

The Jones Act: Charting a New Course after a Century of Failure

Session II: The Economic Costs of the Jones Act

Panelists:

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DANIEL J. IKENSON: Thank you. Welcome back to the F.A. Hayek Auditorium. My name is Dan Ikenson. I am Director of the Herbert A. Stiefel Center for Trade Policy Studies, here at the Cato Institute, and I will be presiding over Session II, which is a look at the economic costs of the Jones Act. A little bit of that was foreshadowed and discussed in the previous panel and during the Q&A. So, hopefully, there won't be too much repetition, but I just want to give a little bit of background. And then I am going to turn it over to our distinguished panel.

So, in June of this year, Cato published a paper called "The Jones Act: A Burden American Can No Longer Bear." The paper is the first in a series of four papers that we're planning to publish aimed at awakening Americans to the imperative of putting an end to one of the most expensive, distorting, and protectionist schemes in U.S. history. The paper presents an overview of the Jones Act which for nearly 100 years has restricted domestic cabotage shipping to ships that are U.S.-built, U.S.-owned, U.S.-crewed, U.S.-flagged. The paper examines the history of the Jones Act, describing how it was originally sold as a plan to ensure sufficient domestic shipbuilding capacity, a reliable and diverse fleet of ships, and of course, a ready reserve of merchant marines to be called upon in times of war and national emergencies.

In that paper, citing depletion over the years in the types and number of ships built in America's languishing shipyards, a steady decline in the number of U.S. merchant marines, a persistent dependence, as Colin referred to during Q&A, on the foreign ships required during national emergencies, and an absence of any compelling evidence that the law has contributed meaningfully in any way to bolstering the U.S. national security, the paper concludes that the Jones Act has failed to achieve its primary purpose.

But in the course of failing to fulfill those objectives, the Jones Act has also burdened the U.S. economy with a variety of significant costs. So, in this section, we're going to talk about those costs. Over the years, some efforts have been made to quantify the effects of the Jones Act, the costs of the Jones Act. Probably most famously, the U.S. International Trade Commission did a series of studies over the '90s and early 2000s aiming at coming up with estimates of the cost of the Jones Act in the economy. Those costs ranged from \$656 million per year to \$9.8 billion per year, so very assumption-dependent. There were other papers that had been written and had been cited in the literature that found the costs to be somewhere between 1- and \$2 billion per year.

But I think none of those papers really captures the full range of costs that the Jones Act imposes on the U.S. economy. There are a lot of unseen costs, and I put those in six baskets. There are transportation costs, infrastructure costs, environmental costs, the cost of lost wages and productivity, foregone domestic sales revenue, and foregone foreign sales revenue. So I want to just examine those very briefly before turning it over to the panel.

First, the law mandates that only U.S.-built ships are eligible to transport goods from one U.S. point to another. So facing no foreign competition in the production of vessels for the domestic cabotage market, U.S. shipbuilders have had little incentive to produce ships cost efficiently or to price competitively. The evidence supports this all-too-predictable outcome.

So the average price of a U.S.-built ship is somewhere between four and five times greater than the average price of a vessel built in a foreign shipyard. According to a paper last year from the Congressional Research Service, recent U.S.-built coastal container ships have a price range of \$190 million to \$250 million, which is six to eight times greater than the cost of the coastal or feeder ship of similar size, built in a foreign shipyard at a cost of about \$30 million.

So who would want to buy such high-priced ships? How could carriers make any money with such a hefty capital investment? Well, because U.S. carriers who would otherwise forego purchasing these overpriced ships are also giving artificial incentives of their own to defy the economics, which come by way of the Jones Act restrictions that cabotage services be performed only by ships that are U.S.-owned, -flagged, and -crewed.

But these high-price ships, they'll be operating, the contract goes. You'll be operating in a protected market, but you're going to have to hire U.S. crews, and you're going to have to abide by a variety of pretty costly restrictions, which end up driving up the cost of operating ships in the cabotage market to be triple the price of foreign-flagged ships, their operating expenses.

So, with no foreign competition, U.S. carriers are free to charge exorbitant rates to recoup the excessive cost of acquiring and operating these ships. This is especially true on routes where there's limited competition from other domestic modes of transportation, such as routes serving Puerto Rico, Hawaii, and Alaska. These exorbitant maritime rates encourage companies to take their cargo out of the water and move it onto U.S. highways and rail or to keep their

cargo on U.S. highways and rail that are becoming more congestive instead of moving them onto the water.

Over the past 60 years, domestic freight tonnage moved on railroads has increased by 48 percent and trucks by 217 percent, but if you look at the tonnage moved on coastal routes, coastal shipping, and Great Lakes shipping, they've declined by 44 percent and 43 percent, respectively.

So the artificially inflated demand for truck, train, and even airplane transport increases the rates of these modes of business, for all businesses that move merchandise to retail outlets, inventories to warehouses, and intermediate goods to manufacturing facilities. Those inflated movement expenses increased the cost of production for U.S. manufacturers, the prices on retail store shelves, the cost of living for U.S. families.

The second set of costs is infrastructure cost. The diversion of cargo from water and land generates a variety of costly externalities, including additional wear and tear on the country's roads, bridges, and rail. According to Transportation Department statistics, trucks account for an estimated 10 percent of the vehicle miles traveled on U.S. highways, but those trucks are responsible for 75 percent of the need for highway maintenance and repair expenditures. One 80,000-pound tractor-trailer truck is as taxing on pavement as 9,600 cars. The additional wear and tear adversely affects automobile owners. There are more tire blowouts, more axle breaks, traffic accidents, injuries, and fatalities. The American Society of Civil Engineers estimates the nationwide annual cost of driving on bad roads to be about \$109 billion. So the whole issue of transportation infrastructure is particularly relevant in light of President Trump's reported interest in securing from the upcoming Congress, an infrastructure spending bill that is estimated to be in the trillion-dollar range.

One of the provisions of the Jones Act precludes non-Jones Act vessels from carrying something called valueless cargo. That precludes foreign dredges from operating in U.S. waters. So repair, building, rebuilding, maintenance of roads, bridges, and rail are all components of U.S. infrastructure spending, but so is dredging of harbors and rivers. It is this set of costs that has the greatest implications for Americans as taxpayers. We're going to hear more about dredging from Jennifer's presentation shortly.

The third cost category, the shift from water to surface and air transportation increases environmental costs. In terms of carbon emissions, waterborne shipping is by far the cleanest way to transport goods. Emissions from waterborne shipping are three to four times less carbon intensive than they are for rail. They're about six times less carbon-intensive than they are for trucks. And they're about 15 to 45 times less carbon intensive than air freight. Of course, when the air freight being transported by airplane is flatulent cows, the emissions are even more toxic.

The diversion of cargo to our roads and rail also increases the incidence of hazardous material spills, which was mentioned before, and other accidents with adverse environmental applications.

Fourth, the burdens of the Jones Act includes several sets of opportunity costs. Diverting cargo onto our increasingly congested highways worsens the traffic problem that already imposes a significant drag on the U.S. economy.

According to a report from a transportation consultancy, trucks account for about 4 percent of highway vehicles but cause 25 percent of highway traffic. The Maritime Administration estimates that congestion on the nation's transportation system costs Americans \$200 billion per year, also 4.2 billion hours spent in traffic and 2.9 billion gallons of fuel wasted while idling in traffic. We lose 44 billion person-hours per year due to transportation delays.

Fifth, the Jones Act's adverse effect on U.S. transportation costs are so significant in some cases that domestic transactions and supply-chain processing of commodities becomes more expensive than shipping to or from foreign locations. This was discussed a little bit in the previous panel. This is especially true of energy and agricultural products. Increasingly, we are hearing of crude oil being shipped from U.S. locations to foreign refineries from which gasoline and other refined products are imported back in the United States through that circuitous supply chain because of the dearth and high cost of Jones Act ships. We've heard of similar problems with natural gas because, as discussed before, there were reportedly no Jones Act ships capable of transporting liquefied natural gas.

So we've heard of North Carolina hog farmers purchasing grain from South America instead of from the American Heartland. We've heard of municipal and state governments purchasing road salt from South America or Europe instead of sourcing it domestically for the same sorts of reasons.

James Coleman is going to talk quite a bit about the bottlenecks to the energy sector and the inefficient transportation solutions that the industry pursues as a result of the Jones Act. It fits right into this category.

And sixth—this is the last category—the Jones Act is a trade barrier. Like all U.S. trade barriers, the Jones Act is a costly imposition on Americans. It denies foreign shipbuilders and foreign carriers access to the U.S. market, which is a catalyst for the costs that I've already identified. But another set of adversely affected interests are U.S. exporters. Because of the U.S. government's insistence on preserving the Jones Act over the years, foreign governments, especially foreign governments with advanced shipbuilding capacity and maritime services, robust maritime services industries, have declined to open their markets to U.S. companies. This has been part of trade negotiations. If you look at our trade negotiations, you always see an exception for maritime services, shipbuilding, things like that. So we need to do something about that. So the foreclosure of this potential sales revenue from foreigners is a significant opportunity cost to the U.S. economy.

So our next paper, which will come out in the next couple of months, is called "An Economic Shipwreck: A Full and Sobering Account of the Cost of the Jones Act." That's going to include an estimate of these various costs that I've just alluded to. Of course, all of those costs aren't attributable to the Jones Act, but some portion are, and we're going to present that paper in a couple of months.

In the meantime, I'm going to turn the floor over to the experts who can provide some of the underlying details. The biographies of the three panelists, full biographies, are in the literature that's available out there, but I will just mention them in the order that they're going to speak.

Ted Loch is a professor of economics, an economics professor at Rice University, focuses on energy markets. He's done some Jones Act work. He's written a great essay for us on the Jones Act. He's going to give an overview of the cost of the Jenkins.

Jennifer Danner Riccardi is a senior trade advisor with the EU Delegation to the U.S. She's a trade policy expert analyst. She's aware of the frictions caused by the Jones Act on trans-Atlantic relations. She's going to talk quite a bit about dredging.

James Coleman is a law professor at Southern Methodist University. He focuses a lot on energy. He's an energy expert. The Jones Act gets in the way of energy logistics, and so he's got a lot to say about that.

So we're going to start with Ted. You're welcome to speak there or come up here, whichever you prefer. Thank you.

TED LOCH-TEMZELIDES: Thank you, everybody, for being here and to Colin and his team for organizing this great event. It's my first time at the Cato Institute. I hope it won't be the last. I've been learning a lot over the years from the work done here. So I'm really excited to be here.

This is going to be more of an academic 30,000-foot perspective of what I will call in the end a need for a rigorous cost-benefit analysis of the Jones Act. I will bring back some, hopefully, not too bad memories from your econ classes in college, so I hope you indulge me.

Now, let's see. Okay. There we go. Despite the importance of the act, there's little of what an economist and academic economists at least will call rigorous cost-benefit analysis of the act. The point, the main point I want to make, is that this act is at least partly redistributive. We hear a lot about the distortions that it creates, and these are certainly real, but there is a redistribution aspect that is also important. Protectionism creates surplus in the form of increased profits for whatever that protected industry is. At the same time, it reduces surplus to other producers, consumers of transportation services in this case, and of course, final consumers. And, of course, it creates a deadweight loss, deadweight surplus loss, which is loss in surplus that goes neither to consumers nor to the protected industry, but it results just to smaller, overall benefits for the society.

Of course, most foreign-flag vessels operating competitive markets are subject to lower compliance costs. Since foreign and domestic vessels are near perfect substitutes, foreign competition would likely result in significant reduction in freight rates should the Jones Act be repealed. So we need to compare the total consumer and producer surplus in the presence of the act and the ones in its absence when competition will take over and world prices will result.

Now, welfare analysis, at least in the academic literature, is done through something called consumer and producer surplus analysis and comparison. I'll try to explain briefly what this does in the next figure, and actually, I think this figure, which I hope you can see at the very back, is really all I will need for the comments that I want to make today.

On the left, let's start with the easier. Fix your favorite segment of the market. Let's say product tankers, and on the right, what I have is a diagram where I have supply and demand functions for, let's say, product tankers. This results in the world price which is listed as PW here on left, taxes.

On the right, I have the domestic U.S. market. Now, notice that the resulting price, which is called PUS , is higher than PW , indicating that the domestic price for that service is higher than what it would be under perfect competition and free markets. This price, PW , given the corresponding domestic supply on the left and domestic demand, this price results in an overall quantity, produced quantity of this transportation service domestically and a corresponding surplus for consumers and producers.

So, normally, welfare economics, what we define as the surplus for consumers of that service or consumer surplus is the area below the demand curve and above the price. That's area one, if you can see it, the green area, one up there.

What would define as producers' surplus is the area below the price and above the supply curve. That's areas two and three put together. This is the status quo. Consumers at this point, consumers of this transportation service, earn surplus consistent with area one; producers and surplus consistent with area two and three put together.

Now let's open that market. If we open that market, price PW , the world price, the world rate results in the U.S. as well. We have a change in these surpluses. Consumers now are going to in areas one, two, and four. Producers surplus reduces from areas two and three to area three only. So are these producers? These are the people who benefit from the current status quo. This is why they are so vocal against any measures that were threaten the status quo.

Now, two aspects here. First, notice there's a redistribution of surplus. Area two goes from producers to consumers once the market opens. Point number two, area four is created. That's the deadweight loss. That's what the society is losing from being under the Jones Act regime. Notice area four currently is a surplus enjoyed neither by the consumers nor by the producers. It's loss to the society as a result of a smaller size than optimal of this transportation sector.

There's another thing to point out here, which I think speaks to one of the questions raised by the audience earlier. Notice that once the market is open, the size of the domestic fleet, let's call it, reduces from the distance zero B to the distance zero A.

So while there will be more transportation services, it will be a more efficient arrangement. While the price is going to be lower, the Jones Act fleet, the theory predicts, is going to shrink. It's hard for me to argue that this is not the case on economic theory arguments, unless we're talking about the U.S. flag becoming a flag of convenience, which is not a thing in the cards.

So in order for the domestic fleet to compete, we don't just need the Jones Act and flourish, we don't just need the Jones Act to go away, but we need to U.S. flag to turn into a flag of convenience, which I think is unlikely. That's one point I want to make.

Normally, for welfare economics, we use several criteria to compare between regimes, policy regimes. Let's say the presence versus the absence of the Jones Act. We say that one criteria you might have heard before is the Pareto criterion. It says that outcome A is socially preferred to outcome B if everyone is better off under A than under B. I think it's clear that that's not what we're talking about here, right? It's hard again for me, based on economic theory arguments, to argue that repealing the Jones Act will make everybody better off. That's partly because protectionist measures create certain interests and ways for people to walk around them and make profits. These profits would be lost if we go to a free market. So it's not that everybody would be better off. So we are not in the presence of a Pareto improvement.

There's something else called the Kaldor-Hicks criterion, which says that situation A is socially preferred to situation B, if those who are made better off under A can hypothetically—they are made so much better off; there's so many gains for the society—that we can compensate those who become worse off and still be better off, right?

I think at best we're talking about the Kaldor-Hicks criterion applying here. In fact, I think it does apply. I think there's good reason to believe that repealing the Jones Act will create overall benefits that more than dominate for the losses of the segment of the market that we lose. In practice, however, in order to make the legislative and other changes that need us to get there, we need to make these transfers not theoretical, but we need to make them practical. We need to make them work.

So, in conclusion, repealing the Jones Act will lead to an economic surplus redistribution. The precise size of these triangles, so assigning numbers to these triangles, implies the need for economically estimating the actual values of these functions. This is something that I'm in the process of doing with Ana Mikulska and Ken Medlock at the Baker Institute, but this is work in progress. So I can't report on the exact numbers, but we need to have these numbers in order to reach a final conclusion.

Domestic consumers of transportation services, as well as final consumers, would gain from repealing the Jones Act. The profits and size of the current Jones Act fleet would likely decline.

I realize this might sound controversial, especially when it comes to the size of the fleet, and I'm happy to discuss this further. Since the act also creates a non-negligible, in fact, rather large deadweight losses, there would be overall welfare gains, but as I said, in order to make these gains a reality, we have to start thinking and engaging the other side on how we're going to make the transfers that will create the atmosphere for this change to not be as resisted as it is today.

We have little to say in our research about the national security argument. You're going to hear about this in other talks. For an economist, this is one of the hardest things to actually quantify.

In order to induce the change, the winners need to, in some way, compensate the losers for the corresponding loss in surplus. As I said, this should be possible given the liberalization would be associated with overall welfare gains, but it requires an active dialogue between the critics and representatives from the act. In other words, we need a carrot for the representatives of the act in order to, in some way, take them on board.

Now, what this carrot would be, you're going to hear more about this, this afternoon, when the panel will be discussing potential solutions to the existing problem. So, on that note, I want to thank you for your attention. I'm happy to take questions. Thank you.

JENNIFER DANNER RICCARDI: Hi. I'm Jen. And before I start, I need to preface my remarks with three statements. First, anything that I say today should only be attributed to me and not necessarily to any other person or institution of the European Union. Second, I need to confess that I'm very clearly the weak link on this panel. This is an econometric discussion. I am not an economist. I don't speak academic. God forbid, I'm a lawyer. I will do my best and ask you to bear with me. And, finally, this is a really important and timely discussion, and that was brought home to me earlier this week.

I was having lunch with the CEO of the Triangle Research Partnership, the think tank in Raleigh, North Carolina, in Inland City, and he said, "What are you doing in the rest of week?" And I said, "Really I need to work on this presentation. I'm speaking at this interesting conference at Cato on Jones Act," and he goes, "Oh, my God, we were just talking about Jones Act in the office the other day. Did you know that we can't just ship anything from Newport News or Wilmington? We have to truck it to Miami when we export to the Bahamas." And if a hi-tech research consortium in Inland, Raleigh, North Carolina, is concerned about Jones Act, that suggests to me that there are many communities around the country that are aware of this problem, are concerned about it, and are looking for leadership and someone to energize them. So I'm thrilled, then, that you're doing this work.

That being said, I'm going to talk today about a very specific area affected by Jones Act and also by the Dredge Act of 1906, dredging for port services. In the United States, ports have to compete against each other to access dredging services. That's because the process is controlled by the federal government, by the U.S. Army Corps of Engineers. The process goes the Army Corps of Engineers assesses a port, decides what depth it needs to be dredged to.

They authorize the work. Eventually, Congress appropriates the dollars, and then it goes out into a public procurement process, which can only be bid on by American-owned, American-built, American-flagged, American crude-dredging vessels.

This process drags on for years. Savannah, Georgia, is currently being dredged. It was first authorized in 1999. Corpus Christi, the latest port to get its dredging funding just this summer, was first authorized in 1990. So it goes on for decades. So states often, instead of relying on federal funding, turn to a combination of local funding, bids, private-public partnerships in order to finance the dredging that they need, and then they start complaining that they can't actually attract any bids, because there's not enough American-flag vessels that meet the Jones Act and Dredge Act requirements in order to service the ports.

Why is there this huge demand? In a nutshell, it's the Panama Canal, right? We suddenly have really massive ships that have really deep drafts. So it's not just the Panamax and the super Panamax ships, but it's also VLCCs, very large crude carriers. It is tourist vessels. I don't know if you've been in a port recently or a cruise ship pulls in, but they're absolutely massive, and to accommodate these huge, massive vessels, American ports have to dredge deeper. And they have to be wider so that you can turn the vessel and so that you have enough draft coming in.

An example of Corpus Christi, talking about VLCCs. So the occidental terminal at Corpus can load 1.4 million barrels of oil onto a VLCC with a capacity of 2 million barrels at its current depth of 45 feet. The only way for that terminal to be fully utilized is if you dredge down to 66 feet. There's only one terminal in the entire United States that can fully load a VLCC vessel, and that's actually not in a port. It's offshore of Louisiana. So you can't even get the ships in that we need to get in.

It is estimated that using larger deeper draft ships could save 50 to 75 cents per barrel of oil. That's a significant cost savings, and in the port of Corpus Christi, that's about \$300 million annually. And so there is this local impact from federal restrictions. That's my first point.

I wanted to give you a real world example of why it's so hard for communities to get appropriated and to complete their dredging projects. As I mentioned, the port of Corpus Christi, which is one of the most important energy ports in the United States, was authorized to adept, to dredge to a depth of 54 feet by the Army Corps of Engineers of 1990. Just got funded. It went out to a public procurement process because it's a federal government. All the bid documents are publicly available.

This is an excerpt from the public bid documents estimating the cost for just the dredging at a little over \$49 million. There's some other pieces of the estimate, mainly dealing with turtle excluder devices, which I've omitted, but this is the important number, \$49 million opportunity. COE receives two bids. First bid is by Weeks Marine. It was for just \$112 million, more than double the COE estimate. I skipped one. The next bid the apparent—no, that was the right one. I'm sorry. The apparent low bid was by a company called Great Lakes Docks and

Dredging, which was for \$84 million. According to the contract officer on the bid, the low bid is approximately 70.48 percent over the COE estimate.

For what it's worth, I have spoken with European dredging companies, which have looked at these contract documents and have suggested that their offers would have been significantly below the COE estimate. So there is capacity out there in the world that can meet what the COE thinks we should be spending on dredging, but American ports aren't allowed to access it.

Why is it so expensive? For starters, the U.S. has a really small, aged fleet. That's because of the Jones Act. So the vast majority of the U.S. dredging industry is comprised of small firms, often family-owned, that work on inland waterways. There are about 250 of these firms. They operate about 850 dredgers. That's important work, not something I'm particularly concerned about.

The hopper dredger market is an issue of concern and interest to companies in the European Union. Hopper dredgers perform most of the dredging needed in the big projects, right? This is the ports, the harbors, access channels. This is table one from a report that CSIS, if I'm allowed to name another think tank, did called "Expanding Competition, Expanding Ports: Competition in U.S. Hopper Dredging," and as you can see, there are only five U.S. firms that actually have hopper dredgers. These firms only have 15 ships. There used to be more, but some of these ships were sent to the Middle East to pursue lucrative contracts there. So we have a constricting pool of capacity in the U.S.

What's really interesting and I think breathtaking is that four of these five firms control 98.3 percent of the entire dredging market in the United States. Over the period 2006 to 2015, four of these five firms received 1.2 billion out of the 1.3 billion of U.S. tax dollars spent on dredging in the United States.

Now, Jones Act companies will often tell you—and in fact, Great Lakes have said in their 10-Ks—"We make investment decisions based on the assumption of continuing Jones Act protections, and that's what drives investment in the industry." I would suggest to you the Jones Act does not encourage any investment in the industry. The General Accounting Office estimates that the average age of the U.S. dredging fleet is 27 years old. The newest ship, built fairly recently, is the Ellis Island. It's the biggest ship in the fleet, and it can handle 15,000 cubic yards of material. It can dredge to a depth of 37.3 meters.

In contrast, on average, the European fleet is much newer, more advanced, and bigger. Just two ships owned by one company exceeds the total capacity of the U.S. fleet. The world recognizes how good European dredging is. We have a 66 percent market share globally. We own one-third of all the dredgers, all the dredging vessels, but we actually keep two-thirds of all the world's dredging projects. EU dredgers invest heavily. They spent \$11.1 billion from 2008 to 2017 in new equipment, and they commit over 2 percent of turnover to R&D. They're fiercely competitive and compete all over the world.

So this is my attempt at economics, but I had to dumb it down to something a lawyer could understand. That's auction theory, and this is something I think is self-evident to many people. Auction theory explains why you can have a \$49 million opportunity and attract only two bids and have to pay 70 percent more than you were expecting, right?

In a sealed-bid auction, in a rational market, price offers should decrease as bidders with lower cost enter the market and as more bidders participate in the auction. That seems fairly self-evident, and this is the proof. This is auction theory in practice. Once again, turning to the CSIS, this is a figure from the report I mentioned earlier. The authors of that report looked at Gulf Coast ports. They limited their study to Galveston and the Mobile districts under the Army Corps of Engineers, and they realize that as auction theory predicts, both the average actual price and the average winning bid decrease significantly when more bidders participate.

So you see when one bidder participates, the average cost, when four or more bidders participate the average cost is a significant difference. Imagine if more than the U.S. fleet of five firms could compete in these auctions.

One more study drawn from that study. This shows the average cost to dredge have doubled from the period 1997 to 2005 as compared to the period 2007 to 2015. The General Accountability Office did a study of the dredging market 4 years ago. I think it was 2014. They noticed a similar trend in cost over time, and while they did not reach a public conclusion as to what was driving the trend, they did identify as one possibility decreased competition, as Army Corps used to actually operate their own dredging fleet. Congress told them they couldn't do that anymore. It had to be turned over to private entities and because the number of private dredgers available had been reduced over time in part because of pursuing opportunities in other markets.

So, in the end, you know, I would argue to you competition is good for U.S. communities. Every dollar you spend dredging a port is estimated to generate \$4 in spending on other infrastructure at the port. It's really the most basic economics, right? If you have a closed market, government sanctioned monopolies and no-competition prices will suffer. Communities will suffer. Markets are distorted by a lack of funds and a lack of capacity when ports can't decide for themselves what size ships they want to accommodate.

As someone on the earlier panel said, "Bigger ships mean more. You're shipping more things. It means more jobs." It's more long term in jobs, lading and unloading those ships, and putting them into the commerce of the United States.

And it also costs the United States. Corpus Christi, once again, estimated that when their project is completed, they'll be able to ship so much more energy products than they are currently, that they'll take \$50 billion annually off the U.S. trade deficit. That's a significant number.

I propose to you that there's no national security rationale for continued restrictions on the U.S. dredging market, and the argument that restrictions are necessary to encourage investment are laughable. Liberalization will help meet the twin administration goals right now of increasing energy exports and decreasing the U.S. trade deficit. So I think it's a win-win argument at this time.

I also want to say, though, because we're the European Union, not that I'm attributed my statements to anyone within the European Union, it's not just good for ports. It's also good for the environment, and it's good for resiliency. This is a photo that I took last year. I was privileged to take 12 Americans on a water cycle management tour to Europe, and we learned about everything from cleaning water in urban areas to resiliency to dredging to dealing with dredging spoils, and one of our stops was on the coast of Rotterdam. This is called Future Land. This is a barrier island that was created entirely by European dredgers as both a resiliency effort to preserve coastline, the Netherlands being a low-lying area, but also for recreation. It was a stunning beach. It was a stunning day, and we heard about how the engineers had planned, "Well, this is where the ocean currents hit, so we're going to dump sand in this place in the ocean, so that ocean currents naturally carry it to replenish this barrier island. And we have this beautiful beach for recreation." We saw people kite sailing and surfing and walking on the beach.

And this is the view from the parking lot of that barrier island. This is also built on reclaimed land. This is Maasvlakte 2. This is the second phase of the Rotterdam port, built entirely on reclaimed land, entirely by European dredgers.

I just wanted to throw that out there because I think this is an issue that goes beyond ports. It goes beyond shipping interest, but it really affects any American that lives on a coastline that's dealing with resiliency questions right now. There are technological solutions in the world that might benefit U.S. communities, including, I would argue, access to dredging. Thank you very much.

[Applause.]

JAMES W. COLEMAN: All right. Well, it's wonderful to be here. I'm talking about a paper that has already been posted. You can see it at my Twitter handle at EnergyLawProf. Before I get started, I'm James Coleman, and because one of the few people in D.C. that doesn't have to give a disclaimer, I'll just say I speak for everyone in Texas.

[Laughter.]

JAMES W. COLEMAN: So just so you know. So because I am from Texas, right now, as you're probably aware, the biggest commodity boom that has ever happened in the history of the world is going on right now in Texas. We're talking about—you guys you've read—you watch movies. You've read books about oil booms, but what's happening right now is an oil boom that's an order of magnitude at least bigger than the biggest previous American oil boom, and I

can go over with the math with you. But it's also six or seven times bigger than the biggest previous oil and gas boom in the world, which was Saudi Arabia during the late 1960s. So it's truly transformative.

But what I'm talking about today is why many U.S. energy consumers, many Americans, have been left behind by this boom because of the Jones Act, and so what I'm talking about is why there are oil and gas consumers in Boston, in Philadelphia, in San Juan that are desperate for oil and gas, and they can't get it because the Jones Act forbids shipments between U.S. ports, unless you happen to have one of those few vessels that is U.S.-manned, U.S.-built, U.S.-owned, U.S.-flagged.

So to give you a sense of the economic impact why that fundamentally changes energy transport markets, let's take a look at how an oil and gas producer looks at the world in terms of where to send its crude. So because of the energy boom in the United States, increasingly, fights in the energy world aren't about how to produce energy. We've become very efficient at that. We're producing it cheaper and cheaper. In fact, gas is often free at the wellhead. If you can find a market for it, you can take it, but the question is can you transport it to a market where it's needed because all of our transport options are full up. Our pipelines are full up, et cetera.

So if you're one of those Texas producers of oil and you want to ship your oil to a market where it's needed, well, why not ship it to Puerto Rico or to Boston or to refineries on the East Coast? Well, here's why. It costs about \$5 or \$6 to ship that oil to the U.S. East Coast, but it's going to be substantially cheaper. It will be about \$1 or \$2 to ship that oil to Canada and only \$2 or \$3 to ship that oil to Europe.

So, as a result, the U.S., instead, ships its oil, all the exports—the U.S. has become now one of the world's premier oil exporters, which would have been unthinkable just a decade ago, but it ships that oil to Europe, and it ships that oil to China. At the same time, same thing is true of the increased exports of natural gas. There's liquefied natural gas exports, Europe, China, Latin America, et cetera. They don't go to U.S. ports.

In the meantime, the East Coast of the United States is importing oil. Where is it importing? Well, from the places perhaps you'd imagine. Some of it may be from Canada, but some of it from the UK, but also from Saudi Arabia, et cetera. And if you look at gas, we have all this gas available for export, but Boston, when it needs extra gas, it has to skirt U.S. sanctions and import that natural gas from Russia.

So those consequences of course are perverse in economic terms. That means that U.S. producers have to pay more to send oil and gas to Europe and Asia than they otherwise would, if the Jones Act were reformed, and U.S. consumers would have to pay more to import that oil and gas from farther abroad.

But, as mentioned, this has environmental consequences as well. For one thing, although shipping is a more efficient option than land transport, it still has significant emissions of carbon and other pollutants, and so when you double, triple, quadruple the distance those goods have to go, that means more pollution of carbon and other air pollutants. It also, of course, increases the risk when you increase the miles traveled of the kinds of spills or other things that we might worry about with shipments of oil and gas products.

It is a big environmental and economic problem in U.S. energy markets, but there's more. As you all know, in the Jones Act context, that means don't worry; it gets worse. So let's talk about gas transport. Now, gas obviously is difficult to transport. If I gave you a little bit of gas and said bring it to somebody for me, that would be difficult. It's not dense, so you'd have to have a huge container, and you'd have to have an airtight container.

So how do you transport it overseas? Well, the way you do is that you liquefy it. So you take that natural gas. You cool it down most of the way to absolute zero. When you do that, it becomes a liquid, and it's about 1/400th the volume that it would be at room temperature.

Now, to do that—this is why this is such a massive economic boom. Each of these facilities, 10-, 20-, \$30 billion, and there are a dozen of these facilities in the United States in various stages of being constructed or seeking approval.

So then, once you have the facility, you've liquefied it. You have to load it onto one of these specialized LNG carriers. These LNG carriers, each one, even if you have it manufactured where it's cheapest, cost a quarter billion dollars. Why does it cost a quarter billion dollars? Well, you have to keep that liquefied natural gas, that LNG, refrigerated as it crosses the ocean.

You can see sort of the old-style one here on the far, my far left, your far right, that look kind of like a banana split. That was because each of those spheres contained that liquefied natural gas.

Now, the modern style LNG carrier is going to be one like this one a little bit more on your right—I'm sorry, your left my right, that has just containers, basically rectangular containers. That's basically like taking your guacamole and turning it from a solid container to a loose bag, right? You guys sort of have the sense. They're more efficient, right? They are more efficient way of transporting liquefied natural gas.

So now, if you look at the next 10 years, the United States—new investment in liquefied natural gas is expected to mostly happen in the United States. It's going to dominate investment over the next 10 years. That's what most people expect. So the U.S. will become one of the world's—and it really already is becoming, but it will definitely be one of the world's premier natural gas exporters. Those natural gas exports are very important because—you know, even big oil companies will say, hey, maybe 30, 40 years down the road, oil use is going to fall off a little bit. Nobody thinks natural gas use is going to fall off because it's what's necessary to replace dirtier sources of power that are leading to serious air pollution in growing global cities

around the world. So natural gas, everybody expects, is just going to continue to increase. So the U.S. being a dominate exporter of that is an incredibly important economic development for our country.

So the U.S. is going to be a bigger LNG exporter. Where is it shipping that LNG? Well, here you can see with our initial destinations—and you can see it's pretty much all over the world. It's to the UK. It's to Poland. It's to China, Taiwan, Japan, South Korea, Brazil. One place that will never benefit from these LNG exports is the United States, because there are no LNG carriers that can take, that are built, manned, flagged, owned in the United States, and there never will be because if you—earlier Manuel mentioned the GAO study, and I would encourage you to look at that. Thomas Grennes, I'm looking forward to hearing from later, also has a new paper out just in the past week about why you're just not going to have LNG tankers built in the United States.

The GAO report goes into some of the reasons for that, but let me suggest that the most basic one is if you were a company exporting LNG, why would you ever finance building one of these carriers that already cost a quarter billion dollars if it's going to cost five or eight times more, when instead you could simply ship to these destinations in Asia and in Europe?

So in terms of my suggestions for reform, principally, I'm going to disagree a little bit with Ted. So Ted noted correctly, you know, sometimes the Jones Act just says, hey, if you're an American producer or consumer, pay more to a Jones Act-compliant carrier. And that seems kind of unfair, right? I think many of us would think that was unfair, but from an economist perspective, hey, at least somebody got the money, right? That's how economists think about the thing. Well, at least those Jones Act suppliers are getting the money. But as he explained, there's also deadweight loss scenarios where effectively what happens is nobody gets any extra money. It's not even benefitting those Jones Act compliance shippers, and it's just harming everybody. Well, that is the example of liquefied natural gas. Because liquefied natural gas, what does this mean? Does this lead to more American jobs in building shipping? Certainly not. As the GAO report explains, there's no plausibility that that will ever happen.

So, instead, what it does is it simply says both U.S. producers and consumers pay more to transport liquefied natural gas, and it means that American liquefied gas consumers are forever cut off from the benefits of the LNG export boom. So what I would suggest is that there are reforms—and I'm looking forward to hearing more of the idea this afternoon—where first there are areas where we can reform the Jones Act, like exempting LNG transport, without harming anybody in the domestic shipping industry.

All right. Then I would also suggest that maybe there are other areas, like granting—currently, you get a waiver for national defense. Potentially, you can have economic hardship waivers that would apply in a greater variety of scenarios. And I hope the free trade Gods don't strike me down here at Cato for saying this, but you could probably pay off the necessary industries a little bit in a way that would make them better off but still liberalize the shipping market to

solve some of the worst aspects of the problems created by the Jones Act. So thank you very much.

[Applause.]

DANIEL J. IKENSON: Well, thank you, James, and thanks for all those presentations, very, very diverse and excellent. And I will say I will speak for myself. I wouldn't oppose looking for a solution like that.

So we're going to go to Q&A here. We've got about 20 minutes, and the rules are the same as before. Please raise your hand. Address your question to one of the panelists. We'll get to your question as quickly as we can, and we will start right now.

So how about, Juan, since he's right next to you, let's go there.

WILLIAM HEMSLEY: My name is William Hemsley. I'm from an organization called Freres, Fils et Cie.

Professor Coleman, pay off the necessary industries, on a structural, functional basis, how would you approach the maritime labor unions on that effect?

JAMES W. COLEMAN: Let's keep in mind, no payoff is necessary, unless you go beyond the deadweight loss scenarios. When there's deadweight loss and it would not otherwise—nobody's benefitted by this prohibition, everybody's harmed—no payoff is necessary.

If there's a broader reform that, for instance, says freeze up oil—because undoubtedly there are some oil shipments between U.S. ports, some occasions where the U.S. energy producers just go ahead and pay more for that shipping, and that benefits those Jones Act-compliant shippers and their workers. Frankly, I wouldn't mind subsidies to hiring American shipping professionals, U.S. seamen in those areas, and I think that the cost of that would be far less than the deadweight losses that are imposed by the current policy.

DANIEL J. IKENSON: You have a follow-up?

WILLIAM HEMSLEY: For deck and engine, I would see that, but for crewmen, where would you go on that?

JAMES W. COLEMAN: Is your suggestion that it would be impossible to subsidize crewmen?

WILLIAM HEMSLEY: No, no.

JAMES W. COLEMAN: Okay. I would be entirely fine with that. I think the costs of that are minor, would be sort of rounding error in terms of the whole policy.

DANIEL J. IKENSON: Right here. The guy in the yellow tie.

JOHN KING: Thank you. John King. I had a clarification question, being an economist by indication, budgeteer and analyst by profession. I find it strange that I'm going to ask the lawyer the question.

JENNIFER DANNER RICCARDI: I probably won't be able to answer.

JOHN KING: One is, is it because the waterways, the main waterways, are technically owned, what, by the federal government that you can't have, say, a local solution or the local port authorities would step in and do something about dredging capacity or dredging capability?

JENNIFER DANNER RICCARDI: There aren't federal restrictions. There's not a barrier to entry for additional firms to come in. So, in theory, the Gulf Coast could get together and say we're going to start our own dredging company and build our own vessels under Jones Act restrictions. I think the reality is that many local ports are turning to self-funding.

There's been a lot of bond issues. That because they don't have adequate federal funding, either they can't have wait for it or they don't get enough authorized for their project, that they're issuing bonds, taking tax decisions, and going to P-3s. But I don't think there's any restrictions. The laws exist only because Congress has spoken under the commerce clause, right, and filled the space. So a local solution, locally you could not say we're going to not comply with the federal law, but you could start your own dredging firm, I suppose. I don't know if that answered the question.

JOHN KING: Partly, because that's what I was going to ask, sort of a follow-up. What's to prevent, say, a local port authority from getting involved in the dredging itself and building its own capability through third-party financing or something?

JENNIFER DANNER RICCARDI: You could and there's—I honestly don't know the economics of doing it well enough to say whether or not it's viable. My gut tells me that given the fact that there's only five firms that do it—there's billions of dollars. Only five firms do it, and they only have 15 ships. That the current law makes it—hat there are barriers to entry that would make it very difficult.

The types of maintenance dredging that ports do on their own tend to be the smaller vessels. They do the inland waterways, the access channels. It's basically a backhoe on a barge, you know, for some of us.

For the really big work, for taking out 40 feet of compacted silt, you really do need a very large, very technically advanced, very expensive vessel, a hopper dredger or section dredger, and so I think it would be a significant burden to most local economies to try to launch on their own.

DANIEL J. IKENSON: Gentleman in the purple tie on the edge, and then we'll go here.

MIKE BURNSIDE: Mike Burnside with the American Field & Petrochemical Manufacturers.

And sticking with the energy theme here and as somebody remarked earlier, Jones Act doesn't occur in a vacuum. Have any of you given any thought to the impending IMO 2020 low-sulfur fuel regulations and how that's going to interplay with this Jones Act? I mean, off the top of my head, I imagine it's only going to increase your cost, but wondering if anybody has given any further thought to that.

DANIEL J. IKENSON: Can you remind us of that regulation you're describing?

MIKE BURNSIDE: Yeah. So, in the shipping industry now, IMO, the International Maritime Organization, lowered the sulfur levels in fuel from—I believe it was previously 4.5 down to 0.5 percent by weight. So that goes into effect January 1, 2020.

JAMES W. COLEMAN: And the big impact of that is expected to be less of the traditional marine fuels, more use of diesel, which is contributing to a strong distillate market, and potentially LNG actually as power, not to transport, but you're powering your shipping with LNG.

So let me note a couple of things, but first, I'd like to start. There's a talking point that's often used in resisting change to the Jones Act that says, "Oh, don't worry about these problems that we don't have any LNG carriers. We just built two LNG-powered ships." LNG-powered ships is nothing like an LNG carrier. Those are entirely different concepts, and it's not like the LNG engine was made in the United States either. So that really is a complete red herring.

So then let's talk about what this—I mean, these IMO regulations really are expected to be sort of transformative for the shipping industry, and there's a couple of things that you might think about them. One is they potentially reduce the environmental cost of transporting shipping so far. So if your only concern was the climate emissions from transporting fuel so far, maybe you worry 20 percent less about that or something, but they also, of course, increase the cost of developing new shipping, and so that puts a premium on finding economic ways to transport our goods, and the easiest rationalization would be start being able to ship U.S. port to port.

TED LOCH-TEMZELIDES: Just a footnote. This IMO standards are global. They're not Jones Act or U.S. So, as a result, I think they take everything up in terms of cost. So they don't prejudice one industry, the foreign industry versus the Jones Act.

DANIEL J. IKENSON: Ed.

ED CATTELL: Ed Cattell. This is for Professor Coleman.

Once upon a time, the U.S. had U.S.-flag passenger ships, and then the Alaska trade evolved, and because of the Jones Act, all of the big passenger ships had to leave from Vancouver, British Columbia, to sail to Alaska. Well, when we laid up our last passenger ship, Seattle got

into the act and said, hey, wait a minute, the Jones Act is killing us. So there is a waiver for passenger ships because we don't have any, and they now sail from Seattle to Alaska.

So the question is, New England is starved for natural gas, partly because Governor Cuomo won't allow a pipeline to be built across New York. That means there's no way to get natural gas from Pennsylvania to New England. Why would not a waiver for foreign-flag LNG ships work under these circumstances where there's a real need, not just for one state or one city, but for the whole New England region to be able to ship LNG liquefied natural gas from somewhere in the U.S. up to New England?

JAMES W. COLEMAN: I think it would work. I'm entirely in favor of that.

One of my suggestions is to just expand that waiver authority both in two ways. One is just have a categorical waiver for certain categories where you're not going to have—it's just not going to have a U.S. industry in there, so it's just deadweight loss. And then the second is that only solves part of the really egregious problem because often you have a single piece of equipment that you need to transport, and if you're only dealing with this one time as a company, you're not going to lobby Congress to change this. If in the end of the day, there's nothing available to transport it on a U.S. ship, you're just going to go abroad and source that item abroad, whatever that specialized item is.

So I think there should be a category added not like the rest of them, tied to has to be a national defense concern, but simply for economic hardship that allows a waiver in those circumstances, because in those categories as well, if there's not going to be U.S. ship developed anyway, why not allow this mutually beneficial transaction to happen?

DANIEL J. IKENSON: Manuel.

MANUEL REYES: I'm just wondering. This is a question for Riccardi and based on some of the things that the economist mentioned. He mentioned that we're not considering a flag of convenience, of converting the U.S. flag to the flag of convenience, and then he said that we need a carrot to deal with this whole thing. But I'm wondering because European countries do have cabotage laws, and I remember a while back that I studied the issue. And what they were doing in order to be competitive is that they created a second registry system, not necessarily a flag of conveniences system, but a second registry which was more competitive and that allowed them to compete. So I'm wondering if that is why, in the case of dredging, they have been so competitive as you mentioned.

JENNIFER DANNER RICCARDI: It's an excellent question, and I honestly don't know the answer. I didn't realize—I'm looking at my colleague in the back, James Bradbury, who might actually know about the cabotage laws than I do. So feel free to pitch in.

I don't know that that was the reason. I honestly think that the real reason they got so competitive is they're a country below sea level, the ones that really excel at this, and so it was

out of necessity that they had to develop the technology to deal with the rising waters. And dredging was one part of that, and shipping is an incredibly important piece of the economy in the sort of Benelux region, which is where the four really big European dredging companies come from that are really considered the most competitive and best in the world, and so I think it was circumstances more than law.

I did want to say about waivers, I think that waivers are a possibility. It bothers me that it's a one off-though, right? It's a Band-Aid for a problem that goes on a long time, and it can be a convenient Band-Aid or a necessary Band-Aid—and, of course, at Puerto Rico. But in the end, it's not going to help Hawaii. It's not going to help Alaska. It's not going to help communities that are literally drowning from rising seas, and so in my view, a long-term approach is the preferred approach and one that I hope this work advances.

DANIEL J. IKENSON: If I may ask Ted a question real quickly. Your slides showed what happens to the U.S. price when the Jones Act goes away and foreign supply gets into the market, but what we've seen is a decline—and you mentioned that domestic industry is furnishing fewer ships and less cabotage services to the market. But we've already seen a decline in U.S. ships and U.S. shipbuilding. How do we explain that economically? Is that monopolists maximizing profits, or is it just the lack of demand because the prices are too high?

TED LOCH-TEMZELIDES: It's a combination of the two, but I think we're dealing with very much something like a monopolist maximizing profits. So there is a deadweight loss. So I don't actually—I don't think we disagree. Maybe we disagree about the relative sizes of these things. My point was we can't—an example, to mention a little example, globalization. You'll find few economies that disagree that globalization is a positive thing.

At the same time, we see a backlash against globalization. Why? Because we haven't done a great job compensating the losers from globalization. Now, the benefits are such that the gains way outweigh the losses as a planet. However, there are people who lose, and in order to go further, we have to compensate them somehow. I think the Jones Act is a small—this is the point I was trying to make—is a small example of this principle. We can't forget that it's not just deadweight loss, but there is a distribution. And we have to come up with a carrot.

DANIEL J. IKENSON: James.

JAMES W. COLEMAN: Yeah. And I also think there is an intuitive part of the argument for the Jones Act that's simply outdated. So I think that people—you all remember from grade school and learning about trade routes, and it always shows spices all flowing in one direction and rum flowing in another direction, et cetera. So we have this idea of statistic trade routes that are the same over time.

In that world, the Jones Act works okay because it basically just says, well, there's some statistic trade routes between U.S. ports, and a domestic shipping industry will grow up to serve that. If you look at oil and gas, you can see how that is not the world that we live in anymore. It used

to be the world for natural gas exports. It was all kind of long-term contracts, one big trade route, et cetera, but what the U.S. is really pioneering is, hey, we'll sell to the highest bidder today, right? And the U.S. is better than most countries at exporting in that fashion, so let's go. We'll go to Brazil today. We'll go to Poland tomorrow. We'll go to China the next day. So in that world, where you're not going to ship to the same destination, you won't be necessarily shipping to them next month or next year. Why would you build a tanker that's only beneficial for one particular trade route? So I think that's one thing that has contributed to the collapse of the domestic shipping industry, even with this protection in place.

DANIEL J. IKENSON: Right there. Then we'll come to you.

BENJAMIN KAY: Hi. Benjamin Kay.

So I have a question for Mr. Ikenson. So when you opened up, you talked about one of the economic costs being the truck traffic on I-95 by your house. So I think that might be double counting in the sense that one could imagine that optimal congestion charging on the transportation network would properly internalize the externalities of the traffic, and therefore, it's not clear to me whether or not that that's a cause properly associated with failures of congestion pricing or optimal externalities and ground transportation, rather than a failure of the cost of actual Jones Act.

I mean, I'm not saying it's awesome. I mean, obviously, we'd rather have neither. I'm just saying that when you have a bad policy and it has spillovers that interact with other bad policies, it isn't clear to me how you properly attribute those costs across those multiple interacting bad policies.

DANIEL J. IKENSON: Definitely. it's difficult to disentangle the causes, but if you think of the domestic freight market as one market—and freight can be delivered by rail or ocean or river or truck—they are competing. The modes are competing with each other. There's very, very little, hardly anything—there might be none—very little container to trade along the Atlantic. There's very little container trade in the Gulf or along the Pacific.

So the question is we have the Jones Act and a bunch of other maritime laws in place, a bunch of other regulations and laws that are in place that have created this current demand for trucks, rail, a little bit domestic shipping.

If we were to get rid of the Jones Act, maybe that wouldn't be enough to induce too many trucks off of the highways. I think it would be moving in the right direction. Maybe we need to look at the whole slew of maritime laws. I mean, there's been efforts afoot to encourage use of the maritime highway that have not really succeeded. There are harbor maintenance taxes. There are pretty high costs going bimodal, taking containers off of trains and trucks and putting them on ships.

Certainly, I can see foreign vessels not incurring those kinds of costs, those bimodal costs, and being good candidates to do domestic cabotage. Certainly, some amount of traffic is attributable to these restrictive shipping laws. How much? It's one of the reasons that the paper that we're working on isn't out yet. We are trying to figure out exactly how to sort of allocate these in a reasonable way.

Man in the yellow tie here. Then we'll come to you.

WILLIAM HOCHBERGER: William Hochberger. I had a career in designing ships and planning for their operations.

A quick note on the issue of fuel. The changeover to low sulfur by IMO edict is for international trade, and I don't think it would affect Jones Act or cabotage in any other countries, although there would be a lot of resistance if it were not done.

My own comment, most of the discussion about the Jones Act comes out sounding like we expected if we converted from following the current rules to being able to buy foreign and operate using foreign crews and so on, that the industry would stay roughly the same in size. It would cost less, but it wouldn't change greatly.

I've been thinking about this for about 50 years, seriously, and I think that the total size of the coastwise, the ocean and gulf shipping, would go up not by a small amount, but by something huge like 10 times, 20 times. And if you think of that, the size of the market becomes so big that I really think the amount of it that would be domestic would still be many times larger than it is now. So if you could convince unions of that, they'd love it. If convince present Jones Act operators of that, they'd love it. What do you think of that?

TED LOCH-TEMZELIDES: Looking at me? I'm sorry. I'm not convinced of that. I think the size of the need for maritime transportation will increase, given the low cost of flag of convenience shipping. I have a hard time seeing the Jones Act fleet, especially given its uncompetitive nature right now. It's possible. I don't think it's very likely.

DANIEL J. IKENSON: Ma'am.

ATTENDEE: Thank you. A comment and a question. My comment simply is that a lot of what this discussion is saying—oh, sorry. My comment is basically that a lot of this discussion assumes that oil or natural gas or other things pretty much are each in their own basket and is ignoring, I think, a lot of these things, but then my question comes after that, and that has to do with any idea of giving waivers or something like that.

Has anybody looked at what happens when you start allocating things on that basis, what kind of a bureaucracy is involved, what the criteria have to be, how many people tried to come under it that then gives room for all kinds of hanky-panky on the sides and so on. I'm horrified

that we take the Jones Act, and then we're going to go one step further into the controlled economy.

DANIEL J. IKENSON: Just take a look at what Wilbur Ross is doing with the steel and aluminum exceptions.

JAMES W. COLEMAN: I hate to inform you that I believe hanky-panky is already going on in D.C. You know, there are these waivers. They're just put under this somehow national defense idea. I do think—so yes, that is undoubtedly a problem with the waiver system. I would much prefer complete carve-outs of segments so you don't have to do that, but I do think it is better than the alternative.

JENNIFER DANNER RICCARDI: I'll just make a pitch for you to stick around this afternoon. I think there's a whole panel dedicated to potential solutions, and I'd imagine that waivers are something that's discussed in that panel.

DANIEL J. IKENSON: That's a good point. Thank you for that.

One last question here, and then we're going to end the session.

KELI'I AKINA: Keli'i Akina, Grassroot Institute of Hawaii.

Ted, I really appreciate your call for a rigorous cost-benefit analysis, and, Dan, in your opening comments, you cited several studies ranging from less than a billion dollars in national impact to up to \$10 billion. My questions are twofold. First of all, for those of us arguing for the Jones Act change, how should we be cautious in the use of its statistics that are out there already, so that we don't overstate our case? And, secondly, what kind of research is necessary now? What research would actually knock the ball out of the park and make our case?

DANIEL J. IKENSON: Well, I'll start by saying we are trying to understand the politics, and as we've undertaken this project and peeled back the onion, we're finding new layers and layers, and it seems that the effort to convince the right policymakers and to identify the right players whose interests need to be attended to, it's a process.

So, certainly, I've seen in the research a lot of reference to papers where there are errors, where some base number is trying to put—somebody tries to put it into real terms also, and that base number is faulty to begin with.

So I think we do need to have the right data and the right arguments. The problem is a lot of data are missing. It's really hard to find stuff. I've looked at lots of freight data on domestic transportation, and you see freight rates for years and years for rail and for trucking and for international trade, but when it comes to domestic cabotage, not available, not available, not available.

So something's going on. So we need to figure out how to get our hands on the right data, try to estimate the value of the market. The domestic freight shipping numbers seem to be pretty reasonable. It's the prices charged. It's the rates charged that we're not getting a real good handle on, but transportation is an intermediate good. It ripples throughout the economy when transportation costs are higher. How do we benefit our economy by intentionally hamstringing ourselves?

So I think making that case that households pay the ultimate price for this needs to happen. How are we going to compete with the rest of the world if we don't have harbors that are properly dredged, if we don't have enough ships to move specialized products around the country?

So these costs, I think we need to come with a real clear presentation of what they are so that policymakers recognize that this is really a worthy undertaking, so we're trying.

JENNIFER DANNER RICCARDI: I just want to throw in, since you're the Grass Root Institute, I think that is actually probably the most important work. You're talking to a group of people here who understand Jones Act, who are committed to the policy, who have concerns. You have a whole state of people that are affected every day by those diffused costs, and I applaud your being here. I think it's incredibly important on these issues, really with trade in general.

When I go into communities around the country to talk about EU-U.S. trade, I always start with the point of we need to do the a better job about talking about the diffused benefits of trade because it's really, really easy to point to a specific harm, "This factory closed. My uncle lost his job." It is really, really difficult to talk about diffused benefits of trade, and so I spend about half of my time talking to people about the diffused benefits of trade and how to talk about trade.

I think it's a really, really important idea for all of us to go to our communities, and at a grass roots level, talk about the specific harm caused by Jones and how it is benefitting a very discrete group of people, because outside of this room no one thinks about this. It's like we get so obsessed in Washington, D.C., about the latest tweet or the last article, "God, did you see the political alert?" No one else cares, and that's something that we have to remind ourselves. That we really have to go out and remind people of the impact on their daily lives and on the future of the economy and the future of this country. And I'll get off my soapbox. I'm sorry.

JAMES W. COLEMAN: And I'd just like to say something related to that that I think is very important here in D.C., which is I actually think there may be slightly too much study of exactly what percentage of various harms are a result of the Jones Act. How much of it is the reason that Puerto Rico went bankrupt? How much is it the Jones Act that Philadelphia's refinery went bankrupt?

Those are things that are impossible to disentangle. I think that what's needed is more study of the potential solutions. It's like when you get water in your house and you're not sure where

it's coming from, you could have an endless, endless debate about how much is the leaky roof and how much is the crumbling siding and how much is the caulking around the windows, but how do you actually deal with that scenario? You go by fixing those things one by one by one, and it's not going to solve all of Puerto Rico's problems. It's not going to solve all of Philadelphia refineries' problems, et cetera, but these problems are never solved unless you start addressing them one by one.

DANIEL J. IKENSON: Excellent. And with that, we are going to end this session. Lunch is going to be served on the second floor in the George Yeager Conference Center. It's up the spiral staircase in the front. There are restrooms located on the second floor as you walk to the conference center.

I know people will probably want to speak to the speakers. Maybe let them exit the auditorium, and there'll be plenty of time to speak upstairs. I've taken up 6 minutes of your lunch. I hope it translates into an 8 percent reduction in calorie intake for you too, but thanks.

Help me thank the panel.

[Applause.]