Policy Analysis

CATO INSTITUTE

June 28, 2018 | Number 845

The Jones Act

A Burden America Can No Longer Bear

By Colin Grabow, Inu Manak, and Daniel Ikenson

EXECUTIVE SUMMARY

For nearly 100 years, a federal law known as the Jones Act has restricted water transportation of cargo between U.S. ports to ships that are U.S.-owned, U.S.-crewed, U.S.-registered, and U.S.-built. Justified on national security grounds as a means to bolster the U.S. maritime industry, the unsurprising result of this law has been to impose significant costs on the U.S. economy while providing few of the promised benefits.

This paper provides an overview of the Jones Act by examining its history and the various burdens it imposes on consumers and businesses alike. While the law's most direct consequence is to raise transportation costs, which are passed down through supply chains and ultimately reflected in higher retail prices, it generates enormous collateral damage through excessive wear and tear on the country's infrastructure, time wasted in traffic congestion, and the accumulated health and environmental toll caused by unnecessary carbon emissions and hazardous material spills from trucks and trains. Meanwhile, closer scrutiny finds the law's national security justification to be unmoored from modern military and technological realities.

This paper examines how such an archaic, burdensome law has been able to withstand scrutiny and persist for almost a century. It turns out that, as in so many other cases of rent seeking, there is an asymmetry of motivations among those who benefit from the Jones Act's protections and the vastly greater number who bear its costs. The protected domestic shipbuilding industry has a captive market from which it benefits handsomely and seeks to preserve by promoting fallacious arguments about the law's necessity to national security, while the vast costs are dispersed across the economy in the form of higher prices, inefficiencies, and forgone opportunities that few people can even tie to the cause. That so many federal agencies and congressional committees have at least partial jurisdiction over different facets of the Jones Act also helps to explain its longevity. Lastly, this paper presents a series of options for reforming this archaic law and reducing its costly burdens.

Colin Grabow is a policy analyst, Inu Manak is a visiting scholar, and Daniel Ikenson is director of the Cato Institute's Herbert A. Stiefel Center for Trade Policy Studies.

"Higher shipping rates are the most obvious cost of the Jones Act, but they are merely the first in a cascade of adverse consequences unleashed by the law's restrictions."

INTRODUCTION

The Merchant Marine Act of 1920 has been a fixture of U.S. law and an imposition on the U.S. economy for almost 100 years. Better known as the "Jones Act," the law was presented as a plan to ensure adequate domestic shipbuilding capacity and a ready supply of merchant mariners to be available in times of war or other national emergencies.[1] The law aims to achieve those objectives by restricting domestic shipping services to vessels that are U.S.-built, U.S.-owned, U.S.-flagged, and U.S.-staffed. A century of evidence supports the conclusion that the Jones Act has failed in its main objectives while imposing substantial economic costs.

As a result of these restrictions, the U.S. economy endures artificially inflated shipping costs because the transport of cargo between U.S. ports and within the country's vast inland waterways is off-limits to foreign competition and domestic shipping firms must pay vastly higher prices for the ships they use. Although higher shipping rates are the most obvious cost of the Jones Act, they are merely the first in a cascade of adverse consequences unleashed by the law's restrictions.

Higher prices for waterborne transportation drive down demand for shipping services. When businesses move less cargo by water, shipping companies purchase fewer vessels. Reduced demand means that producers build fewer ships and, accordingly, there are fewer employment opportunities for merchant mariners. Meanwhile, artificially inflated waterborne shipping rates increase demand for alternative forms of transportation, including trucking, rail, and pipeline services, raising those modes' rates and inflating business costs throughout the supply chain. Transportation expenses—incurred to move raw materials and intermediate goods to the next stage in the production process and final product to retailers and end users—comprise a significant portion of the cost of goods sold. Elevated transportation costs affect nearly every business in nearly every industry, rippling through supply chains, squeezing profits, curtailing business investment, disadvantaging U.S. companies relative to their foreign competitors, and depriving U.S. households of savings to spend elsewhere in the economy or to invest.

Meanwhile, heightened reliance on trucks and freight trains not only increases infrastructure and maintenance costs from wear and tear on roads, bridges, and rail, but also generates greater environmental costs. Surface transportation produces more carbon emissions than ships do, and its more intensive use increases the likelihood of highway accidents and train derailments involving hazardous materials. Relatedly, time wasted in growing traffic congestion—especially on highways running parallel to U.S. sea lanes—generates enormous opportunity costs from lost wages and lost output. Significant opportunity costs also can be observed in the loss of revenues experienced when, for example, a hog farmer in North Carolina purchases corn feed from Canada instead of from a farmer in Iowa because exorbitant delivery costs make the latter's price uncompetitive. But even though some foreign suppliers benefit by happenstance in this manner, the Jones Act has been a persistent irritant to some of our most important trade partners, serving to prevent better access for U.S. exporters in their markets.

Despite these considerable costs and the absence of any measurable benefits, the Jones Act has persisted for nearly 100 years. Why? The answer is complex, but it boils down to the same causes that explain the persistence of rent-seeking behavior more generally. The small number of beneficiaries, which primarily include domestic shipyards and some labor unions, are more powerfully motivated to preserve the status quo than are the far more numerous adversely affected interests in seeking its repeal.

Supporters of the status quo claim that those costs are justified by the benefits associated with the Jones Act, which include—most importantly—preservation of a robust, competitive domestic shipbuilding industry to undergird U.S. national security. But such claims are farcical. Over the years, U.S. shipbuilding capacity has atrophied, the active fleet has aged—in

some cases into obsolescence—and the number of merchant mariners has dwindled.

Nevertheless, there is a "bootleggers and Baptists" element in play that adds another layer of complexity to repeal efforts. ("Bootleggers and Baptists" refers to an economic theory where two groups with opposing interests both want the same regulatory outcome.[2]) Jones Act supporters have been successful at cloaking their scheme in national security arguments. When all else fails, and it becomes obvious that the Jones Act's restrictions significantly burden the economy in a variety of perverse ways, proponents lean on a national security rationale that is entirely without merit. Jones Act opponents—even those advocating limited reforms—are portrayed as blind to such considerations, which is evidence enough for some policymakers to tune out arguments based on logic and facts.

The Jones Act has wreaked havoc on the U.S. economy. After nearly a century of enduring its burdens, it is time to repeal the law. Of course, repeal will not be easy because after 100 years, incumbent interests, regulators, and politicians get used to the privileges of a system that benefits a concentrated few. In addition to untangling these political alliances, repeal efforts will have to contend with pushback from agencies and committees with oversight authority that have institutional interest in protecting their jurisdictional turf. No fewer than 16 congressional committees and 6 federal agencies have some form of oversight authority.

Short of full repeal, meaningful incremental progress toward eventual repeal of the act would include relaxation of the U.S.-build requirement so that the economy could at least benefit from the availability of a larger fleet of safer, more efficient, higher-quality vessels. Additionally, permanent Jones Act waivers for Alaska, Hawaii, Puerto Rico, and other noncontiguous U.S. territories, where the economies are disproportionately dependent upon waterborne transportation, would mark progress. Finally, if those reforms continue to prove elusive, another meaningful incremental reform would be to ensure that the process of obtaining Jones Act waivers is made more liberal, transparent, and predictable.

PROTECTIONISM CLOAKED IN NATIONAL SECURITY

The Jones Act was signed into law on June 5, 1920, less than two years after the end of World War I. The wartime deployment of hundreds of thousands of American troops to Europe, as well as vast quantities of materiel and equipment, had placed enormous demands on the country's sealift capacity and required the support of foreign-flagged vessels.[3] That dependence on foreigners was seized upon by some in Washington as evidence of a glaring weakness in U.S. national security and a reason to beef up the country's shipping fleet and shipbuilding capacity.

As Sen. Wesley Jones (R-WA) argued at the time:

> Our shipping could be done more cheaply by others, and so we had none. When the war came this lack of shipping cost us hundreds of millions of dollars in higher freight rates or business losses and hundreds of millions of waste in the hasty building of ships to meet the emergency that threatened the overthrow of civilization, and today the papers are filled with stories of waste, corruption and inefficiency that was the inevitable result of the conditions and the situation that confronted us.[4]

Toward that end, Senator Jones, serving as chairman of the Senate Commerce Committee, introduced a bill to encourage greater commercial use of U.S. ships. Among the provisions in Jones's legislation were requirements that ships eligible to transport goods from one U.S. port to another must be U.S.-flagged, U.S.-built, U.S.-owned, and crewed by U.S. citizens. Today, those provisions require that such ships be at least 75 percent U.S.-owned, at least 75 percent U.S.-crewed, and assembled entirely in the United States with all "major components of the hull and superstructure" fabricated domestically.[5]

"The Jones Act has wreaked havoc on the U.S. economy. After nearly a century of enduring its burdens, it is time to repeal the law."

> **"According to the World Economic Forum, the Jones Act provides the world's most restrictive example of global cabotage laws."**

Although Jones presented the legislation as a national security imperative, various remarks made by the senator at the time betray protectionist, even nationalist, motives:

> Before the war we had to depend on foreign ships for our business. We had to go to our competitors to get our goods to market. Do you help your competitors fight you? Foreign lines gave the advantage to themselves. When you get an advantage do you give it to your competitor, I ask you? That's what we had to expect and that's what we got. That is what we must continue to expect if we continue along these same ideas of the old policy.
>
> I want ships to fly the American flag on the Pacific. There are interests in this country that do not want it. Our Canadian friends are looking after their interests. There is nobody nowadays to look after American interests except we Americans ourselves. It is said this bill will drive foreign shipping from our ports. Granted. I want to do it.[6]

Meanwhile, Jones accused opponents of the legislation of being more concerned about advancing the interests of foreigners:

> Wherever possible alien interests are hiring the best American legal talent, buying the highest American writing ability, controlling the most powerful American papers, journals and magazines and cajoling or coercing American officials to serve their end. . . . The man or the paper who would discourage the upbuilding of our merchant marine is fighting the battle of alien interests. . . . Counsel must be taken of courage and not of fear. Our competitors will deceive us, scare us, bluff us or destroy us if they can.[7]

Passed in both chambers one day before Congress adjourned for a six-month recess, the Jones Act "received little publicity," according to a *New York Times* article published later that month.[8] Even though Senator Jones called his law "one of the most important laws ever passed by Congress," he also acknowledged that the "public did not know much about the measure."[9] While he turned out to be badly mistaken about the economics of the Merchant Marine Act, Jones was correct in his suggestion that it would have far greater economic effects than was anticipated. One such impact was soon felt in the territory of Alaska, where two Canadian shipping companies were driven from the market.[10] Shipping companies based in Seattle—Jones's official place of residence—soon enjoyed a monopoly for serving Alaska, with increased prices for goods traveling to and from the territory being the predictable result.[11]

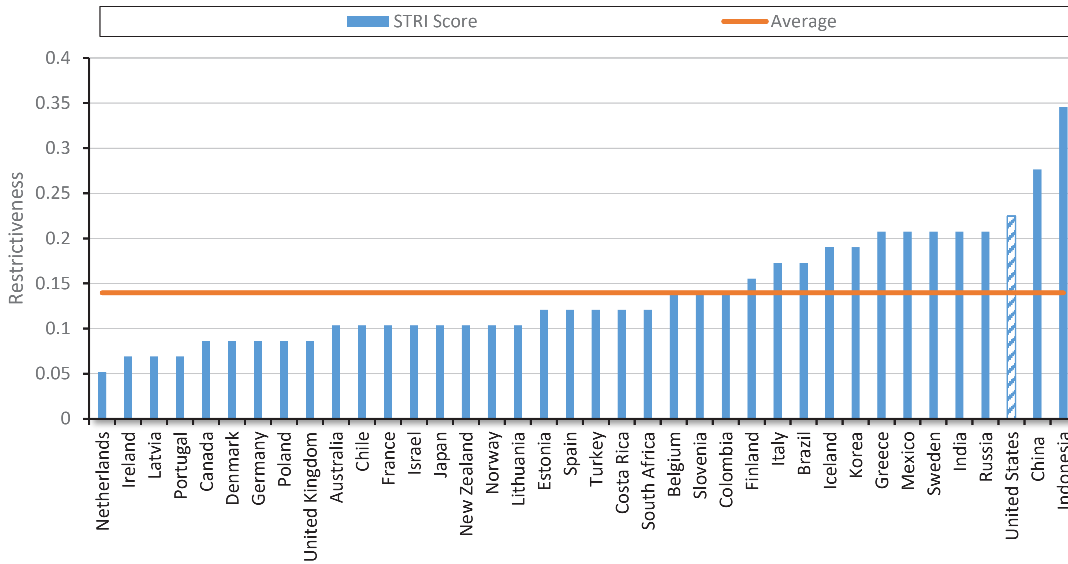
Regardless of whether the senator was motivated more by protecting a U.S. industry or bolstering national security, the evidence is overwhelming that the Jones Act has failed on both counts.

HOW THE JONES ACT RESTRICTS SHIPPING

The Jones Act restricts nonqualifying vessels from operating in inland waterways and from transporting cargo between two U.S. ports—an activity known as "cabotage." Most governments have some form of cabotage restrictions. In fact, only Gambia, Dominica, Guatemala, and Belize do not.[12]

The Organisation for Economic Co-operation and Development (OECD) distinguishes between two general types of cabotage restrictions: those that completely exclude, without exception, foreign-flagged ships from all cabotage activities, and those that partially exclude foreign-flagged ships by extending broad exemptions through trade agreements or narrow exemptions for limited forms of cabotage. The United States is among 11 countries that fully exclude foreign vessels without exception.[13] According to the World Economic Forum, the Jones Act provides the world's most restrictive example of global cabotage laws.[14]

Figure 1
Restrictiveness on foreign entry for maritime transport services (2017)



Source: OECD Services Trade Restrictiveness Index.
Note: The restrictiveness index assigns values between 0 (least restrictive) and 1 (most restrictive). STRI = Services Trade Restrictiveness Index.

> "Only 2 percent of American freight travels by sea. In the European Union, where cabotage among the member states is permitted, the corresponding figure is 40 percent."

Interestingly (or some would say "inevitably" in the United States, where foreign competition in cabotage services is restricted), only 2 percent of U.S. freight travels by sea. In the European Union, where cabotage among the member states is permitted, the corresponding figure is 40 percent.[15] In Australia, where vessels need not be built domestically to participate in cabotage services, coastal shipping accounts for 15 percent of domestic freight.[16] Meanwhile, after relaxing its cabotage restrictions in 1994, New Zealand experienced a decrease of approximately 20–25 percent in coastal freight rates over the subsequent six years.[17]

The OECD's Services Trade Restrictiveness Index measures and ranks various aspects of countries' services trade restrictions.[18] The index assigns values between 0 (least restrictive) and 1 (most restrictive). Figure 1 shows the Services Trade Restrictiveness Index score for restrictions on foreign entry regarding maritime freight transport services for 29 OECD countries and 9 non-OECD countries in 2017. Figure 1 reveals that the United States is the third-most restrictive among all 38 countries and the most restrictive among OECD countries with respect to maritime freight services.

The aggregate measure accounts for more than just cabotage restrictions and factors in restrictions on owning or registering vessels under the national flag as well as restrictions on port-related services and cargo-sharing agreements. Domestic shipbuilding requirements are not factored into this measure, but the American-built requirement is a particularly onerous aspect of the Jones Act. Of 56 countries surveyed by the U.S. Maritime Administration, only Brazil, Egypt, Indonesia, Peru, Spain, and the United States have domestic-build requirements.[19]

Although geographic and other factors account for some of the differences observed in shipping capacity and rates, protectionist cabotage and inland waterway restrictions—as well as domestic-build and ownership requirements—explain a great deal of the divergences. Certainly, if U.S. commerce is to be burdened in perpetuity with these restrictions, there must be a strong public policy rationale for the Jones Act.

WHITHER THE FLEET?

The U.S. shipping industry is the first casualty of the Jones Act. Of course, the primary

"American-built coastal and feeder ships cost between $190 and $250 million, whereas the cost to build a similar vessel in a foreign shipyard is about $30 million."

objective of the law was to ensure a vibrant shipping industry as a pillar of U.S. national security. If vibrancy and fleet size were synonymous, Americans might sleep well knowing that the U.S. fleet consists of more than 40,000 vessels. However, we might choose to sleep with one eye open after learning that barges operating primarily on the Mississippi River alone account for 55 percent of that number.

In fact, nearly 9 of every 10 commercial vessels produced in U.S. shipyards since 2010 have been barges or tugboats.[20] Among oceangoing ships of at least 1,000 gross tons that transport cargo and meet Jones Act requirements, their numbers have declined from 193 to 99 since 2000, and only 78 of those 99 can be deemed militarily useful.[21] Even in their expressions of support for the Jones Act, government officials concede that the U.S. shipping industry and its associated ecosystem have been depleted. Appearing before Congress earlier this year, Maritime Administrator and retired rear admiral Mark H. Buzby testified that "over the last few decades, the U.S. maritime industry has suffered losses as companies, ships, and jobs moved overseas."[22]

One of the main causes of that decline is the onerous domestic-build requirement of the Jones Act, which prohibits U.S. shippers from operating vessels constructed abroad. American-built coastal and feeder ships cost between $190 and $250 million, whereas the cost to build a similar vessel in a foreign shipyard is about $30 million.[23] Accordingly, U.S. shippers buy fewer ships, U.S. shipyards build fewer ships, and merchant mariners have fewer employment opportunities to serve as crew on those nonexistent ships.

Meanwhile, facing exorbitant replacement costs, ship owners are compelled to squeeze as much life as possible out of their existing vessels. That means the Jones Act fleet is not only shrinking, but rapidly aging. The typical economically useful life of a ship is 20 years.[24] Yet three of every four U.S. container ships are more than 20 years old and 65 percent are more than 30 years old. Excluding tankers, the ships in the Jones Act fleet currently average 30 years old, fully 11 years older than the average age of a ship in the world merchant fleet of other developed countries.[25]

These increasingly decrepit vessels are not only inefficient, but dangerous. A report by a British maritime technology university found that standards and design have improved the safety of ships over the years, but older ships lack these features or are not well maintained over long periods of time.[26] As should be expected, older vessels are more prone to accidents.[27]

Likewise, the U.S. shipyards that produced these aging and increasingly unsafe vessels are in a similarly diminished state. The U.S. Maritime Administration (MARAD) last published annual data on U.S. shipyards in 2004 and noted that there were 89 shipyards, including 4 public shipyards, 9 active yards, 15 shipyards with build positions that have not produced a ship in two years, 27 repair yards, and 34 top-side repair yards.[28] In 2015 the Maritime Administration listed the number of active shipyards at 124 but also pointed out that, of those, only 22 are "mid-sized to large shipyards capable of building naval ships and submarines, oceangoing cargo ships, drilling rigs and high-value, high-complexity mid-sized vessels."[29] This pales in comparison to shipyards in Asia. Japan, for instance, currently has more than 1,000 shipyards, and it is estimated that China has more than 2,000. [30] There are also only 7 active major shipbuilding yards in the United States, as compared to roughly 60 major shipyards in Europe (major shipyards are defined as those producing ships longer than 150 meters).[31]

Table 1 presents the top 10 countries for the total number of ships built in gross tons during 2014–2016. At under 1 million gross tons, U.S. shipbuilders' output was less than 1 percent of China's and Korea's shipbuilders.[32]

Not only has U.S. shipbuilding atrophied into global obscurity, but the builders that do operate have become extremely reliant on defense purchases. Of the seven major U.S. shipyards, four produce ships exclusively for the military (of the three major shipyards that produce oceangoing ships for commercial use, meanwhile, one of

Table 1
Ships built, top 10 countries by gross tonnage (2014–2016)

Country	Gross tonnage (thousands)
Republic of Korea	70,937
China	70,037
Japan	39,535
Philippines	4,879
Taiwan	1,762
Romania	1,553
Vietnam	1,307
Germany	1,287
Italy	939
United States of America	910

Source: United Nations Conference on Trade and Development, Division on Technology and Logistics, based on data supplied by Clarkson Research Services.

"The Jones Act's inability to fulfill its purpose only looks set to worsen, given its growing divergence with the realities of modern global commerce."

them—the Philly Shipyard in Pennsylvania—is said to be on the verge of shutting down due to a lack of orders[33]).[34] Nearly two-thirds (98 of 150) of new large, deep-draft vessel orders in 2014 came from the military, which accounted for 70 percent of the shipbuilding and ship-repairing industries' revenues in 2014 and 2015.[35]

Just as the Jones Act has contributed to the decline of U.S. shipbuilding, it has also impeded the goal of creating a ready reserve of merchant mariners. The Transportation Institute—an organization that supports the Jones Act status quo—asserts that the law "guarantees a professional and ready force of merchant mariners who are vital to America's ability to supply our military forces" and provides "manpower that the military can call upon during deployments."[36] But those claims are dubious. In recent congressional testimony, a senior union official conceded that "the pool of licensed and unlicensed mariners has shrunk to a critical level" and, absent government action, "the military will no longer be able to rely on the all-volunteer U.S. Merchant Marine as our nation's fourth arm of defense."[37] Already, Gen. Darren W. McDew, the head of the U.S. military's Transportation Command, notes that a protracted need for mariners would "stress the labor pool beyond acceptable risk."[38]

The Jones Act's inability to fulfill its purpose only looks set to worsen, given its growing divergence with the realities of modern global commerce. Since its passage, the shipbuilding industry and the ships themselves have undergone vast transformations. When the Jones Act became law, the great shipyards of the world were found in Europe, supply chains were rudimentary, and the loading and unloading of ships was a labor-intensive affair requiring days to complete. Today the vast majority of shipping tonnage is built in Asia, complex global supply chains are prevalent, and global transportation has been revolutionized by the advent of the shipping container. Even the ships themselves have been transformed. Today a 1,300-foot ship with a cargo capacity of more than 18,000 TEU (twenty-foot equivalent units, roughly equivalent to a shipping container) sails with a crew of 22 and can manage with a mere 13.[39] As recently as the mid-1970s, more than 30 people were required to operate a container ship of a significantly smaller size.[40]

> "So scarce were merchant mariners during Operations Desert Shield and Desert Storm that the sealift effort required the services of two octogenarians and one 92-year-old sailor."

Rather than swim against this tide, other countries have adapted. Although the shipyards of Europe no longer churn out large cargo ships as they once did, competition has instead forced them to find unique areas within the industry in which to specialize. As a study produced for the European Commission notes:

> Europe is active in many segments, and—notwithstanding the overall dominance of Korea, Japan and increasingly China—European companies are still dominant in a few specialized market segments such as cruise vessels (99% market share), offshore vessels (43%) and luxury yachts (65%). . . . In general, these segments are characterized by a high degree of specialization and high-tech qualities, complex production processes, in combination with limited numbers of vessels of the same type that are to be built. As such Europe's position can be characterized as one of a specialized niche player.[41]

Absent competitive forces, the U.S. shipbuilding industry has not felt compelled to evolve and similarly find its own competitive niche. Instead, it produces numerous types of vessels for which it possesses no particular advantages compared to foreign sources, and at a much higher cost.

Rather than specializing in the production of one, two, or several types of ships and purchasing other vessels from foreigner builders more adept at their production—as U.S. firms sensibly do in other segments of the transportation sector and the economy more broadly—U.S. shipbuilders complacently settle for mediocrity across a range of commercial ship classes. This mediocrity is further confirmed by the absence of foreign demand for U.S. ships. Exports from the sector, including repair services, accounted for a mere 4.6 percent of the industry's revenue in 2014.[42]

Yet we are expected to believe that this flailing industry is doing its job to bolster U.S. national security?

IS THE NATION MORE SECURE?

Despite its portrayal by supporters as essential to U.S. national security, the Jones Act is irrelevant to that objective. The quality and characteristics of the Jones Act fleet are increasingly out of sync with the demands of the military. Moreover, the nature of modern warfare calls the Jones Act's utility into question.

Given the dilapidated condition of the Jones Act fleet, it should come as no surprise that it plays a minor role in supporting overseas military operations. Although meant to foster a vigorous domestic maritime industry and avoid the need to rely on foreign shipping during times of war, the Jones Act has done the exact opposite. When U.S. forces were deployed to Saudi Arabia during Operations Desert Shield and Desert Storm, a much larger share of their equipment and supplies was carried by foreign-flagged vessels (26.6 percent) than U.S.-flagged commercial vessels (12.7 percent).[43] Only one U.S.-flagged ship was Jones Act compliant.[44] In fact, the shipping situation was so desperate that on two occasions the United States requested transport ships from the Soviet Union and was rejected both times.[45] So scarce were merchant mariners that the effort required the services of two octogenarians and one 92-year-old sailor.[46]

At the time, Vice Admiral Paul Butcher, who was then deputy commander of the U.S. Transportation Command, remarked that without the availability of foreign-flag sealift, "It would have taken us three more months to complete the sealift ourselves."[47]

The Jones Act fleet has slipped further into irrelevance since the Gulf War. When the U.S. military deployed to the Persian Gulf region again in 2002–2003, U.S. commercial ships supplied just 6.3 percent of deployment cargo, while foreign-flagged ships moved 16 percent.[48] This decline in the share of cargo carried by foreign ships during Desert Shield/Desert Storm in large part reflects the fact that the 2003 operation required substantially less cargo than the 1991 conflict. Foreign ships are only prioritized after domestic options have already been

explored. Had more cargo (materials/supplies) been needed, most of it would likely have been delivered on foreign ships. Groups favoring the Jones Act tout the fact that a Jones Act vessel, the *Northern Lights*, participated in support of military operations in 2003—but the fleet's contributions do not appear to have gone beyond this lone ship.[49]

Since the 2003 Iraq War the Jones Act fleet has declined from 151 ships to 99.[50] Recent comments from the Pentagon suggest that this is a concern. Noting the fleet's dwindling size, General McDew told Congress that this situation "demands that we reassess our approach to ensure that the [United States] retains critical national security surge sealift capabilities. We may also need to rethink policies of the past in order to face an increasingly competitive future."[51]

In contrast to domestically built Jones Act vessels, foreign-built ships have proven essential to the U.S. military's sealift capabilities. Of the 46 ships comprising the Maritime Administration's Ready Reserve Force—a fleet that helps transport combat equipment and supplies "during the critical surge period before commercial ships can be marshaled"—30 are foreign-built.[52] Although worthy to serve in the country's defense, these same ships are ineligible to engage in coastwise trade.

The irrelevance of the Jones Act to U.S. national security can also be gleaned from the growing divergence between the characteristics of its fleet and the needs of the armed forces. The military, according to the Congressional Research Service, prefers ships with speed and versatility that can "unload diverse cargos in shallow harbors lacking shore-side cranes."[53] Jones Act shippers, in contrast, prefer vessels that operate at slower, more fuel-efficient speeds, are specialized for a particular type of cargo, and are designed to operate in modern port facilities. Meanwhile, increasing specialization within the commercial shipping sector has reduced the likelihood that military requirements can be met by Jones Act ships.[54]

Other aspects of today's military further illustrate the growing divide between the Jones Act and modern realities. At the time the law was written, soldiers were transported to the theater of operations in troopships, which slowly ploughed the waves. Today such ships no longer exist. Instead, troops are flown to their destinations aboard jet aircraft at hundreds of miles per hour.[55] And with modern conventional wars typically measured in weeks or even days, there is often barely enough time to lay down a keel before hostilities have ended.

Indeed, the goal of ensuring that domestic shipyards are capable of churning out new vessels in times of war to replace losses or add to the country's firepower is also anachronistic. With the exception of some smaller vessels sunk by mines in the Korean War, the United States has not lost a ship to enemy action since World War II. Thus, the value in exacting such a heavy, ongoing toll on the country's economy to promote a domestic shipbuilding capacity that might be needed in the event of a long, early 20th-century type of conventional war in the future is increasingly dubious.

Another component of national security is the capacity to respond quickly and effectively to natural and manmade disasters. In this area, the Jones Act again falls short. Rather than serving as an asset in such scenarios, the law actually functions as an impediment by disqualifying ships from providing relief. Theoretically, this problem could be mitigated through presidential waivers of the Jones Act, but—believe it or not—protected industries tend to lobby in opposition to any waivers, including those extended for humanitarian purposes. Keith Hennessey, who served as director of President George W. Bush's National Economic Council, reported that following Hurricane Katrina in 2005, shippers, shipbuilders, and maritime workers lobbied the Bush administration hard and at all levels against a waiver, demanding shorter time frames and narrower waiver scopes.[56]

After Hurricane Maria hit Puerto Rico in 2017, President Trump admitted to being hesitant to grant a Jones Act waiver because "a lot of people who work in the shipping industry . . . don't want the Jones Act lifted."[57]

"One component of national security is the capacity to respond quickly and effectively to natural and manmade disasters. In this area, the Jones Act falls short."

> "The direct and indirect costs of the Jones Act are substantial, and the fact that they have not been comprehensively tallied partly explains why the law has endured for so long."

Trump agreed to a mere 10-day waiver, which was not enough time for a Norwegian ship to transport 53 containers of aid from New Orleans to Puerto Rico, or for a Dutch vessel, owned by Greenpeace, to carry supplies to the beleaguered island.[58]

TALLYING THE COSTS

There are not many published estimates of the cost to the U.S. economy of the Jones Act. In the 1990s, the U.S. International Trade Commission (USITC) published several papers on the topic using different assumptions, yielding estimates of economy-wide costs ranging from $656 million to $9.8 billion.[59] A 1998 Government Accountability Office assessment subsequently found the trade commission's approach to be reasonable, but noted that the benefits of repeal may be smaller when factoring in the costs of complying with U.S. tax, labor, and employee protection laws that foreign competitors would have to incur in order to compete in the U.S. shipping market.[60]

Since 2002 the USITC has declined to provide an estimate of the law's costs. The estimates it has provided, however, seem to overlook the full range of costs generated by the Jones Act. The costs attributable directly and indirectly to the law are substantial, and the fact that they have not been comprehensively tallied partly explains why it has endured for so long. The Jones Act restricts shipping, which is an intermediate good (or service) that factors into the cost of nearly everything purchased by businesses and households. These costs are manifest in many different ways.

In addition to the commercial and national security costs of perpetuating a second-rate shipping industry as discussed above, the Jones Act imposes a variety of significant costs on the U.S. economy. We identify six broad cost categories that any proper and comprehensive analysis of the Jones Act should take into account. Those categories are: transportation costs, environmental costs, lost wages and output, lost domestic revenue, lost foreign revenue, and infrastructure costs.

In a forthcoming paper, we intend to provide detailed estimates for the costs in each of these categories. For the purpose of this paper, we discuss these costs generally and—mostly—qualitatively, although some rough estimates are provided for perspective where possible.

TRANSPORTATION COSTS. The most obvious and direct effect of the Jones Act is on waterborne shipping rates. By limiting participation in the U.S. maritime and inland waterways transportation sector to U.S.-built, U.S.-owned, U.S.-flagged, and U.S.-crewed ships, the costs of moving cargo by water are artificially inflated. The resulting harms are a simple matter of supply and demand.

Absent competition to discipline rates, and without much need to keep operating costs in check, the Jones Act fleet is akin to having a high-seas postal service—one that barely stays afloat. To get a sense of the inefficiencies, a Maritime Administration report found that the operating costs of U.S.-flagged vessels engaged in foreign commerce in 2010 were 2.7 times greater than those of their foreign competitors.[61] The daily operating costs, which include crew, tools, supplies, maintenance and repair, insurance, and overhead were tallied at $7,454 for foreign-flagged vessels, but a whopping $20,053 for U.S.-flagged vessels. Of the U.S. total, 68 percent ($13,655) was crew costs, as compared to 35 percent for foreign-flagged ships. It should be no surprise that labor unions are among the Jones Act's most vigorous supporters.[62] Maintenance and repair costs, meanwhile, are inflated by a provision in the Tariff Act of 1922—supported by Senator Jones—mandating that repairs made in foreign ports be subject to a 50 percent ad valorem tax.[63] Moreover, any rebuilding of a ship abroad—defined as the addition of more than 7.5 percent of the vessel's steelweight to the hull and superstructure, or adding a major component weighing more than 1.5 percent of the vessel's steelweight—will cause the vessel to lose its Jones Act eligibility.

These high costs, in combination with the lack of foreign competition, considerably inflate waterborne shipping rates, which is nothing less than a massive tax on an economy

otherwise blessed with tens of thousands of miles of coastline and inland waterways.[64] But the cost of enduring higher waterborne shipping rates is just one component of the transportation cost premium resulting from the Jones Act. If U.S. businesses have no choice but to use waterborne shipping—as is more or less the case for Hawaii, Alaska, Puerto Rico, and Guam—the transportation costs could be estimated as the difference between U.S. rates and global market rates multiplied by the average distance traveled and average weight (or average number of containers shipped).

But in the continental United States, businesses have alternatives to waterborne transportation. And the data show that the amount of U.S. cargo shipped along the Atlantic coast, Pacific coast, and Great Lakes today is about half the volume of the cargo shipped that way in 1960, despite the economy's considerable growth in the intervening years.[65] Over the same period, railroads have increased their transport volume by about 50 percent and intercity trucks have increased their freight by more than 200 percent.[66] To confirm that waterborne shipping at market rates didn't lose its appeal, river barges and coastal ships linking the United States with Canada and Mexico experienced growth in their freight tonnage of more than 300 percent over the same period.[67]

While the Jones Act reduced the supply of ships and drove up the costs of waterborne shipping, it increased demand for road transport, presumably driving up the prices of trucking and rail.

ENVIRONMENTAL COSTS. By forcing more carbon-intensive surface transportation methods into use, the Jones Act is responsible for creating unnecessary environmental costs. According to the World Shipping Council, maritime shipping "is the world's most carbon-efficient form of transporting goods—far more efficient than road or air transport."[68] Maritime shipping produces approximately 10–40 grams of carbon dioxide to carry one ton of cargo one kilometer. In contrast, rail transport produces 20–150 grams, and trucking—whose tonnage is forecast to grow 44 percent by 2045 according to the Department of Transportation—produces 60–150 grams.[69] According to transportation analysis firm INRIX, the monetary value of carbon emissions caused by vehicles idling in traffic in 2013 was $300 million and by 2030 is expected to rise to $538 million—a total of $7.6 billion over the 17-year period.[70]

In 2015, trucks—by far the most-used mode of moving freight in the United States—carried 11.5 billion tons of goods, compared to over one billion tons for Jones Act vessels.[71] If even a small percentage of this cargo were shifted from trucks to coastwise shipping it could have significant economic and environmental benefits. Indeed, according to the World Economic Forum, if the "more than 500,000 qualifying international containers moved over highway and rail" in 2012 "were allowed to stay on water and trans-ship on international liner services, the economic benefit . . . could exceed $200 million."[72] Although 38 states and the District of Columbia are connected by navigable waterways and marine highways, and nearly 40 percent of the U.S. population lives in coastal counties, coastal shipping of cargo between U.S. ports in the Lower 48 states comprises a negligible 2 percent of domestic freight.[73] As if to make even more compelling the environmental case for ending the Jones Act, according to the Congressional Research Service, "some of the most congested truck routes, such as Interstate 95 in the East and Interstate 5 in the West, run parallel to coastal shipping routes, and water shipment through the Saint Lawrence Seaway and the Great Lakes has the potential to relieve pressure on major east–west highways, pipelines, and railroads in the Midwest."[74]

Provisions in the Jones Act also hinder the development of alternative energy sources. For instance, offshore wind firm Deepwater Wind became aware of the law when a specialized wind turbine installation vessel it needed for installing a wind turbine was prevented from touching the Rhode Island shore because it was built in Europe (a leader in this type of ship construction) and thus would have violated the Jones Act.[75] This nonsense was enforced despite

"Data show that the amount of U.S. cargo shipped along the Atlantic coast, Pacific coast, and Great Lakes today is about half the volume of the cargo shipped in 1960."

> "Increased transportation costs imposed by the Jones Act has led Hawaiian cattlemen to transship their cattle through Canada, or even to fly their cows by air."

there being no similar domestically built vessel at the time. Accordingly, U.S. vessels less suited to the task were employed to bring components from the coast to the installation site, delaying the project and increasing its costs.

To obtain more specialized vessels compliant with the Jones Act to perform this task, meanwhile, will cost the offshore wind industry dearly in terms of both time and money. An analysis conducted for the Department of Energy found that a U.S.-built wind turbine installation vessel would "likely cost 60% to 200% more than a comparable vessel built in an Asian shipyard," while another report placed the price tag of such a ship at $222 million with a construction time of 34 months.[76]

LOST WAGES AND OUTPUT. Traffic congestion caused by the unnecessarily high volume of trucks on our highways means not only wasted gas and diesel, but extra pollution and wasted time. The economic damage is far from trivial. According to the Maritime Administration, congestion in the nation's transportation system costs Americans $200 billion every year, wastes 4.2 billion hours spent in traffic, and wastes 2.9 billion gallons of fuel used while idling.[77] In 2013, meanwhile, INRIX estimated the costs of traffic congestion alone in lost wages and output to the U.S. economy to be $124 billion, which it said would rise to $186 billion by 2030 absent "significant action to alleviate congestion."[78] On a per household basis, the annual cost of traffic amounts to $1,700 today and is expected to rise approximately 33 percent to $2,300 by 2030.[79]

If repeal of the Jones Act could reduce such costs by even a small percentage the savings to the national economy would be in the billions of dollars.

LOST DOMESTIC REVENUE. The profoundly adverse effect of the Jones Act on U.S. shipping not only raises transportation costs for businesses throughout the U.S. economy, but it reduces revenues in many cases as well, squeezing profit margins from both directions. How does this happen? Consider the agricultural sector. Grain and soybean farmers in the Midwest, for example, must make do with *only two* dry-bulk, ocean-going Jones Act vessels to transport their commodities.[80] According to a 2013 Government Accountability Office report, farmers and ranchers in Puerto Rico more often obtain animal feed and fertilizers from foreign sources instead of domestically. Although commodity prices are similar, rate differences between Jones Act carriers and foreign carriers make foreign sourcing more attractive—even when the foreign option is hundreds of miles farther away.[81] For similar reasons, Hawaiian cattlemen have been forced to transship their cattle through Canada, or even fly their cows by air.[82] Relying on these costly alternative means of transportation isn't a long-term, revenue-winning strategy.

Similarly, airlines operating in Puerto Rico typically import jet fuel from foreign countries such as Venezuela rather than bring it in from Gulf Coast refineries. This practice is attributable to the difficulty of finding available Jones Act vessels to transport fuel in the first place, and the exorbitant cost of doing so when such vessels are found.[83] For reference, within the continental United States, moving crude oil from the Gulf Coast to the Northeast on a Jones Act tanker costs $5 to $6 per barrel, but only $2 per barrel when it is shipped from the Gulf Coast to Eastern Canada on a foreign-flagged vessel.[84] Amazingly, a 1999 Government Accountability Office study found that the cost to ship oil from Alaska's North Slope to the U.S. Virgin Islands, which are exempt from the Jones Act, was approximately three times less than it cost to ship oil to the Gulf Coast, despite the voyage around South America's Cape Horn taking twice as long.[85] Beyond reduced competition due to the Jones Act, as well as its domestic crew requirement, the fact that tanker ships manufactured in the United States cost about four times more than their foreign-built counterparts surely figures here.[86]

The Jones Act also explains the seemingly curious sourcing decisions for other commodities, such as rock salt. Maryland and Virginia, for example, obtain the product for wintertime use from distant Chile instead of domestically, despite the United States being the

world's largest producer of that commodity.[87]

LOST FOREIGN REVENUE. For as long as the Jones Act has been in force, foreign shipping companies and many of their governments have been interested in obtaining waivers or seeing to the law's repeal or reform. In recent decades, as the liberalization of trade barriers began spreading into the services sectors, foreign governments have been specifically identifying the Jones Act as an "offensive" target during trade negotiations. The Europeans, for example, would like to participate in U.S. shipping and other maritime services markets—and as this report should be reinforcing, nearly all Americans should be supporting their efforts. But the U.S. government has repeatedly refused to even put the Jones Act on the table during such talks. In fact, the text of every U.S. free trade agreement explicitly protects the Jones Act. As a result, U.S. trade partners have correspondingly reduced access to their markets than would otherwise have been the case as punishment for Washington's refusal to cede ground on the Jones Act. There is a cost to bear for this intransigence, and it comes by way of attenuated commercial opportunities in foreign markets for U.S. businesses.

Although it is difficult to put an estimate on the opportunity cost to U.S. exporters, it is no doubt in the billions of dollars.

INFRASTRUCTURE COSTS. Among the externalities generated when trucks and freight trains are used as substitutes for waterborne shipping is wear and tear on our highways, bridges, and rail lines. According to a Congressional Budget Office report, 2014 federal government spending on highways totaled $165 billion, of which $92 billion went to capital spending and $73 billion to operations and maintenance.[88] Although trucks account for only 10 percent of the total miles traveled on U.S. roadways, they are responsible for more than 75 percent of total road maintenance costs.[89] U.S. railways and roadways are being pushed to their limit. The Society of Civil Engineers has estimated that fixing the country's surface transportation infrastructure would require an investment of at least $155 billion per year, which amounts to roughly 23 percent of the government's $666 billion budget deficit in 2017.[90]

Jones Act restrictions affect other important maritime services as well, including oil spill containment and cleanup, offshore wind farm operations, and the dredging of ports and rivers. In addition to complicating and making more expensive the provision of disaster relief and alternative energy, as already described, these restrictions drive up the costs to taxpayers of infrastructure projects, including deepening harbors to accommodate larger vessels, as well as routine maintenance of seaports and rivers.

The 10-year project to widen the Panama Canal for more traffic and a new class of supersize container vessels was recently completed. The added capacity of these "Post-Panamax" ships can lower shipping costs 15–20 percent, but harbors need to be at least 47 feet deep to host them. In 2015, the U.S. Army Corps of Engineers reported that only 7 of the 44 major U.S. Gulf Coast and Atlantic ports could accommodate these ships, but domestic dredging capacity is limited. The absence of suitable harbors means fewer, but more expensive, infrastructure- and business-development projects. It also means that Post-Panamax ships will have to continue calling on West Coast ports, where their containers will be put on trucks and railcars to transport products from Asia to the U.S. East and Midwest—a slower and more expensive process.[91]

Analysts at Samuels International Associates estimate that European dredgers, if permitted access to the market, could save U.S. taxpayers $1 billion a year on current projects.[92]

Considered in the aggregate, the economic and opportunity costs of the Jones Act are far more significant than is commonly perceived. Accounting for the actual inflated costs of transportation and infrastructure, the forgone wages and output, the lost domestic and foreign business revenue, and the monetized environmental toll puts the *annual* cost of the Jones Act in the tens of billions of dollars. And that figure doesn't include annual administration and oversight of the law.

"U.S. trade partners have reduced access to their markets as punishment for Washington's refusal to cede ground on the Jones Act."

> “The beneficiaries of the Jones Act are limited in number but well organized, and they consider the law to be a cash cow.”

ONE HUNDRED YEARS TOO MANY—REPEALING THE JONES ACT

If the evidence supporting repeal of the Jones Act is so compelling, why have we allowed the U.S. economy to be burdened under its weight for nearly a century? The answer lies in the politics and asymmetries in motivation between those advocating reform and those seeking preservation of the status quo. The beneficiaries of the status quo are limited in number but well organized, and they consider the law a cash cow. They are willing to devote significant resources to protecting and preserving their scheme. Meanwhile, the hundreds of millions of the rest of us, upon whom the burdens are foisted, don’t consider reparation or mitigation of the situation a priority. The costs are significant but are spread across the economy like a stealth tax.

These asymmetries have created a situation where the interests committed to preserving the Jones Act have opted to neglect making economic investments in their businesses, while focusing instead on their political investments. Such political investments have paid dividends. Consider Alaska and Hawaii, the two states most adversely affected by high shipping rates. Alaska Sen. Lisa Murkowski (R) and Rep. Don Young (R) are both on record supporting the Jones Act, as are all four members of Hawaii’s congressional delegation. It turns out that states and districts that are especially dependent on maritime transportation also happen to be home to maritime interests that benefit from the law. It should come as no surprise that the interests of such politically connected groups in Alaska and Hawaii take precedence over those of their residents.

Among the obstacles to Jones Act reform is the complex web of special interests that benefit from preservation of the status quo. Among Jones Act supporters are U.S. shipbuilders, merchant mariners, various maritime unions, and those who actually believe the law is essential to national security. Meanwhile, there are no fewer than 6 federal agencies and 16 congressional committees with Jones Act enforcement and oversight authorities.

Customs and Border Protection (CBP) has primary responsibility for enforcement and administration of the Jones Act. The agency advises and makes recommendations concerning waiver requests to the secretary of the Department of Homeland Security, who ultimately decides whether to grant them. The Maritime Administration within the Department of Transportation keeps records on the maritime transport system, such as the operating status of U.S.-flagged vessels, and has the authority to waive the U.S.-build requirement of the Jones Act under certain circumstances. The U.S. Coast Guard is responsible for determining vessel eligibility and issues certificates and other documentation. The Department of Defense informs CBP when it needs a waiver to be issued in the interest of national defense, but that waiver process is actually automatic, requiring no Department of Homeland Security approval. Finally, the Department of Energy advises CBP on requests for waivers if there are shortages or imminent shortages in the energy supply.

In addition to the day-to-day administration of the Jones Act, there are a number of congressional committees with various oversight authorities, including in the House the committees on Transportation and Infrastructure; Natural Resources; Armed Services; Homeland Security; Judiciary; Education and the Workforce; Ways and Means; Appropriations; and in the Senate the committees on Commerce, Science, and Transportation; Energy and Natural Resources; Armed Services; Homeland Security and Government Affairs; Judiciary; Finance; Appropriations; and Health, Education, Labor, and Pensions. Any attempts to repeal the Jones Act will require deft understanding of the interplay among the various protected interests and this multitude of agencies and committees, each of which may be inclined to throw sand in the gears of reform if its jurisdiction is threatened.

Repealing the Jones Act will require a concerted effort among organizations committed to exposing the costs and unseemly political alliances that have metastasized over the

decades. It will require understanding and neutralizing the interlocking but counterintuitive interests that have emerged in support of the status quo. For example, are the trucking and rail industries—which benefit from higher waterborne transportation rates—financially or politically supporting the efforts of the maritime unions and shipbuilders to thwart reform? It will require a relentless effort to overcome political sclerosis and to convince policymakers, the media, and the public of the Jones Act's enormous burdens—and the vast dividends to be reaped from reform.

Short of complete repeal, we offer three important reforms that would help lift the burden of the Jones Act on the U.S. economy.

Grant limited cabotage rights to non–Jones Act compliant vessels

The federal government could allow non–Jones Act ships to carry goods from one U.S. port to another, provided that the vessel originated in a foreign port and that it would continue on to another foreign port after discharging its domestic U.S. cargo in another U.S. port. For example, a ship sailing from Rotterdam could transport cargo from New Jersey to Miami, provided it then sailed to another foreign port—say, Kingston, Jamaica. This would increase competition in domestic shipping, increasing efficiencies and reducing the costs of shipping services.

Grant a permanent exemption of the Jones Act for Alaska, Hawaii, Puerto Rico, and Guam

For Alaska, Hawaii, and the various U.S. territories, which are located hundreds—and in some cases, thousands—of miles from the U.S. mainland, the Jones Act presents a particularly heavy burden.[93] Forced to rely upon Jones Act vessels for trade with the rest of the country, these states and territories suffer from artificially inflated transportation costs and an inability to take full advantage of international trade routes. A non–Jones Act compliant ship steaming from Japan to Los Angeles, for example, will not to be able to stop in Hawaii on the way there (nor the reverse). Granting exemptions for these far-flung states and territories would have the salutary effects of both relieving them of an unnecessary burden as well as serving as an experiment to assess the costs and benefits of Jones Act liberalization with a view toward future liberalization for the entire country.

Eliminate the U.S.-build requirement

The U.S.-build requirement is met when a vessel is assembled in the United States and "all major components of its hull and superstructure are fabricated in the United States."[94] This requirement of the Jones Act is the most immediately burdensome to industry, as it raises the costs of building ships within the United States, thereby reducing our competitiveness. Furthermore, this requirement is out of step not only with the realities of commerce in a global-supply-chain world, but also with the practices of U.S. shipbuilders. Increasingly, "U.S. companies that assemble oceangoing vessels rely heavily on foreign parts, foreign investment and foreign shipbuilding expertise," often having leading South Korean firms doing the ship design.[95] Beyond design, foreign components also make up the engines and other electronic equipment as well, making it inaccurate to say that these ships are "made in America" in the first place.[96] Since U.S. shipyards are using many foreign inputs anyways it is time to stop punishing them from benefiting even more from advances in technology that could help put the U.S. shipbuilding industry in line with modern developments.

Ultimately, reform of the Jones Act depends on the willingness of Congress to act on behalf of the American citizens who are economically burdened by the law. For too long, Congress has turned a blind eye as the costs have continued to mount. After almost 100 years of failure, the need for repeal is clear. And the time to act is now.

CONCLUSION

By any measure, the Jones Act has been a failure. Under its watch the U.S. shipbuilding

"Repealing the Jones Act will require a concerted effort among organizations committed to exposing the costs and unseemly political alliances that have metastasized over the decades."

"Typically, a ship has a total life expectancy of about 20 years, but 65 percent of the U.S. domestic container fleet is more than 30 years old."

industry has atrophied, its shipping fleet has withered, and any contribution to the military's sealift capability has been trivial at best. The failure of the Jones Act to meet its intended objectives, meanwhile, has inflicted considerable economic harm through a variety of direct and indirect channels. Rather than serving to bolster national security, the Jones Act has stultified domestic shipbuilding, diminished the size of America's merchant marine reserve, and hamstrung our ability to respond expeditiously and effectively to natural and manmade disasters.

Among the world's cabotage laws, the Jones Act stands out for its extreme protectionism. Only a handful of countries require ships participating in their domestic maritime services to be built domestically and none have more onerous restrictions. Moreover, there are no comparably stringent regulations of other means of transportation in the United States. The wave of deregulation that brought renewed efficiency and vitality to the rail, trucking, and airline industries in the 1970s and 1980s left the maritime sector untouched.

Accordingly, the U.S. shipbuilding industry is a shambles. U.S.-built ships are as much as six to eight times more expensive than foreign-built ships and, as a result, there are far fewer of them. Indeed, over the past three decades U.S. production of cargo and tanker vessels has typically been in the low single digits.[97] The high cost of shipbuilding has contributed to an aging fleet, as there is less incentive to invest in newer ships. Typically, a ship has a total life expectancy of about 20 years, but—excluding tankers—the Jones Act fleet averages 30 years of age. Rather than ensure the existence of a strong domestic shipbuilding industry, the absence of competition has discouraged shipbuilders from innovating, keeping up with industry standards, or even building many new ships.

Meanwhile, the higher costs imposed on shippers are passed on to their customers—the intermediate goods-consuming producers, wholesalers, and retailers—who absorb some of the costs and pass the rest on to consumers. Because these costs are dispersed over a broad swath of interests, the per entity incidence is generally not significant enough to make repeal of the law a priority for them. Moreover, the disparate interests and concerns of these downstream entities make it more difficult to appreciate the commonality of purpose in repeal.

That such a burdensome law has evaded meaningful reform for nearly 100 years speaks to the determination of a small, well-organized, well-connected class of producers and unions that have succeeded over the years in portraying any effort to reform or repeal the Jones Act as an affront to national security. The time has come to finally turn the tables and for Congress to repeal this onerous law.

NOTES

1. The Jones Act is Section 27 of the Merchant Marine Act of 1920. However, the terms "Jones Act" and "Merchant Marine Act of 1920" are commonly used interchangeably, including by the U.S. Maritime Administration (MARAD). See, for example, "The Maritime Administration's First 100 Years: 1916–2016," U.S. Maritime Administration, https://www.marad.dot.gov/about-us/maritime-administration-history-program/historical-documents-and-resources/the-maritime-administrations-first-100-years/.

2. Adam Smith and Bruce Yandle, *Bootleggers and Baptists: How Economic Forces and Moral Persuasion Interact to Shape Regulatory Politics* (Washington: Cato Institute, 2014).

3. Library of Congress, "The American Expeditionary Forces," https://www.loc.gov/collections/stars-and-stripes/articles-and-essays/a-world-at-war/american-expeditionary-forces/.

4. Wesley L. Jones, "The Merchant Marine Act of 1920," JSTOR, https://archive.org/stream/jstor-1171831/1171831_djvu.txt.

5. Per Coast Guard regulations, major components are deemed to be those that exceed 1.5 percent of the vessel's steelweight. For an extensive discussion of the ownership aspect, see Constantine G. Papavizas, "Public Company Jones Act Citizenship," *Tulane Maritime Law Journal* 39, no. 2 (Summer 2015): 383–437, https://www.winston.com/images/content/9/9/v2/99387/DC-775305-v1-Public-Company-Jones-Act-Citizenship-Published-Art.pdf. The 75 percent ownership rule has been in place since the Jones Act's beginning and has its origin in the Shipping Act of 1916, when foreign interests were buying up U.S. ships during WWI. The origin of the crew requirement remains unclear.

6. "Shipping Domination," *New York Times*, August 13, 1920, https://timesmachine.nytimes.com/timesmachine/1920/08/12/103468215.pdf.

7. Jones, "The Merchant Marine Act of 1920."

8. "Urges US to Fight for American Ships," *New York Times*, June 21, 1920, https://timesmachine.nytimes.com/timesmachine/1920/06/21/96357812.pdf.

9. "Urges US to Fight for American Ships."

10. Michael L. Grace, "History of the Alaska Steamship Company, Seattle, 1895–1971," March 10, 2010, https://www.cruiselinehistory.com/alaska-steamship-company-seattle-1895-1971/.

11. Ivan L. Ascott, "The Alaska Statehood Act Does Not Guarantee Alaska Ninety Percent of the Revenue from Mineral Leases on Federal Lands in Alaska," *Seattle University Law Review* 27, no. 4 (2004): 999–1034.

12. "Rethinking Maritime Cabotage for Improved Connectivity," United Nations Conference on Trade and Development, Transport and Trade Facilitation Series no. 9 (2017), http://unctad.org/en/PublicationsLibrary/dtltlb2017d1_en.pdf.

13. The other countries that fully exclude foreign-flagged ships from cabotage are Belgium, China, Colombia, Estonia, Greece, Indonesia, Italy, Lithuania, Sweden, and Turkey. See OECD STRI Regulatory Database, http://www.oecd.org/tad/services-trade/services-trade-restrictiveness-index.htm.

14. World Economic Forum, "Enabling Trade: Valuing Growth Opportunities," 2013, http://www3.weforum.org/docs/WEF_SCT_EnablingTrade_Report_2013.pdf.

15. "How Protectionism Sank America's Entire Merchant Fleet," *The Economist*, October 5, 2017, https://www.economist.com/news/finance-and-economics/21730034-jones-act-hurts-american-consumers-and-destroyed-countrys-shipping.

16. Darren Chester, "Call for Comment on Proposed Coastal Shipping Reforms," March 21, 2017, http://minister.infrastructure.gov.au/chester/releases/2017/march/dc063_2017.aspx.

17. Robert Y. Cavana, "A Qualitative Analysis of Reintroducing Cabotage onto New Zealand's Coasts," *Maritime Policy Management* 31, no. 3 (2004): 179–98.

18. "Services Trade Restrictiveness Index Regulatory Database," Organisation for Economic Co-operation and Development, https://qdd.oecd.org/subject.aspx?Subject=063bee63-475f-427c-8b50-c19bffa7392d.

19. United States Maritime Administration, "By the Capes around the World: A Summary of World Cabotage Practices," https://www.hsdl.org/?abstract&did=455295.

20. Thomas Grennes, "An Economic Analysis of the Jones Act," 2017, https://www.mercatus.org/system/files/mercatus-grennes-jones-act-v2.pdf.

21. Malia Blom Hill, "Repealing Antiquated Jones Act Would Be a Boon to All Americans," *The Hill*, February 7, 2017, http://thehill.

com/opinion/international/372744-repealing-antiquated-jones-act-would-be-a-boon-to-all-americans; and U.S. Department of Transportation Maritime Administration, "United States Flag Privately-Owned Merchant Fleet Report," April 1, 2018, https://www.marad.dot.gov/wp-content/uploads/xlsx/Copy-of-DS_USFlag-Fleet_20180401.xlsx.

22. United States Congress House Committee on Transportation and Infrastructure Subcommittee on Coast Guard and Maritime Transportation, "The State of the U.S. Flag Maritime Industry," Statement of Mark H. Buzby, Administrator, Maritime Administration, January 17, 2018, https://transportation.house.gov/uploadedfiles/2018-01-17_-_buzby_testimony.pdf.

23. John Fritelli, "Revitalizing Coastal Shipping for Domestic Commerce," Congressional Research Service, May 2, 2017, https://fas.org/sgp/crs/misc/R44831.pdf.

24. Fritelli, "Revitalizing Coastal Shipping for Domestic Commerce."

25. The Oil Pollution Act of 1990 mandated that all oil tankers, which average 11 years of age, had to be double-hulled by 2015, which in turn encouraged the purchase of vessels much newer than the rest of the Jones Act fleet. National Oceanic and Atmospheric Administration, "A Final Farewell to Oil Tankers with Single Hulls," December 11, 2014, https://response.restoration.noaa.gov/about/media/final-farewell-oil-tankers-single-hulls.html; U.S. Department of Transportation Maritime Administration, "United States Flag Privately-Owned Merchant Fleet Report"; and United Nations Conference on Trade and Development, "Review of Maritime Transport 2017," http://unctad.org/en/PublicationsLibrary/rmt2017_en.pdf.

26. Nickie Butt et al., "15 Years of Shipping Accidents: A Review for WWF Southampton Solent University," http://awsassets.panda.org/downloads/15_years_of_shipping_accidents_a_review_for_wwf_.pdf.

27. Thomas Grennes, "Does the Jones Act Endanger American Seamen?" *Regulation* 40, no. 3 (2017): 2–4.

28. U.S. Department of Transportation Maritime Administration, "Report on Survey of U.S. Shipbuilding and Repair Facilities," 2004, https://www.marad.dot.gov/wp-content/uploads/pdf/2004_-_Report_on_Survey_of_US_Shipbuilding_and_Repair_Facilities.pdf.

29. U.S. Department of Transportation Maritime Administration, "The Economic Importance of the U.S. Shipbuilding and Repairing Industry," November 2015, https://www.marad.dot.gov/wp-content/uploads/pdf/2004_-_Report_on_Survey_of_US_Shipbuilding_and_Repair_Facilities.pdf.

30. Organisation for Economic Co-operation and Development, "Peer Review of the Japanese Shipbuilding Industry," 2016, http://www.oecd.org/sti/ind/PeerReview-Shipbuilding-Japan.pdf; and Yin-Chung Tsai, "The Shipbuilding Industry in China," *OECD Journal: General Papers* 2010, no. 3 (2011), http://ec.europa.eu/DocsRoom/documents/10504/attachments/1/translations.

31. European Commission, "LeaderSHIP 2020: The Sea, New Opportunities for the Future," February 20, 2013, http://ec.europa.eu/DocsRoom/documents/10504/attachments/1/translations.

32. These numbers include seagoing propelled merchant ships of 100 gross tons and above, excluding inland waterway vessels, fishing vessels, military vessels, yachts, and offshore fixed and mobile platforms and barges (with the exception of floating production storage and offloading [FPSO] vessels and drillships).

33. Costas Paris, "Philadelphia Shipyard Struggles to Survive on Order Drought," *Wall Street Journal*, May 31, 2018, https://www.wsj.com/articles/philadelphia-shipyard-struggles-to-survive-on-order-drought-1527779834.

34. Grennes, "An Economic Analysis of the Jones Act," p. 12.

35. U.S. Department of Transportation Maritime Administration, "The Economic Importance of the U.S. Shipbuilding and Repairing Industry."

36. Transportation Institute, "The Jones Act," https://transportationinstitute.org/jones-act/.

37. United States Congress House Subcommittee on Coast Guard and Maritime Administration, "The State of the U.S. Flag Maritime Industry," Statement of Bill Van Loo, Secretary Treasurer, Marine Engineers' Beneficial Association, January 17, 2018, https://transportation.house.gov/uploadedfiles/2018-01-17_-_van_loo_testimony.pdf.

38. United States Congress Senate Committee on Armed Services, "Posture of the United States Transportation Command," Statement of General Darren W. McDew, United States Air Force Commander, United States Transportation Command, April 10, 2018, https://www.armed-services.senate.gov/imo/media/doc/McDew_04-10-18.pdf

39. "Ancient and Modern Mariners," *The Economist*, December 17, 2014, https://www.economist.com/christmas-specials/2014/12/17/ancient-and-modern-mariners.

40. "Ancient and Modern Mariners," *The Economist*.

41. Ecorys Research and Consulting, "Study on Competitiveness of the European Shipbuilding Industry," October 8, 2009, http://ec.europa.eu/DocsRoom/documents/10506/attachments/1/translations/en/renditions/native.

42. U.S. Department of Transportation Maritime Administration, "The Economic Importance of the U.S. Shipbuilding and Repairing Industry."

43. James K. Matthews and Cora J. Holt, "So Many, So Much, So Far, So Fast," United States Transportation Command, http://webapp1.dlib.indiana.edu/virtual_disk_library/index.cgi/5525274/FID2660/pubs/somany.pdf.

44. Rob Grady, "Panel: Advocates for Jones Act Reform See Best Chance in Decades," February 23, 2018, *U.S. Naval Institute News*, https://news.usni.org/2018/02/23/panel-advocates-jones-act-reform-see-best-chance-decades.

45. Matthews and Holt, "So Many, So Much, So Far, So Fast."

46. Matthews and Holt, "So Many, So Much, So Far, So Fast."

47. Transportation Institute, "The History of the Maritime Industry," https://transportationinstitute.org/know-our-industry/national-defense-role/history/.

48. Keith Dominic, "Foreign Flag Shipping: A Weakness in the Sealift Trident," Naval War College, May 9, 2009, http://www.dtic.mil/dtic/tr/fulltext/u2/a503079.pdf.

49. Seafarers International Union, "TOTE's *Northern Lights* Transports Military Gear," http://seafarers.org/ViewStory.asp?article=log/2003/032003/Totes%20Northern%20Lights; and Transportation Institute, "The Jones Act," https://transportationinstitute.org/jones-act/.

50. U.S. Department of Transportation Maritime Administration, "2000–2016 U.S.-Flag Privately-Owned Fleet Summary," https://www.marad.dot.gov/wp-content/uploads/pdf/US-Fleet-Summary-Table-2000-2016-1.pdf; and U.S. Department of Transportation Maritime Administration, "U.S.-Flag Privately-Owned Fleet," https://www.marad.dot.gov/wp-content/uploads/pdf/DS_USFlag-Fleet_20180601.pdf.

51. United States Congress Senate Committee on Armed Services, "Posture of the United States Transportation Command."

52. Nicolas Loris, Brian Slattery, and Bryan Riley, "Sink the Jones Act: Restoring America's Competitive Advantage in Maritime-Related Industries," Heritage Foundation, May 22, 2014, https://www.heritage.org/government-regulation/report/sink-the-jones-act-restoring-americas-competitive-advantage-maritime.

53. John Fritelli, "Cargo Preferences for U.S.-Flag Shipping," Congressional Research Service, October 29, 2015, https://fas.org/sgp/crs/misc/R44254.pdf.

54. For more discussion, see Fritelli, "Cargo Preferences for U.S.-Flag Shipping."

55. The *New York Times* reported that in 2003 almost 500,000 troops were airlifted to Iraq on civilian aircraft alone via the Pentagon's Civil Reserve Air Fleet program. See Micheline Maynard, "Pentagon Gives Airlines a Lifeline with Payments for Moving Troops," *New York Times*, December 26, 2003.

56. Keith Hennessey, "How to Waive the Jones Act," June 18, 2010, https://keithhennessey.com/2010/06/18/how-to-waive-the-jones-act/.

57. Josh Siegel, "Trump: Shipping Industry Doesn't Want Jones Act Lifted for Puerto Rico," *Washington Examiner*, September 27, 2017, https://www.washingtonexaminer.com/trump-shipping-industry-doesnt-want-jones-act-lifted-for-puerto-rico/article/2635827.

58. Lydia DePillis, "Relief Groups Hit Major Hurdles Getting Aid to Puerto Rico," CNN Money, October 23, 2017, http://money.

cnn.com/2017/10/23/news/economy/puerto-rico-ad-hoc-aid-groups/index.html; and Ryan Schleeter, "Our Power, Our Future: Puerto Rico's Road to a #JustRecovery," Greenpeace, October 19, 2017, https://www.greenpeace.org/usa/our-power-our-future-puerto-ricos-road-to-a-justrecovery/.

59. U.S. International Trade Commission, "The Economic Effects of Significant U.S. Import Restraints, Phase III: Services," Publication no. 2422, September 1991; U.S. International Trade Commission, "The Economic Effects of Significant U.S. Import Restraints," Publication no. 3201, May 1999; and U.S. International Trade Commission, "The Economic Effects of Significant U.S. Import Restraints," third update, June 2002.

60. Government Accountability Office, Letter to Sen. John McCain, March 6, 1998, https://www.gao.gov/assets/90/87426.pdf.

61. U.S. Department of Transportation Maritime Administration, "Comparison of U.S. and Foreign-Flag Operating Costs," September 2011, https://www.marad.dot.gov/wp-content/uploads/pdf/Comparison_of_US_and_Foreign_Flag_Operating_Costs.pdf.

62. U.S. Department of Transportation Maritime Administration, "Comparison of U.S. and Foreign-Flag Operating Costs," p.14.

63. "19 U.S. Code § 1466 - Equipment and Repairs of Vessels," Legal Information Institute, Cornell Law School, https://www.law.cornell.edu/uscode/text/19/1466.

64. In 2012 the Federal Reserve Bank of New York released a report that found shipping a 20-foot container of household and commercial goods from the East Coast of the United States to Puerto Rico would cost an estimated $3,063. To send the same shipment to nearby Santo Domingo, Dominican Republic, or Kingston, Jamaica—destinations that are not subject to Jones Act restrictions—would cost $1,504 and $1,687, respectively. Federal Reserve Bank of New York, "Report on the Competitiveness of Puerto Rico's Economy," June 29, 2012, https://www.newyorkfed.org/medialibrary/media/regional/PuertoRico/report.pdf.

65. Fritelli, "Revitalizing Coastal Shipping for Domestic Commerce," p. 2.

66. Fritelli, "Revitalizing Coastal Shipping for Domestic Commerce," p. 2.

67. Fritelli, "Revitalizing Coastal Shipping for Domestic Commerce," p. 2.

68. World Shipping Council, "Industry Issues, Carbon Emissions," 2015, http://www.worldshipping.org/industry-issues/environment/air-emissions/carbon-emissions.

69. World Shipping Council, "Liner Shipping," http://www.worldshipping.org/public-statements/wsc_brochure_final_us_print.pdf; and Department of Transportation, "DOT Releases 30-Year Freight Projections," press release, March 3, 2016, https://www.bts.gov/sites/bts.dot.gov/files/legacy/bts13_16.pdf.

70. INRIX, "Americans Will Waste $2.8 Trillion on Traffic by 2030 if Gridlock Persists," press release, October 14, 2014, http://inrix.com/press-releases/americans-will-waste-2-8-trillion-on-traffic-by-2030-if-gridlock-persists/.

71. Bureau of Transportation Statistics, "Freight Facts & Figures 2017—Chapter 3 The Freight Transportation System," https://www.bts.gov/bts-publications/freight-facts-and-figures/freight-facts-figures-2017-chapter-3-freight; and U.S. Department of Transportation Maritime Administration, "U.S.-Flag Waterborne Domestic Trade and Related Programs," https://www.marad.dot.gov/ships-and-shipping/domestic-shipping/.

72. World Economic Forum, "Enabling Trade, Valuing Growth Opportunities," 2013, http://www3.weforum.org/docs/WEF_SCT_EnablingTrade_Report_2013.pdf.

73. American Association of State Highway and Transportation Officials and American Association of Port Authorities, "The State of Freight II—Implementing the FAST Act and Beyond," November 2016, http://aapa.files.cms-plus.com/PDFs/SOF-2.pdf, p. 7; National Oceanic and Atmospheric Administration, "What Percentage of the American Population Lives Near the Coast?," https://oceanservice.noaa.gov/facts/population.html; and John Curtis Perry et al., "America's Deep Blue Highway: How Coastal Shipping Could Reduce Traffic Congestion, Lower Pollution, and Bolster National Security, September 2008, http://www.igms.org/sites/default/files/publishedworks/americas_deep_blue_highway_IGMS_report_sept_2008.pdf.

74. Fritelli, "Revitalizing Coastal Shipping for Domestic Commerce."

75. Jennifer Runyon, "First US Offshore Wind Installation Vessel to be Built with Oil and Gas Expertise," *Renewable Energy World*, June 30, 2017, https://www.renewableenergyworld.com/articles/2017/06/first-jones-act-compliant-us-offshore-wind-jack-up-installation-vessel-to-be-built-with-oil-and-gas-expertise.html.

76. "Assessment of Vessel Requirements for the U.S. Offshore Wind Sector," Douglas-Westwood LLC, February 28, 2013, https://www.energy.gov/sites/prod/files/2013/12/f5/assessment_vessel_requirements_US_offshore_wind_report.pdf; and "U.S. Jones Act Compliant Offshore Wind Turbine Installation Vessel Study," GustoMSC, October 2017, https://www.northeastwindcenter.org/wp-content/uploads/US_Jones_Act_Compliant_Offshore_Wind_Study.pdf.

77. General Dynamics NASSCO, "A Shipbuilder's Assessment of America's Marine Highways," July 30, 2009, https://www.nassco.com/pdfs/Shipbuilder-Assessment-American-Marine-Highway-NASSCO.pdf.

78. "Americans Will Waste $2.8 Trillion on Traffic by 2030 if Gridlock Persists."

79. "Americans Will Waste $2.8 Trillion on Traffic by 2030 if Gridlock Persists."

80. Fritelli, "Revitalizing Coastal Shipping for Domestic Commerce," p. 2.

81. Government Accountability Office, "Puerto Rico: Characteristics of the Island's Maritime Trade and Potential Effects of Modifying the Jones Act," March 2013, https://www.gao.gov/assets/660/653046.pdf.

82. Zoe Chace and David Kestenbaum, "Mr. Jones' Act," *Planet Money*, podcast transcript, September 27, 2017, https://www.npr.org/templates/transcript/transcript.php?storyId=554046425.

83. Government Accountability Office, "Puerto Rico: Characteristics of the Island's Maritime Trade."

84. John Frittelli, "Shipping U.S. Crude Oil by Water: Vessel Flag Requirements and Safety Issues," Congressional Research Service, July 21, 2014, p. 9.

85. Government Accountability Office, "*Alaskan North Slope Oil: Limited Effects of Lifting Export Ban on Oil and Shipping Industries and Consumers,*" 1999, https://www.gao.gov/archive/1999/rc99191.pdf.

86. John Frittelli et al., "U.S. Rail Transportation of Crude Oil: Background and Issues for Congress," Congressional Research Service, December 4, 2014, https://fas.org/sgp/crs/misc/R43390.pdf.

87. Loris, Slattery, and Riley, "Sink the Jones Act: Restoring America's Competitive Advantage in Maritime-Related Industries."

88. Congressional Budget Office, "Approaches to Making Federal Highway Spending More Productive," February 2016, http://www.cbo.gov/sites/default/files/114th-congress-2015-2016/reports/50150-Federal_Highway_Spending.pdf.

89. Congressional Budget Office, "Approaches to Making Federal Highway Spending More Productive."

90. Congressional Budget Office, "Approaches to Making Federal Highway Spending More Productive."

91. Daniel J. Ikenson, "A Ports Policy Barnacled with Bad Law," *Wall Street Journal*, August 5, 2015, https://www.cato.org/publications/commentary/ports-policy-barnacled-bad-law.

92. Ikenson, "A Ports Policy Barnacled with Bad Law."

93. Guam is exempt from the Jones Act's domestic-build requirement but in practice is still subject to this stricture as many of the ships that sail to the island from the continental United States first stop in Hawaii and thus must be fully compliant with the law. The U.S. Virgin Islands, meanwhile, have a full Jones Act exemption.

94. 46 C.F.R. § 67.97.

95. Bryan Riley, "Are Jones Act Ships Really 'Made in the USA'? Well, Sort Of," *The Hill*, June 7, 2016, http://thehill.com/blogs/pundits-blog/transportation/282455-are-jones-act-ships-really-made-in-the-usa-well-sort-of.

96. Grennes, "An Economic Analysis of the Jones Act," p. 17.

97. Tim Colton, "Deliveries from U.S. Shipyards Since 1987," Shipbuildinghistory.com, http://shipbuildinghistory.com/statistics/recent.htm.

RELATED PUBLICATIONS FROM THE CATO INSTITUTE

Was Buenos Aires the Beginning of the End or the End of the Beginning? The Future of the World Trade Organization by James Bacchus, Cato Institute Policy Analysis no. 841, May 8, 2018

Candy-Coated Cartel: Time to Kill the U.S. Sugar Program by Colin Grabow, Cato Institute Policy Analysis no. 837, April 10, 2018

Where's the Beef? Finding a Better Way to Resolve U.S.-China Trade Conflicts by Simon Lester and Huan Zhu, Cato Institute Free Trade Bulletin No. 71, November 8, 2017

Responsible Stakeholders: Why the United States Should Welcome China's Economic Leadership by Colin Grabow, Cato Institute Policy Analysis no. 821, October 3, 2017

Does the Jones Act Endanger American Seamen? by Thomas Grennes, *Regulation* 40, no. 3, Fall 2017

Doomed to Repeat It: The Long History of America's Protectionist Failures by Scott Lincicome, Cato Trade Policy Analysis no. 819, August 22, 2017

Renegotiating NAFTA in the Era of Trump: Keeping the Trade Liberalization In and the Protectionism Out by Simon Lester, Inu Manak, and Daniel Ikenson, Cato Working Paper no. 46, August 14, 2017

Cybersecurity or Protectionism? Defusing the Most Volatile Issue in the U.S.–China Relationship by Daniel Ikenson, Cato Institute Policy Analysis no. 815, July 13, 2017

It's Time to Negotiate a New Economic Relationship with China by Simon Lester and Huan Zhu, Cato Institute Free Trade Bulletin no. 70, April 4, 2017

Into the Abyss: Is a U.S.-China Trade War Inevitable? by Daniel Ikenson, Cato Institute Free Trade Bulletin no. 69, February 6, 2017

Should Free Traders Support the Trans-Pacific Partnership? An Assessment of America's Largest Preferential Trade Agreement by Daniel Ikenson, Simon Lester, Scott Lincicome, Daniel R. Pearson, and K. William Watson, Cato Institute Working Paper no. 39, September 12, 2016

Beyond the American Manufacturing Competitiveness Act: Congress Should Get More Serious About Tariff Reform by Daniel Ikenson, Cato Institute Free Trade Bulletin no. 67, April 26, 2016

Trade Promotion Authority and the Trans-Pacific Partnership: What Lies Ahead? by Daniel Ikenson, Cato Institute Free Trade Bulletin no. 61, June 8, 2015

America's Welfare Queen Fleet: The Need for Maritime Policy Reform by Rob Quartel, *Regulation* 14, nos. 3–5, Summer 1991

RECENT STUDIES IN THE CATO INSTITUTE POLICY ANALYSIS SERIES

843. **A World Imagined Nostalgia and Liberal Order** by Patrick Porter (June 5, 2018)

842. **Is Public Schooling a Public Good? An Analysis of Schooling Externalities** by Corey A. DeAngelis (May 9, 2018)

841. **Was Buenos Aires the Beginning of the End or the End of the Beginning? The Future of the World Trade Organization** by James Bacchus (May 8, 2018)

840. **Avoiding a Korean Calamity: Why Resolving the Dispute with Pyongyang Requires Keeping the Peace** by Doug Bandow (April 26, 2018)

839. **Reassessing the Facts about Inequality, Poverty, and Redistribution** by John F. Early (April 24, 2018)

838. **Extreme Vetting of Immigrants: Estimating Terrorism Vetting Failures** by David Bier (April 17, 2018)

837. **Candy-Coated Cartel: Time to Kill the U.S. Sugar Program** by Colin Grabow (April 10, 2018)

836. **Risky Business: The Role of Arms Sales in U.S. Foreign Policy** by A. Trevor Thrall and Caroline Dorminey (March 13, 2018)

835. **The Nordic Glass Ceiling** by Nima Sanandaji (March 8, 2018)

834. **Tesla Takes On Michigan** by Will Zerhouni (February 27, 2018)

833. **Your Money's No Good Here: How Restrictions on Private Securities Offerings Harm Investors** by Thaya Brook Knight (February 9, 2018)

832. **Abuse-Deterrent Opioids and the Law of Unintended Consequences** by Jeffrey A. Singer (February 6, 2018)

831. **The New National ID Systems** by Jim Harper (January 30, 2018)

830. **The Public Benefit of Private Schooling: Test Scores Rise When There Is More of It** by Corey A. DeAngelis (January 22, 2018)

829. **Staring at the Sun: An Inquiry into Compulsory Campaign Finance Donor Disclosure Laws** by Eric Wang (December 14, 2017)

828. **What to Do about the Emerging Threat of Censorship Creep on the Internet** by Danielle Keats Citron (November 28, 2017)

827. **Corruption and the Rule of Law: How Brazil Strengthened Its Legal System** by Geanluca Lorenzon (November 20, 2017)

826. **Liberating Telemedicine: Options to Eliminate the State-Licensing Roadblock** by Alex Nowrasteh (November 15, 2017)

825. **Border Patrol Termination Rates: Discipline and Performance Problems Signal Need for Reform** by Alex Nowrasteh (November 2, 2017)

824. **The Coming Transit Apocalypse** by Randal O'Toole (October 24, 2017)

823. **Zoning, Land-Use Planning, and Housing Affordability** by Vanessa Brown Calder (October 18, 2017)

822. **Unforced Error: The Risks of Confrontation with Iran** by Emma Ashford and John Glaser (October 9, 2017)

821. **Responsible Stakeholders: Why the United States Should Welcome China's Economic Leadership** by Colin Grabow (October 3, 2017)

820. **A Balanced Threat Assessment of China's South China Sea Policy** by Benjamin Herscovitch (August 28, 2017)

819. **Doomed to Repeat It: The Long History of America's Protectionist Failures** by Scott Lincicome (August 22, 2017)

818. **Preserving the Iran Nuclear Deal: Perils and Prospects** by Ariane Tabatabai (August 15, 2017)

817. **Reforming the National Flood Insurance Program: Toward Private Flood Insurance** by Ike Brannon and Ari Blask (July 19, 2017)

816. **Withdrawing from Overseas Bases: Why a Forward-Deployed Military Posture Is Unnecessary, Outdated, and Dangerous** by John Glaser (July 18, 2017)

CATO INSTITUTE

The views expressed in this paper are those of the author(s) and should not be attributed to the Cato Institute, its trustees, its Sponsors, or any other person or organization. Nothing in this paper should be construed as an attempt to aid or hinder the passage of any bill before Congress. Copyright © 2018 Cato Institute. This work by Cato Institute is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.