does not. We do want more beverage options, but we don’t want to keep using more aluminum in drink cans. We want to communicate and compute and listen to music, but we don’t want an arsenal of gadgets; we’re happy with a single smartphone. As our population increases, we want more food, but we don’t have any desire to consume more fertilizer or use more land for crops.

Jevons was correct at the time he wrote that total British demand for coal was increasing even though steam engines were becoming much more efficient. He was right, in other words, that the price elasticity of demand for coal-supplied power was greater than one in the 1860s. But he was wrong to conclude that this would be permanent. Elasticities of demand can change over time for several reasons, the most fundamental of which is technological change. Coal provides a clear example of this. When fracking made natural gas much cheaper, total demand for coal in the United States went down even though its price decreased.

With the help of innovation and new technologies, economic growth in America and other rich countries—growth in all of the wants and needs that we spend money on—has become decoupled from resource consumption. This is a recent development and a profound one.

Materials cost money that companies locked in competition would rather not spend. The root of Jevons’s mistake is simple and boring: resources cost money. He realized this, of course. What he didn’t sufficiently realize was how strong the incentive is for a company in a contested market to reduce its spending on resources (or anything else) and so eke out a bit more profit. After all, a penny saved is a penny earned.

Monopolists can just pass costs on to their customers, but companies with a lot of competitors can’t. So American farmers who battle with each other (and increasingly with tough rivals in other countries) are eager to cut their spending on land, water, and fertilizer. Beer and soda companies want to minimize their aluminum purchases. Producers of magnets and high-tech gear run away from REE as soon as prices start to spike. In the United States, the 1980 Staggers Act removed government subsidies for freight-hauling railroads, forcing them into competition and cost cutting and making them all the more eager to not have expensive railcars sit idle. Again and again, we see that competition spurs dematerialization.

There are multiple paths to dematerialization. As profit-hungry companies seek to use fewer resources, they can go down four main paths. First, they can simply find ways to use less of a given material. This is what happened as beverage companies and the companies that supply them with cans teamed up to use less aluminum. It’s also the story with American farmers, who keep getting bigger harvests while using less land, water, and fertilizer. Magnet makers found ways to use fewer rare earth metals when it looked as if China might cut off their supply.

Second, it often becomes possible to substitute one resource for another. Total US coal consumption started to decrease after 2007 because fracking made natural gas more attractive to electricity generators. If nuclear power becomes more popular in the United States (a topic we’ll take up in chapter 15), we could use both less coal and less gas and generate our electricity from a small amount of material indeed. A kilogram of uranium-235 fuel contains approximately 2–3 million times as much energy as the same mass of coal or oil. According to one estimate, the total amount of energy that humans consume each year could be supplied by just seven thousand tons of uranium fuel.

Third, companies can use fewer molecules overall by making better use of the materials they already own. Improving CNW’s railcar utilization from 5 percent to 10 percent would mean that the company could cut its stock of these thirty-ton behemoths in half. Companies that own expensive physical assets tend to be fanatics about getting as much use as possible out of them, for clear and compelling financial reasons. For example, the world’s commercial airlines have improved their load factors—essentially the percentage of seats occupied on flights—from 56 percent in 1971 to more than 81 percent in 2018.

Finally, some materials get replaced by nothing at all. When a telephone, camcorder, and tape recorder are separate devices, three total microphones are needed. When they all collapse into a smartphone, only one microphone is necessary. That smartphone also uses no audiotapes, videotapes, compact discs, or camera film. The iPhone and its descendants are among the world champions of dematerialization. They use vastly less metal, plastic, glass, and silicon than did the devices they have replaced and don’t need media such as paper, discs, tape, or film.

If we use more renewable energy, we’ll be replacing coal, gas, oil, and uranium with photons from the sun (solar power) and the movement of air (wind power) and water (hydroelectric power) on the earth. All three of these types of power are also among dematerialization’s champions, since they use up essentially no resources once they’re up and running.

I call these four paths to dematerialization slim, swap, optimize, and evaporate. They’re not mutually exclusive. Companies can and do pursue all four at the same time, and all four are going on all the time in ways both obvious and subtle.

Innovation is hard to foresee. Neither the fracking revolution nor the world-changing impact of the iPhone’s introduction were well understood in advance. Both continued to be underestimated even after they occurred. The iPhone was introduced in June of 2007, with no shortage of fanfare from Apple and Steve Jobs. Yet several months later the cover of Forbes was still asking if anyone could catch Nokia.

Innovation is not steady and predictable like the orbit of the Moon or the accumulation of interest on a certificate of deposit. It’s instead inherently jumpy, uneven, and random. It’s also combinatorial, as Erik Brynjolfsson and I discussed in our book The Second Machine Age. Most new technologies and other innovations, we argued, are combinations or recombinations of preexisting elements.

The iPhone was “just” a cellular telephone plus a bunch of sensors plus a touch screen plus an operating system and population of programs, or apps. All these elements had been around for a while before 2007. It took the vision of Steve Jobs to see what they could become when combined. Fracking was the combination of multiple abilities: to “see” where hydrocarbons were to be found in rock formations deep underground; to pump down pressurized liquid to fracture the rock; to pump up the oil and gas once they were released by the fracturing; and so on. Again, none of these was new. Their effective combination was what changed the world’s energy situation.

Erik and I described the set of innovations and technologies available at any time as building blocks that ingenious people could combine and recombine into useful new configurations. These new configurations then serve as more blocks that later innovators can use. Combinatorial innovation is exciting because it’s unpredictable. It’s not easy to foresee when or where powerful new combinations are going to appear, or who’s going to come up with them. But as the number of both building blocks and innovators increases, we should have confidence that more breakthroughs such as fracking and smartphones are ahead. Innovation is highly decentralized and largely uncoordinated, occurring as the result of interactions among complex and interlocking social, technological, and economic systems. So it’s going to keep surprising us.

As the Second Machine Age progresses, dematerialization accelerates. Erik and I coined the phrase Second Machine Age to draw a contrast with the Industrial Era, which as we’ve seen transformed the planet by allowing us to overcome the limitations of muscle power. Our current time of great progress with all things related to computing is allowing us to overcome the limitations of our mental power and is transformative in a different way: it’s allowing us to reverse the Industrial Era’s bad habit of taking more and more from the earth every year.

Computer-aided design tools help engineers at packaging companies design generations of aluminum cans that keep getting lighter. Fracking took off in part because oil and gas exploration companies learned how to build accurate computer models of the rock formations that lay deep underground—models that predicted where hydrocarbons were to be found.

Smartphones took the place of many separate pieces of gear. Because they serve as GPS devices, they’ve also led us to print out many fewer maps and so contributed to our current trend of using less paper. It’s easy to look at generations of computer paper, from 1960s punch cards to the eleven-by-seventeen-inch fanfold paper of the 1980s, and conclude that the Second Machine Age has caused us to chop down ever more trees. The year of peak paper consumption in the United States, however, was 1990. As our devices have become more capable and interconnected, always on and always with us, we’ve sharply turned away from paper. Humanity as a whole probably hit peak paper in 2013.

As these examples indicate, computers and their kin help us with all four paths to dematerialization. Hardware, software, and networks let us slim, swap, optimize, and evaporate. I contend that they’re the best tools we’ve ever invented for letting us tread more lightly on our planet.

All of these principles are about the combination of technological progress and capitalism, which are the first of the two pairs of forces causing dematerialization.

#### COVID-19 proves capitalism is financially sustainable---no structural collapse.

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Why the U.S. Is Unlikely to be Headed Towards a Structural Regime Break

Though the path from the crisis we’re in now to either depression or debt crisis is not impossible, it’s not easy or natural, if we examine each of the four paths in regards to the current situation:

Policy Error — The policy challenge of coronavirus is enormous, but what is on display is the opposite of the inaction of the Great Depression. On the monetary side, the first signs of stress in the banking system — in the repo and commercial paper markets — were met with timely and sizable monetary policy action. On the fiscal side, it didn’t take long — certainly by Washington standards — to pass the $2 trillion CARES Act to provide funds to counteract the wave of liquidity and capital problems for the real economy (households and firms). Beyond any specific policy action, we are seeing a mindset in which policy makers will keep throwing policy innovations at the problem until something sticks — quite the opposite of the 1930s.

Political Willingness — It certainly is possible that political calculus gets in the way of averting a structural breakdown, but not very plausible because the political costs are high. To be sure there are two risks involved: 1) The unwillingness to craft a piece of legislation, perhaps because of differences in analysis, beliefs, or dogma; and 2) the failure to pass legislation because one side sees greater political gain in obstruction. While the TARP fiasco reminds us that both risks are real and shouldn’t be dismissed, crises tend to lubricate deal making, and the costs of political obstruction are particularly high, even in a hyper-partisan election year.

Policy Dependence — This path is not applicable in the U.S. because of monetary sovereignty. The Federal Reserve will always facilitate fiscal policy in a time of low and stable inflation and a healthy currency.

Policy Rejection — A debt crisis seems improbable for the U.S.: Inflation expectations are very well anchored (and, if anything, too low). The rate-risk correlation is very solid, where in risk-off periods (moment when investors are less tolerant of risk and prices of risk assets like stocks fall) bond prices rally (yields fall). The USD reserve currency status is deeply entrenched as the rest of the world needs to hold U.S. safe assets (and don’t wish to see their currencies appreciate). And nominal interest rates are generally lower than nominal growth (r – g < 0). All of these factors make for favorable financing conditions. Can coronavirus damage all that and deliver a crisis where markets refuse to purchase U.S. debt? It’s possible, but very implausible, and it would be a long and painful process. A break in the inflation regime plays out over several years.

#### The alt fails – party building is a vague aspiration to leadership of the working class with no path to achieve its goal. Before they can gain any solvency or links, they have to describe exactly how democratic centralism functions and how they consolidate a massively diverse left into a singular organization.

Kalisz, 20 (Teresa, organizer based in New York City and a member of Red Bloom and the Marxist Center, “Everyday Ruptures: Putting Basebuilding on a Revolutionary Path,” *The Left Wind,* <https://theleftwind.wordpress.com/2020/04/24/everyday-ruptures-putting-basebuilding-on-a-revolutionary-path/>)

When the question of organization is brought up with respect to the revolution, Marxists often return to the idea of the party. The party is often approached as if the word itself has power, as if the term “party building” on its own implies all the structural and strategic information necessary for the conversation. This is a problem, because while the left does distinguish between a mass party and a Leninist party (though even this distinction is contested), there is quite a bit of diversity within these forms that are both shaped by the strategies of the trends they are born out of and the political terrain of countries they operate in. The Bolsheviks, the Communist Party of the Philippines, and the Socialist Workers Party (US) were all Leninist parties that operated on nominal democratic centralism, but the specific forms and ways they operate are all quite different. AROC in their original critique of Marxist Center gives a preliminary definition of what a party is, contending that “political parties are the institution of unitary political leadership for a class or fraction of a class.” This is still a broad enough definition that it could theoretically encompass any variety of organizational types. With all this lack of clarity over what a call to party build means, is party building desirable? In her contribution to the debate in the aftermath of Marxist Center’s founding, Alyson Escalante makes an argument for its benefit. She points out that, despite the Marxist Center’s commitment to mass work and institution building, it hasn’t committed to a strategy for revolution, and this is a major weakness. Party building provides a next step beyond building new working class institutions, and can provide a context for MC’s mass work and a basis for the development of a revolutionary strategy. While Marxist Center may fail to build the party as in past movements, this isn’t an argument against trying. Alyson’s argument isn’t completely disagreeable. In fact, this document agrees with her fundamental point: Marxist Center’s lack of a strategy for revolution is a major weakness. From here, she errs; by placing party building at the foundation of our strategy, we lose sight of the fact that the organizational forms are determined in large part by the strategy and struggles with which we engage. Elevating the ‘party’ form to the level of strategy presents the possibility of conflating utterly different visions which fall under the category of “party building”. A party that leads a guerilla war is different from a party that operates mostly in electoral politics. If we don’t have our strategy, we don’t know what type of party to build. Furthermore, by making party building a goal, we have to ask the question:at what point does a party building project become the party? A quote from the Union of French Communists Marxist-Leninists tries to answer this: …the party must be constructed in the fire of struggles, step by step, under the control of the mass political movement. In France today, this party does not exist. It is not a question of self proclaiming it. This is why we declare that we are not the Party. We are a Marxist-Leninist-Maoist political group FOR the foundation of a communist Union. This Union, having proven itself, and gathering a significant fraction of the vanguard workers, will itself have to determine the conditions and stages for the foundation of the Party. When has a party proven itself? What constitutes a significant fraction of vanguard workers? How do we distinguish between premature self-declarations and genuine foundations of the party? If a political organization has already clearly successfully accomplished all these things before founding the party, what benefit is there to founding a new organization? The pre-party formation has already accomplished the tasks that define a party in this sense. Just like the problems facing dual power theories where revolution becomes this far point in the future with no clear path from where we currently are, party building also provides little in the way of a clear path from the ‘pre-party’ to the party. If organizational forms are determined by strategy and the conditions under which we organize, then what are the organizational forms for revolutionaries that flow from the ruptural strategy for socialism? To start, one reality that needs to be confronted is that, despite the aspirations of vanguardist tendencies, the idea that we will have unitary leadership of the working class is unrealistic for the near term and might very well be completely impossible. Revolutions, while they might have

a dominant organization, are often carried out by blocs of revolutionary political organizations and mass organizations (as seen in the Russian Revolution). This isn’t a weakness necessarily and, in fact, we can use this to our benefit even in the near term.

# 1AR

## 1AR — Advantage

#### Policy simulation is good – it’s key to portable skills and breaking down expert monopoly on policy advice

**Farley 12** (Robert, assistant professor at the Patterson School of Diplomacy and International Commerce at the University of Kentucky, “Teaching Crisis Decision-Making Through Simulations,” World Politics Review, February 9, 2012, http://www.worldpoliticsreview.com/articles/11628/over-the-horizon-teaching-crisis-decision-making-through-simulations )

What goes for war goes for policy other than war. **Public and foreign policy programs have** **increasingly used simulations** **as training and teaching tools**. **Policy initiatives**, whether foreign or domestic, **generate strategic dynamics;** **players respond to how other players have changed the game environment**. Consequently, **playing games can** **help students develop expertise** **regarding how to manage strategic dynamics**, as well as more specific skills such as crisis negotiation. At the same time, **foreign and public policy schools have become attractive to serious simulators because of the presence of a large number of** relatively **knowledgeable** graduate and **advanced undergraduate students** **with time on their hands**. The Army War College -- which runs two negotiation simulations, one involving Nagorno-Karabakh and the other Cyprus -- has taken advantage of this by running its simulations at several major universities, adapting the structure of the game for different groups of players. Last summer, the strategic forecasting firm Wikistrat -- for which I am an analyst -- ran a grand strategy competition involving a large number of major foreign policy programs. Accordingly, the universe of potential policy simulations and “war games” is virtually limitless. The Paxsims blog, co-edited by WPR contributor Rex Brynen, focuses on the serious use of international political and military simulations, listing dozens of different **games played to inform public policy decisions**. These simulations **include modeling relief efforts following the Haiti earthquake, refining peacekeeping and civilian protection** in hostile environments, “replaying” the 2007 Surge in Baghdad, **rethinking the partition of India and Pakistan, and** -- of course -- **sketching out an Israeli bombing campaign against Iranian nuclear facilities**. As in many other fields, the Internet has transformed the development process of policy-oriented simulations. Widely available information and modern information technology makes it possible to bring together subject matter experts with designers, and crowdsourcing helps demonstrate and correct problems and flaws with the simulation. Indeed, the Wikistrat model is built directly on the idea that **smart crowdsourcing can** **produce better policy analysis** **than** **reliance on relatively isolated expert opinion**. Patterson School simulations focus on the teaching and training aspects of gaming rather than on verisimilitude. Previous Patterson School simulations have involved a revolution in Belarus, a pirate attack off Somalia, the aftermath of the death of Fidel Castro, an Israeli strike on Iran and a nuclear accident in North Korea. **The purpose of these games is to** **force decision-making under difficult circumstances**, **hopefully modeling the conditions under which** **policy professionals produce recommendations and make decisions**. This is not to say that nothing can be learned from the course of the game. In the 2012 simulation, members of the Sinaloa drug cartel launched simultaneous large-scale attacks on the Bellagio in Las Vegas as well as on several targets in Acapulco. All the attacks involved car bombings followed up by teams of heavily armed gunmen employing automatic weapons and hand grenades. The Patterson student cohort was divided into teams representing the Mexican and American national security bureaucracies, regional governments and cartels, with the exercise simulating the government response in the 24 hours immediately following the attack. The simulation ended in an abortive meeting between U.S. President Barack Obama and Mexican President Felipe Calderon. Domestic political pressures played a role on both sides, with Texas Gov. Rick Perry launching a blistering series of attacks against Obama’s handling of the crisis, and the Mexican police consistently undercutting the efforts of the Mexican army. Our **simulation highlighted the problems of bureaucratic competition, indistinct boundaries of responsibility, and mistrust between agencies and governments**. The game also gave students an appreciation of the difficulties of dealing with an active and independent media, which remained largely outside their control. Most importantly, **it gave students a taste of the difficulty in arriving at coherent, cohesive action even when policy objectives remained broadly in agreement**. **While students may never face this precise crisis in their subsequent professional careers, they** undoubtedly **will face situations where policymakers demand options**, **sleep be damned**. **Increasingly realistic simulations** involving larger and larger numbers of interested, well-informed players **will help** **structure public policy decision-making** **for the foreseeable future.** Someday, **strong performance in such simulations, as well as the ability to craft useful games, may even** **prove a pathway to success in a public policy career**.

## K

#### Psychoanalysis is non-falsifiable — The alternative is cognitive psychology.

Mills ‘17—Professor of Psychology & Psychoanalysis at the Adler Graduate Professional School in Toronto (Jon, “Challenging Relational Psychoanalysis: A Critique of Postmodernism and Analyst Self-Disclosure,” Psychoanalytic Perspectives Volume 14, 2017 - Issue 3, 313-335, dml)

The implications of such positions immediately annul metaphysical assertions to truth, objectivity, free will, and agency, among other universals. For instance, if everything boils down to language and culture, then by definition we cannot make legitimate assertions about truth claims or objective knowledge because these claims are merely constructions based on our linguistic practices to begin with rather than universals that exist independent of language and socialization. So, one cannot conclude that truth or objectivity exist. These become mythologies, fictions, narratives, and illusions regardless of whether we find social consensus. Therefore, natural science—such as the laws of physics, mathematics, and formal logic—are merely social inventions based on semantic construction that by definition annul any claims to objective observations or mind independent reality. In other words, metaphysics is dead and buried—nothing exists independent of language.2

What perhaps appears to be the most widely shared claim in the relational tradition is the assault on the analyst’s epistemological authority to objective knowledge. Stolorow (1998) told us that “objective reality is unknowable by the psychoanalytic method, which investigates only subjective reality. … There are no neutral or objective analysts, no immaculate perceptions, no God’s-eye views of anything” (p. 425). What exactly does this mean? If my patient is suicidal and he communicates this to me, providing he is not malingering, lying, or manipulating me for some reason, does this not constitute some form of objective judgment independent of his subjective verbalizations? Do we not have some capacities to form objective appraisals (here the term objective being used to denote making reasonably correct judgments about objects or events outside of our unique subjective experience)? Was not Stolorow making an absolute claim despite arguing against absolutism when he said that “reality is unknowable?” Why not say that knowledge is proportional or incremental rather than totalistic, thus subject to modification, alteration, and interpretation rather than categorically negate the category of an objective epistemology? Are there no objective facts? Would anyone care to defy the laws of gravity by attempting to fly off the roof of a building by flapping their arms?

Because postmodern perspectives are firmly established in antithesis to the entire history of Greek and European ontology, perspectives widely adopted by many contemporary analysts today, relational psychoanalysis has no tenable metaphysics, or in the words of Aner Govrin (2006), no real “metatheory.” This begs the question of an intelligible discourse on method for the simple fact that postmodern sensibilities ultimately collapse into relativism. Because there are no independent standards, methods, or principles subject to uniform procedures for evaluating conceptual schemas, postmodern perspectives naturally lead to relativism. From the epistemic (perspectival) standpoint of a floridly psychotic schizophrenic, flying donkeys really do exist, but this does not make it so. Relativism is incoherent and is an internally inconsistent position at best. I once had a student who was an ardent champion of relativism until I asked him to stand up and turn around. When he did I lifted his wallet from his back pocket and said, “If everything is relative, then I think I am entitled to your wallet because the university does not pay me enough.” Needless to say, he wanted it back.

Relativism collapses into contradiction, inexactitude, nihilism, and ultimately absurdity because no one person’s opinion is any more valid than another’s, especially including value judgments and ethical behavior, despite qualifications that some opinions are superior to others. A further danger of embracing a “relativistic science” is that psychoanalysis really has nothing to offer over other disciplines that may negate the value of psychoanalysis to begin with (e.g., empirical academic psychology), let alone patients themselves whose own opinions may or may not carry any more weight than the analysts with whom they seek out for expert professional help. Imagine saying to your patient, “I know nothing, now where’s my money?” When one takes relativism to the extreme, constructivism becomes creationism, which is simply a grandiose fantasy of omnipotence—“things are whatever you want them to be.”3