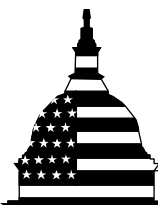


March 2013

PUERTO RICO

Characteristics of the Island's Maritime Trade and Potential Effects of Modifying the Jones Act



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Why GAO Did This Study

Puerto Rico is subject to Section 27 of the Merchant Marine Act of 1920, known as the “Jones Act” (Act), which requires that maritime transport of cargo between points in the United States be carried by vessels that are (1) owned by U.S. citizens and registered in the United States, (2) built in the United States, and (3) operated with predominantly U.S.-citizen crews. The general purposes of the Jones Act include providing the nation with a strong merchant marine that can provide transportation for the nation’s maritime commerce, serve in time of war or national emergency, and support an adequate shipyard industrial base. Companies (shippers) that use Jones Act carriers for shipping in the Puerto Rico trade have expressed concerns that, as a result of the Jones Act, freight rates between the United States and Puerto Rico are higher than they otherwise would be, and given the reliance on waterborne transportation have an adverse economic impact on Puerto Rico.

This report examines (1) maritime transportation to and from Puerto Rico and how the Jones Act affects that trade and (2) possible effects of modifying the application of the Jones Act in Puerto Rico. GAO collected and analyzed information and literature relevant to the market and gathered the views of numerous public and private sector stakeholders through interviews and written responses. GAO is not making recommendations in this report. The Department of Transportation (DOT) generally agreed with the report, but emphasized that many of the issues related to the Jones Act are complex and multifaceted. DOT and others also provided technical clarifications, which GAO incorporated, as appropriate.

View [GAO-13-260](#). For more information, contact Lorelei St. James at (202) 512-2834 or stjamesl@gao.gov.

PUERTO RICO

Characteristics of the Island’s Maritime Trade and Possible Effects of Modifying the Jones Act

What GAO Found

Jones Act requirements have resulted in a discrete shipping market between Puerto Rico and the United States. Most of the cargo shipped between the United States and Puerto Rico is carried by four Jones Act carriers that provide dedicated, scheduled weekly service using containerships and container barges. Although some vessels are operating beyond their expected useful service life, many have been reconstructed or refurbished. Jones Act dry and liquid bulk-cargo vessels also operate in the market, although some shippers report that qualified bulk-cargo vessels may not always be available to meet their needs. Cargo moving between Puerto Rico and foreign destinations is carried by numerous foreign-flag vessels, often with greater capacity, and typically as part of longer global trade routes. Freight rates are determined by a number of factors, including the supply of vessels and consumer demand in the market, as well as costs that carriers face to operate, some of which (e.g., crew costs) are affected by Jones Act requirements. The average freight rates of the four major Jones Act carriers in this market were lower in 2010 than they were in 2006, which was the onset of the recent recession in Puerto Rico that has contributed to decreases in demand. Foreign-flag carriers serving Puerto Rico from foreign ports operate under different rules, regulations, and supply and demand conditions and generally have lower costs to operate than Jones Act carriers have. Shippers doing business in Puerto Rico that GAO contacted reported that the freight rates are often—although not always—lower for foreign carriers going to and from Puerto Rico and foreign locations than the rates shippers pay to ship similar cargo to and from the United States, despite longer distances. However, data were not available to allow us to validate the examples given or verify the extent to which this difference occurred. According to these shippers, lower rates, as well as the limited availability of qualified vessels in some cases, can lead companies to source products from foreign countries rather than the United States.

The effects of modifying the application of the Jones Act for Puerto Rico are highly uncertain, and various trade-offs could materialize depending on how the Act is modified. Under a full exemption from the Act, the rules and requirements that would apply to all carriers would need to be determined. While proponents of this change expect increased competition and greater availability of vessels to suit shippers’ needs, it is also possible that the reliability and other beneficial aspects of the current service could be affected. Furthermore, because of cost advantages, unrestricted competition from foreign-flag vessels could result in the disappearance of most U.S.-flag vessels in this trade, having a negative impact on the U.S. merchant marine and the shipyard industrial base that the Act was meant to protect. Instead of a full exemption, some stakeholders advocate an exemption from the U.S.-built requirement for vessels. According to proponents of this change, the availability of lower-cost, foreign-built vessels could encourage existing carriers to recapitalize their aging fleets (although one existing carrier has recently ordered two new U.S.-built vessels for this trade), and could encourage new carriers to enter the market. However, as with a full exemption, this partial exemption could also reduce or eliminate existing and future shipbuilding orders for vessels to be used in the Puerto Rico trade, having a negative impact on the shipyard industrial base the Act was meant to support.

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Abbreviations

BVI	British Virgin Islands
CBP	Customs and Border Protection
DHS	Department of Homeland Security
DOD	Department of Defense
DOJ	Department of Justice
DOT	Department of Transportation
FEU	forty-foot equivalent unit
FMC	Federal Maritime Commission
LNG	liquefied natural gas
MARAD	Maritime Administration
NASSCO	National Steel and Shipbuilding Company
PREPA	Puerto Rico Electric Power Authority
STB	Surface Transportation Board
TEU	twenty-foot equivalent unit
USVI	U.S. Virgin Islands
VISA	Voluntary Intermodal Sealift Agreement

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United States Government Accountability Office
Washington, DC 20548

March 14, 2013

The Honorable Gregorio Kilili Camacho Sablan
Ranking Member
Subcommittee on Fisheries, Wildlife, Oceans
and Insular Affairs
Committee on Natural Resources
House of Representatives

The Honorable Pedro R. Pierluisi
House of Representatives

Puerto Rico—the largest and most populous insular area¹ of the United States—depends heavily on maritime transportation to move goods to and from the island. The Jones Act,² in general, requires that maritime transport of cargo between points in the United States be carried by vessels that are owned by U.S. citizens and registered under the U.S. flag with a coastwise³ endorsement, which in turn requires that such vessels be built in the United States.⁴ Further, because the Jones Act requires

¹The U.S. Department of the Interior, Office of Insular Affairs, defines an insular area as a jurisdiction that is neither a part of one of the several states nor a federal district. Insular areas of the United States include American Samoa, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, Guam, and the U.S. Virgin Islands, as well as the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau.

²Section 27 of the Merchant Marine Act of 1920, Pub. L. No. 66-261, 41 Stat. 988, 999 (1920) (codified as amended at 46 U.S.C. § 55102).

³Coastwise domestic shipping generally refers to the transport of cargo by oceangoing vessels between the U.S. mainland and Alaska, Hawaii, and Puerto Rico; and along the Atlantic, Gulf, and Pacific Coasts, as well as between these coasts and the St. Lawrence Seaway; and between the Atlantic, Gulf, and Pacific Coasts via the Panama Canal.

⁴Ownership must be by a U.S. citizen or by companies controlled by individuals that are U.S. citizens with at least 75 percent of ownership. Registry pertains to a vessel certificate determining the ownership and nationality of the vessel. The U.S. Coast Guard determines the rules and standards, and vessel eligibility for coastwise endorsement (which allows vessels to engage in the coastwise trade) and issues certificates of documentation defining the type of trade in which vessels are allowed to engage. The build requirement includes being rebuilt in the United States, but does not require repairs be made in U.S. shipyards. However, section 466 of the Tariff Act of 1930 (Pub. L. No. 71-361, 46 Stat. 590, 719 (codified at 19 U.S.C. § 1466)), as amended, generally requires that any repairs done abroad on certain U.S.-flag vessels, such as those documented for coastwise trade, pay a 50 percent duty on the cost of repairs.

U.S.-flag registry, U.S. manning laws apply, which require predominantly U.S. citizen crews.⁵ Puerto Rico is subject to all Jones Act requirements. However, under statute, U.S. coastwise laws such as the Jones Act generally do not apply to cargo transported between the United States and certain other insular areas, including the U.S. Virgin Islands.⁶ In addition, under statute, vessels engaging in domestic trade between the United States and certain other insular areas, including Guam, require only a registry endorsement (i.e., U.S.-flag registry without the U.S.-build requirement).⁷

Among other purposes, the Jones Act, as amended, was intended to provide the nation with 1) a strong merchant marine⁸ that can serve as a naval or military auxiliary in time of war or national emergency, 2) transportation for the proper growth of the nation's maritime commerce, and 3) support for efficient facilities for building and repairing vessels.⁹ Historically, however, shippers and others engaged in shipping between the United States and Puerto Rico have expressed concerns that, as a result of the Jones Act, freight rates between the United States and Puerto Rico are higher than they otherwise would be, and that the higher rates increase prices of goods and have a negative effect on the Puerto

⁵All licensed officers must be U.S. citizens and the unlicensed crew must be at least 75 percent U.S. citizens. See 46 U.S.C. § 8103.

⁶Pursuant to 46 U.S.C. § 55101, the United States coastwise laws, in general, apply to the United States, including the island territories and possessions of the United States. Section 55101 further provides specified exceptions to the application of the coastwise laws, whereby, in general, the coastwise laws do not apply to, for example, the Commonwealth of the Northern Mariana Islands and the U.S. Virgin Islands. For the U.S. Virgin Islands, under 46 U.S.C. § 55101(b)(3), this exemption is to be in effect until the President of the United States declares by proclamation that the coastwise laws apply to the Virgin Islands. While the insular areas of the United States, other than Puerto Rico, are not within the Customs territory of the United States, under the Harmonized Tariff Schedule of the United States, certain types of qualifying insular area exports to the United States are exempt from duty.

⁷In general, registry endorsements, which do not include a U.S.-build requirement, may be issued for vessels to engage in trade with American Samoa, Guam, Kingman Reef, Midway, and Wake. See 46 U.S.C. § 12111(b).

⁸The term "merchant marine" refers to the commercial ships or fleet of a nation, and to the people who operate them.

⁹Section 1 of the Merchant Marine Act, 1920 (46 U.S.C. App. 861), now codified at 46 U.S.C. § 50101.

Rico economy.¹⁰ As a result, some of these stakeholders have called for an exemption for Puerto Rico from the Jones Act in its entirety, allowing foreign carriers to provide service between the United States and Puerto Rico or for an exemption from the U.S.-build requirement of the Jones Act, allowing U.S. carriers to use foreign-built vessels. Because of these concerns you asked us to examine the effect of the Jones Act's application to Puerto Rico. This report examines (1) the characteristics of maritime transportation to and from Puerto Rico and how the Jones Act affects that trade, and (2) possible effects of modifying the application of the Jones Act in Puerto Rico.

To address these objectives, we collected and analyzed data, reviewed literature and reports relevant to these markets, and gathered the perspectives and experiences of numerous public and private sector stakeholders, including companies that utilize maritime-shipping services (referred to as "shippers" in this report) through interviews and written responses. In particular, we gathered information from Jones Act carriers operating between the United States and Puerto Rico on various aspects of the services they provide, including information on their vessels, routes, services, operating and capital costs, and average freight rates. We also contacted 10 foreign carriers to obtain similar information; however, nine of the ten foreign carriers we contacted declined to be interviewed, although representatives from two foreign carriers participated in a larger meeting of stakeholders we held in Puerto Rico. As a result, we were not able to gather detailed cost or rate information from foreign carriers that call in Puerto Rico. See appendix I for more information about our scope and methodology and a listing of the stakeholders we interviewed.

We conducted this performance audit from October 2011 through February 2013 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

¹⁰Similar concerns have also been raised by stakeholders with other noncontiguous areas of the United States such as Alaska and Hawaii.

Background

Puerto Rico is an island about 1,000 miles southeast of Miami, Florida, and relies heavily on oceangoing vessels to move large volumes of goods to and from the island. Puerto Rico has maintained a strong trade relationship with U.S. suppliers and imports significantly more in trade volume, by weight, than it exports back to the United States. Of the total volume of trade between the United States and Puerto Rico in 2011, about 85 percent was shipped from the United States to Puerto Rico, while 15 percent went from Puerto Rico to the United States. Goods imported to Puerto Rico from the United States are primarily consumer goods, although 8 of the top 10 goods by volume imported into Puerto Rico are raw materials related to the manufacturing of pharmaceuticals and medical devices. Puerto Rico's major exports back to the United States are typically high-value finished products, particularly pharmaceutical products and medical devices. While trade between Puerto Rico and the United States is significant, Puerto Rico imports more by volume from foreign countries than from the United States, primarily due to imports of petroleum products.

The Jones Act is one of the cabotage (also known as "coastwise") laws of the United States and applies to cargo shipped by waterborne transportation between two U.S. points.¹¹ Cabotage laws are designed to limit the domestic transport of goods and passengers to a country's national flagged vessels. According to the Department of Transportation's (DOT) Maritime Administration (MARAD), under the Jones Act, all domestic water transportation providers compete under uniform laws and regulations, creating an even playing field.¹² The United States is not alone in establishing and enforcing cabotage laws. Most trading nations of the world, according to MARAD, have or have had cabotage laws of some kind. Furthermore, these types of laws are not unique to the maritime industry, but U.S. cabotage provisions apply, in some form or degree, to other transportation modes, such as aviation, rail, and trucking.¹³

¹¹In general, the term "cabotage" has been used to refer to the transport of cargo or passengers between two points in the same country, as well as restrictions on such transport.

¹²MARAD, *America's Marine Highway Report to Congress* (Washington, D.C., April 2011).

¹³While cabotage principles are similar, no U.S.-build requirement exists for other modes in the United States.

Several federal agencies have a role in supporting, administering, and enforcing the Jones Act. In particular, MARAD's mission is to promote the maintenance of an adequate, well balanced U.S. merchant marine to ensure that the United States maintains adequate shipbuilding and repair services, efficient ports, and a pool of merchant mariners for both domestic commerce and national defense. Although the Department of Defense (DOD) does not administer or enforce the Jones Act, the military strategy of the United States relies on the use of commercial U.S.-flag ships and crews and the availability of a shipyard industrial base to support national defense needs. As such, MARAD and DOD jointly manage the Voluntary Intermodal Sealift Agreement (VISA) Program, established for emergency preparedness, which includes over 300 commercial U.S.-flag vessels to provide DOD with assured access to emergency sealift capacity. See appendix II for more details on federal agencies' roles in relation to the Jones Act.

Jones Act Results in a Discrete Shipping Market between the United States and Puerto Rico

Jones Act requirements have resulted in a discrete shipping market between Puerto Rico and the United States. Most of the cargo shipped between the United States and Puerto Rico is carried by four Jones Act carriers that provide dedicated, scheduled, weekly service using containerships and container barges—some of which have exceeded their expected useful life. Dry and liquid bulk cargo vessels also operate in the market under the Jones Act, although some shippers report that qualified bulk cargo vessels may not always be available to meet their needs. Cargo moving between Puerto Rico and foreign destinations is carried by numerous foreign-flag vessels, typically as part of longer global trade routes. Freight rates in this market are determined by a number of factors, including the supply of vessels and consumer demand in the market, as well as costs that carriers face to operate, some of which are affected by Jones Act requirements. The average freight rates of the four major Jones Act carriers in this market were lower in 2010 than they were in 2006, as the recent recession has contributed to decreases in demand. In contrast, foreign-flag carriers operate under different rules, regulations, and supply and demand conditions and generally have lower costs to operate than Jones Act carriers. Shippers doing business in Puerto Rico reported that freight rates for foreign carriers going to and from foreign ports are often—although not always—lower than rates they pay to ship similar cargo from the United States, despite longer distances. However, data were not available to allow us to validate the examples given or verify the extent to which this occurred. According to these shippers, lower rates, as well as limited availability of qualified vessels in some cases can lead companies to source products from foreign countries

rather than the United States. The impact of rates to ship between the United States and Puerto Rico on prices of goods in Puerto Rico is difficult to determine with any precision and likely varies by type of good.

Characteristics of Maritime Transportation to and from Puerto Rico

Four Jones Act Carriers Offer Regularly Scheduled Container Service

A large majority of the maritime trade between the United States and Puerto Rico is shipped in containers by four Jones Act carriers: Crowley Puerto Rico Services, Inc.; Horizon Lines, Inc., Sea Star Line, LLC; and Trailer Bridge, Inc. These carriers currently use 17 vessels to provide their shipping services—5 self-propelled containerships and 12 container barges that are pulled by tugboats (see table 1). As shown in the table, nearly all of the containerships and several of the barges used by these carriers are operating beyond their average expected useful life, which is about 30 years for a containership and about 27 years for a barge, according to Office of Management and Budget guidance.¹⁴

Containerships in this trade average 39 years old, while barges averaged 31 years, although one carrier noted that, despite their advanced age, all its Jones Act vessels operating in the trade are fully compliant with Coast Guard rules and regulations. Furthermore, these averages reflect when the vessels were first constructed, but do not account for periodic refurbishments of many of the vessels to mitigate some of the effects of age and wear on a vessel and extend the expected useful service life. While the Jones Act vessels operating between the United States and Puerto Rico are all enrolled in MARAD and DOD's VISA program, these vessels would have limited contribution to military sealift capabilities, according to DOD officials. According to DOD, the containerships—particularly lift-on/lift-off vessels—in this trade are less useful for military

¹⁴The U.S. Navy, while acknowledging that the Office of Management and Budget's guidance of 30 years, depending on certain factors, estimates an expected service life of up to 40 years for cargo vessels and a financial rating agency set the expected useful life at 40 years. See OMB Circular No. A-76—Revised Supplemental Handbook, *Performance of Commercial Activities*, (Washington, D.C.: March 1996); Department of the Navy, Naval Sea Systems Command, *Design Data Sheet: Calculation of Surface Ship Annual Energy Usage, Annual Energy Cost, and Fully Burdened Cost of Energy*, (Washington, D.C.: August 7, 2012).

purposes compared to vessels with roll-on/roll-off capability;¹⁵ and the tugs and barges in this trade are generally considered of lesser military value because of their slow speed relative to self-propelled vessels. Nonetheless, some of the vessels used for shipping between the United States and Puerto Rico have participated in past emergency responses, such as transporting goods to Haiti after the earthquake in 2010. In addition, according to DOD, whether or not the vessel is militarily useful, commercial U.S.-flag vessels provide employment to trained officers and unlicensed seamen, many of whom could be available to crew government-owned sealift vessels in times of war or national emergency.

Table 1: Information on Jones Act Carriers Shipping Containers between the United States and Puerto Rico, as of January 2013

Carrier	Percent market share (as of June 2011)	Type of vessels operated	Number of vessels used	Available weekly capacity (FEUs one way) ^a	Vessel age range in years	Number of service days per week	U.S. ports served ^b
Horizon Lines	30	Self-propelled containership (lift on/lift off)	3	2,340	38-44	3	Jacksonville, FL Elizabeth, NJ Houston, TX
Sea Star Line ^c	27	Self-propelled containership (lift on/lift off with roll on/roll off capability)	2	1,200	36-38	2	Port Everglades, FL Jacksonville, FL
Crowley	31	Barge (roll on/roll off)	8	1,820	33-42	4	Jacksonville, FL Pennsauken, NJ
Trailer Bridge	12	Barge (roll on/roll off)	4	800	14-28	2	Jacksonville, FL

Source: GAO, carriers, and publicly-available literature.

^aA forty-foot equivalent unit (FEU) is a capacity measurement used in container transportation for cargo volume that can be carried in a standard 40-foot-long container. A twenty-foot equivalent unit (TEU) is a capacity measurement used in container transportation for cargo volume that can be carried in a standard 20-foot-long container.

^bAll carriers operate to the Port of San Juan in Puerto Rico.

¹⁵On lift-on/lift-off vessels, cargo is loaded and discharged over the top of the vessel using cranes or derricks. By contrast, Roll-on/roll-off vessels are designed to transport wheeled cargo, such as trailers, containers on chassis, railroad cars, and vehicles that are loaded and unloaded using port ramps.

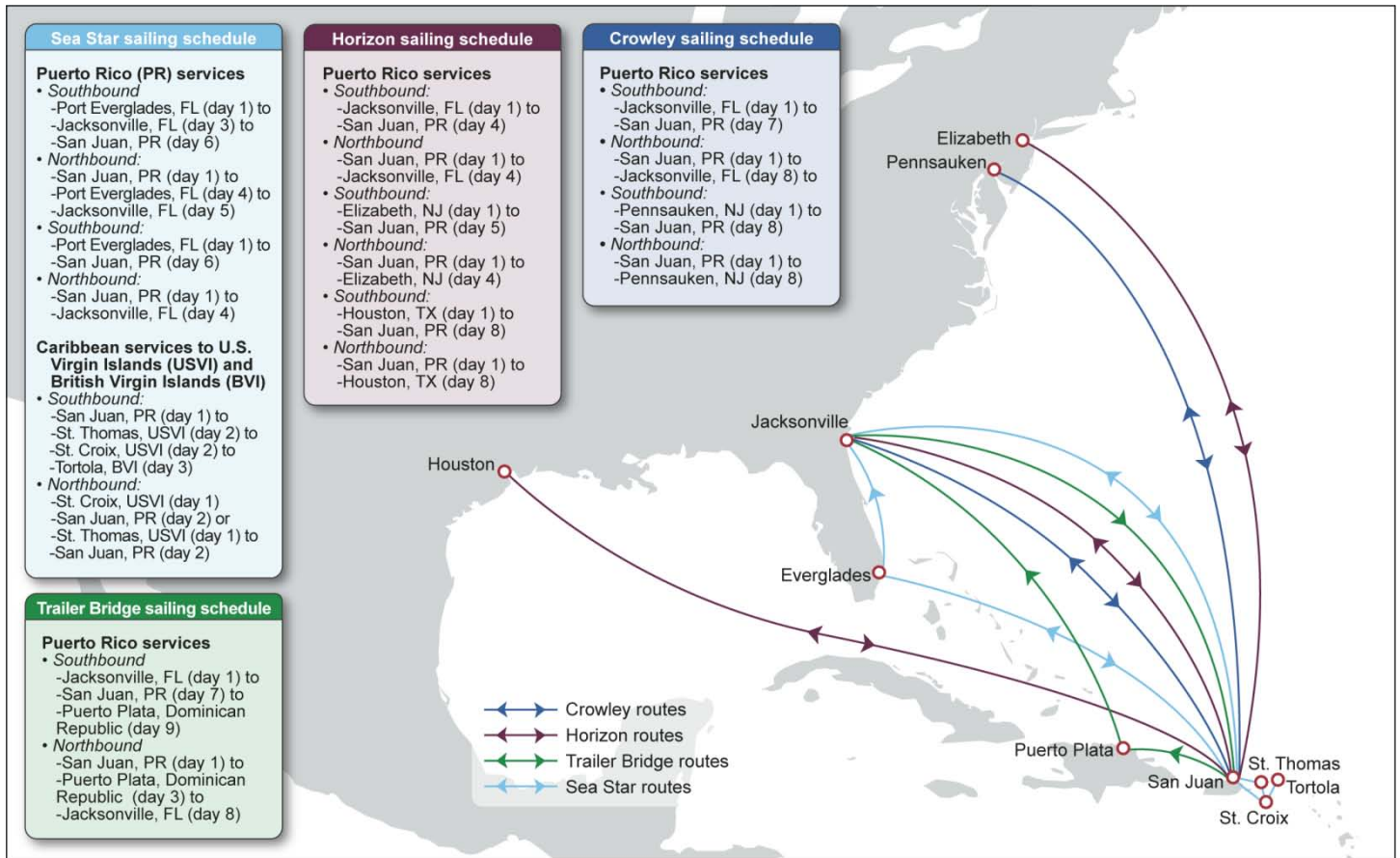
⁹In December 2012, Sea Star announced that it has contracted with General Dynamics' National Steel and Shipbuilding Company (NASSCO) shipyard for the construction of two new 3,100-TEU, containerships for the Puerto Rico service for about \$350 million, with options for three additional vessels. When completed, the 764-foot-long containerships will be primarily powered by liquefied natural gas (LNG) and will be delivered and enter service between Jacksonville, Florida, and San Juan, Puerto Rico in 2015 and 2016. See TOTE, Inc., *World's First and Largest LNG-Powered Containerships To Serve Puerto Rico* For TOTE, Inc., December 4, 2012.

The four major Jones Act carriers provide regularly scheduled, weekly service between ports in the United States and Puerto Rico. These carriers offer different types of services based on the types of ships they operate. Horizon and Sea Star offer approximately 3-day one-way service between various U.S. ports and Puerto Rico on self-propelled containerships,¹⁶ while Trailer Bridge and Crowley provide somewhat slower barge service—approximately 7 days one way.¹⁷ Some of these vessels also serve ports in the Dominican Republic and the U.S. Virgin Islands (see fig. 1).

¹⁶Horizon Lines' service between Houston, Texas, and San Juan, Puerto Rico, requires 7 days of transit one-way.

¹⁷These are ocean transit times and do not capture door-to-door time differences. Roll on/roll off barge services may save time in cargo loading, unloading, and *drayage* (i.e., moves to or from the port from the origin or destination of the shipment) relative to containerships in port.

Figure 1: Jones Act Carriers' Container Shipping Routes between the United States, Puerto Rico, and Other Caribbean Destinations



Sources: Jones Act carriers, Map Resources, and GAO.

Some carriers have tailored their service specifically for shipping between the United States and Puerto Rico. For example, while foreign-flag carriers involved in international trade use standardized 20- and 40-foot containers, some Jones Act carriers provide shippers with a range of larger container units (45-, 48-, and 53-foot). The carriers' larger container units are the same size and type of equipment currently operated within the domestic U.S. trucking and rail transportation systems; thus, shippers can use the same packing systems they use for other modes of U.S. transportation, a benefit that provides cost savings to the carriers and shippers. This also enables more efficient loading and unloading of containers and trailers, and delivery to their final destination on the island.

Jones Act Vessels Also Provide Bulk Cargo and Other Transportation Services

According to U.S. and Puerto Rico shippers we interviewed, the four carriers generally provide reliable, on-time service between the United States and Puerto Rico, allowing shippers to meet “just in time” delivery needs. In fact, many island importers’ inventory management relies on prompt and regular shipping and receipt of needed goods to stock shelves, instead of warehousing goods, a benefit that helps minimize inventory storage costs. In particular, we were told by stakeholders that warehousing is costly in Puerto Rico because of high energy costs and because the Puerto Rico government imposes inventory storage taxes on certain goods both imported into and manufactured in Puerto Rico.

The remaining maritime trade between the United States and Puerto Rico is shipped on bulk vessels. Bulk cargo—including dry bulk goods such as fertilizer, animal feed, grains, and coal, and liquid bulk goods, such as oil and gas—are imported in large volumes and are sometimes seasonal. According to MARAD officials, global bulk services are typically based on unscheduled operations, as opposed to scheduled container services. According to shippers we interviewed, these vessels are often under term charters and a limited number of qualified Jones Act vessels may be available at any given time to meet shippers’ needs. While not encompassing all dry and liquid bulk vessels qualified to provide service between the United States and Puerto Rico, shippers that we interviewed identified three Jones Act carriers—utilizing a total of six vessels—that offer bulk-shipping services between the United States and Puerto Rico (see table 2). Some of the vessels are also used to serve ports in the U.S. Virgin Islands, the Dominican Republic, and Haiti.

Table 2: Information on Select Jones Act Carriers Shipping Bulk Cargo between the United States and Puerto Rico, as of August 2012

Carrier	Type of vessels operated ^a	Number of vessels used	Vessel age range in years	U.S. ports served ^b
Crimson Shipping	Bulk barge	3	12-17	Mobile, AL Fernandina Beach, FL
Moran Towing Corp	Bulk barge (articulated tug barge)	1 ^c	30	New Orleans, LA
United Ocean Services	Bulk carrier	2	31-32	New Orleans, LA

Source: GAO, carriers and their publicly-available websites, and shippers.

^aBulk barges are pulled by tugboats; bulk carriers are self-propelled vessels. An articulated tug barge is a “hinged” connection system between the tug and barge that allows the tug to push the barge

instead of pulling it, while providing more maneuvering flexibility similar to that of a containership.

^bThese carriers may call in the Port of San Juan or in a number of smaller bulk ports around Puerto Rico.

^cOne barge is generally used for the regular service dedicated to Puerto Rico; an additional barge can be used to compensate when additional capacity or quicker turnaround service is needed.

In addition to services between the United States and Puerto Rico, the Jones Act requirements and other U.S. coastwise laws also apply to transportation of inter-island cargo, the transportation of passengers, and port towing operations, laws that restrict these services to vessels that are U.S.-owned and are qualified to engage in U.S. coastwise trade. As a result, for example, Puerto Rico has inter-island ferry services that transport cargo and passengers between Puerto Rico and its smaller islands. These services are operated by the government of Puerto Rico and generally cannot use foreign passenger vessels without a waiver.¹⁸ According to one representative from the island of Vieques, these ferries are also reaching the end of their expected useful life, and the islands of Vieques and Culebra rely on daily transport of goods by the Puerto Rico ferry system. However, according to the representative, the service generates limited revenues, making it difficult to purchase new or used U.S.-built ferries. In addition, according to representatives of the Puerto Rico Shipping Association, five tugboat companies—also subject to coastwise requirements¹⁹—provide towing and other services in the Port of San Juan, Puerto Rico.

Numerous Foreign-Flagged Vessels Operate in Puerto Rico

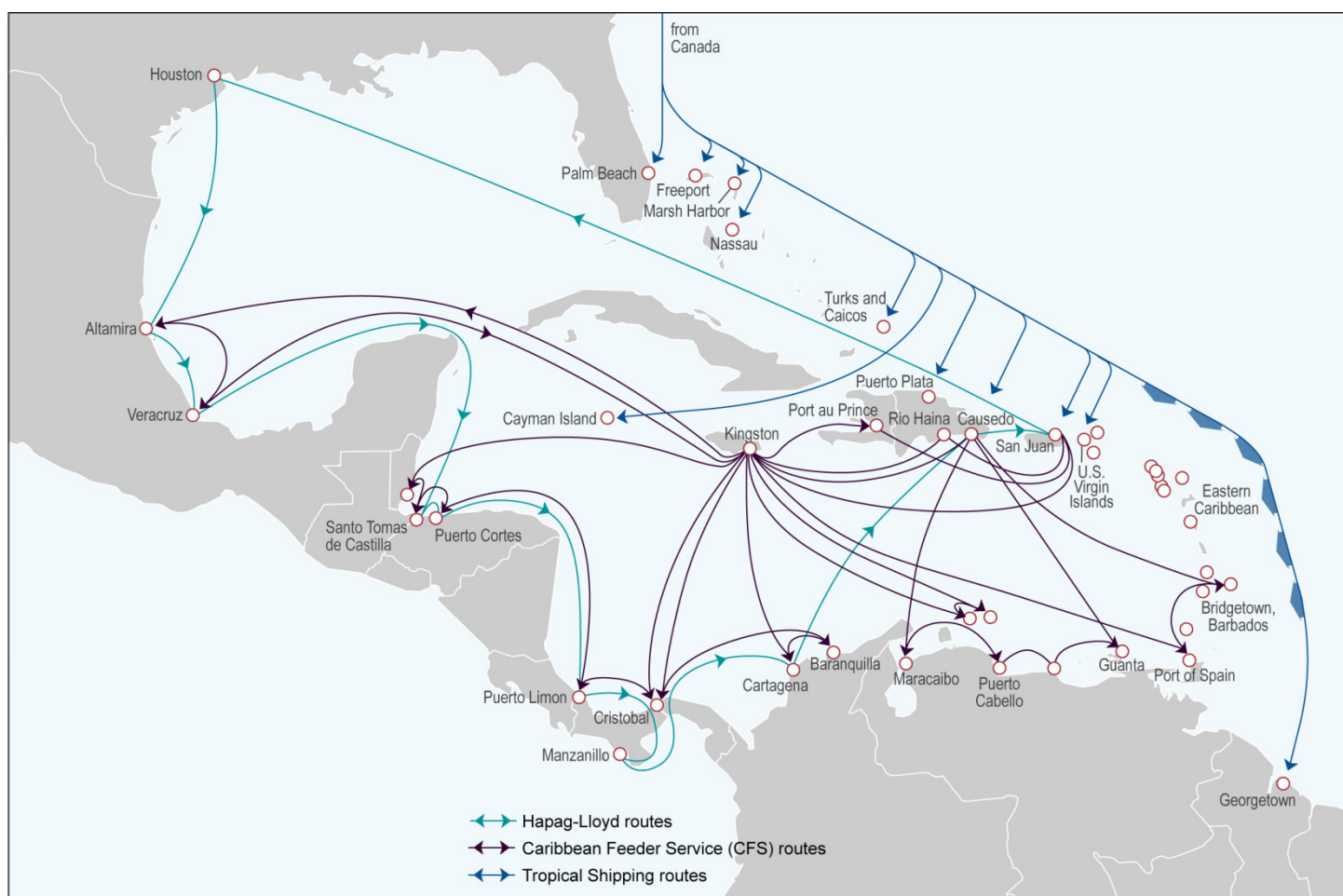
Numerous foreign carriers and foreign-flag vessels operate in Puerto Rico carrying cargo to and from foreign locations. According to data from the Puerto Rico Ports Authority, in April 2011 alone, 55 different foreign-flag cargo vessels—including tankers, containerships, and roll-on/roll-off cargo vessels, among others—loaded and unloaded cargo in the Port of San Juan, Puerto Rico. Over the entire year of 2011, 67 percent of the

¹⁸For example, under MARAD's small vessel waiver program, small passenger vessels authorized to carry no more than 12 passengers for hire are eligible for a waiver of the U.S.-build and certain other specific coastwise requirements (see 46 U.S.C. § 12121); in addition, there is a statutory exemption regarding Puerto Rico under which vessels not qualified to engage in coastwise trade (e.g., foreign vessels) may transport passengers between Puerto Rico and other ports in the U.S. until qualified U.S. vessels are available (see 46 U.S.C. § 55104).

¹⁹See, 46 U.S.C. § 55111 (towing) and § 55112 (vessel escort operations and towing assistance).

vessels that operated in the Port of San Juan were foreign-flag vessels, while 33 percent were U.S.-flag vessels. Some of the foreign carriers that serve Puerto Rico have extensive international operations—using vessels with larger capacity than the major Jones Act carriers—that stop at multiple ports along their shipping routes across the globe. Other foreign-flag carriers offer “feeder” services throughout the Caribbean from hubs in ports such as Kingston, Jamaica (see fig. 2).

Figure 2: Examples of Foreign Carriers’ Feeder Services Operating in the Caribbean



Sources: Carrier information, Map Resources, and GAO.

According to MARAD, vessels engaged in foreign trade are typically registered under “flag-of-convenience,” or open registries that have less stringent regulatory requirements than the U.S. flag registry. In 2011,

most of the foreign-flag vessels calling in the Port of San Juan, Puerto Rico were registered under the Panamanian flag, followed by the Bahamian flag, the flag of Antigua and Barbuda, and the Liberian flag. Foreign carriers can also use vessels that are built anywhere in the world, and the average age of foreign-flag vessels (around 11-12 years) is significantly less than the average age of Jones Act vessels.

Many Factors Determine Freight Rates for Maritime Transportation in Puerto Rico, While Some Factors Are Affected by Jones Act Requirements

Freight rates are set based on a host of supply and demand factors in the market, some of which are affected directly or indirectly by Jones Act requirements. However, because so many other factors besides the Jones Act affect rates, it is difficult to isolate the exact extent to which freight rates between the United States and Puerto Rico are affected by the Jones Act. The Puerto Rico trade, much like the maritime cargo trade around the world, has been affected by reduced demand overall because of the recession. Puerto Rico fell into a recession in 2006—before the onset of recession for the U.S. economy—and has had much more difficulty recovering from it, according to government sources.²⁰ Moreover, the population of the island has been decreasing in the past decade. This lower demand relative to supply (i.e. vessel capacity) is a factor that would likely be putting downward pressure on freight rates in recent years, as carriers would have more difficulty selling their existing capacity. According to the data provided by the four major Jones Act carriers, average freight rates from the United States to Puerto Rico declined about 10 percent from 2006 through 2010, while rates from Puerto Rico to the United States declined about 17 percent.

As demand decreases relative to supply, carriers will adjust their services in response.²¹ In this market for example, according to Crowley, the company reduced its service to Puerto Rico with one less barge and one

²⁰Information from the Commonwealth of Puerto Rico's Financial Information and Operating Data Report, June 8, 2012, and the Government Development Bank for Puerto Rico, Economic Activity Index, March 2006.

²¹Over the longer term, carriers may not be able to sustain services where demand is insufficient. For example, Horizon operated five foreign-built vessels under the U.S. flag to provide shipping services from the United States to Guam as part of a larger trans-pacific service that brought goods from Asia back to the United States on the return leg. However, according to a representative of the carrier, because of higher capacity vessels being deployed in the trans-pacific trade, slack demand as a result of the recession, and resulting decreases in freight rates, Horizon was unable to sustain the service and the service was discontinued in 2011.

less weekly sailing from Jacksonville in 2009, primarily in response to decreased demand. Also, more recently in July 2011, Sea Star discontinued its service from Philadelphia, Pennsylvania, because of a lack of demand. Some shippers and business representatives we spoke with were concerned with the possibility that, given the weak demand in the market, some carriers may not be able to sustain the level of services they currently provide in the Puerto Rico market.

In certain specific markets, however, demand for Jones Act transportation between Puerto Rico and the United States may be increasing. For example, according to one shipper, there may be increased demand for shipping refined petroleum and gas products. For natural gas, this appears likely because the expected increased use of this fuel for electricity generation, while in the case of refined petroleum products this may be occurring because of a closure of the refinery on St. Croix, U.S. Virgin Islands that had previously provided petroleum products to Puerto Rico. However, several shippers in these markets told us that vessels are often not available to provide service. Where the supply of ships is limited relative to demand there will be upward pressure on freight rates. Typically in such a scenario, carriers and shipowners will respond to higher rates in the short term by repositioning existing capacity to serve that market, thus bringing supply and demand into balance. However, if qualified Jones Act vessels are not available, such adjustments may not occur since existing capacity operated by foreign-flag carriers cannot enter this market. Over the longer term, the market may adjust through new shipbuilding for the Jones Act trade, as long as expectations of demand and freight rates are sufficient to support that capital investment. Recent announcements from two Jones Act carriers concerning plans to build new containerships and tankers indicate that the U.S. flag industry is responding to the emergence of new market demand.

Operating costs for carriers are another supply factor that contributes to the determination of freight rates. Most of the carriers' operating costs (about 69 percent based on carrier data for 2011) are non-vessel operating costs, including such things as terminal and port costs, among others—and are not directly affected by Jones Act requirements, and would be similarly borne by any carrier operating between the United States and Puerto Rico. Vessel operating costs (which include crew costs, insurance, maintenance and repair, and fuel costs, among others) comprise about 31 percent of the carriers' operating costs on average. Some vessel operating costs are affected by rules and regulations related to the Jones Act and operating under the U.S. flag. Most significantly, Jones Act carriers must hire predominantly U.S.-citizen crews, and

according to data provided by the major Jones Act carriers, crew costs in this trade represented an average of about 20 percent of vessel operating costs in 2011. According to MARAD, the standard of living in the United States, labor agreements negotiated with mariner unions, benefits included in overall compensation, and government manning requirements, all affect crew costs. By contrast, foreign-flag carriers operating under an open registry have flexibility to hire crews from around the world, and can therefore avoid the higher costs associated with U.S.-crews. While not specific to the carriers or the vessels operating between the United States and Puerto Rico, according to a MARAD report, the combination of these various requirements and work rules can result in overall crewing costs for U.S. flag operators that are roughly 5 times greater than crewing costs for foreign-flag carriers, on average.²² In addition, U.S.-flag vessels are subject to government safety inspections and vessels have to comply with a variety of construction, safety, and environmental regulatory requirements, which affect their costs. According to the MARAD report, the lack of government safety inspections of foreign-flag vessels operating under open registries helps provide such vessels with increased operating flexibility and lower operating costs.

According to Jones Act carriers and other stakeholders, some operating costs have been increasing. For example, fuel is one of the largest vessel operating cost for the Jones Act carriers in this market—representing an average of about 64 percent of the four major Jones Act carriers’ vessel operating costs in 2011—and fuel costs have increased substantially over the last ten years. While fuel costs are not directly affected by Jones Act requirements, older vessels burn fuel faster and less efficiently compared to newer vessels, and the age of some of the Jones Act carriers’ vessels has contributed to increasing fuel costs. However, MARAD noted that the majority of the Jones Act vessels are barges being towed by rebuilt tugboats at lower speeds than self-propelled containerships, which makes barges relatively fuel efficient compared to self-propelled vessels. Furthermore, older vessels require more maintenance and repair expenses than newer vessels. For the major carriers in the Puerto Rico market, this expense represented an average of about 4 percent of vessel

²²The report further noted that in some other countries mariners do not have to pay income tax, which adds to cost differentials for U.S.-flag operators. See MARAD, *Comparison of U.S. and Foreign-Flag Operating Costs* (Washington, D.C.: September 2011).

operating costs in 2011. While the age of these vessels is not a direct result of the Jones Act, to some extent the U.S.-built requirement and the high costs of U.S. built vessels may delay recapitalization decisions, or render such decisions infeasible. Because foreign carriers can typically use vessels that are built anywhere in the world, rather than having to use generally more expensive U.S.-built vessels, they have more flexibility to recapitalize their fleets. As mentioned, on average, foreign-flag vessels are newer, and as such will generally benefit from lower overall fuel and ongoing maintenance costs.

According to shippers and carriers, several other factors not directly related to Jones Act requirements in the Puerto Rico market contribute to how freight rates are set, including the following:

- For approximately 85 percent of the cargo moving between the United States and Puerto Rico, freight rates are set on a negotiated basis under contract.²³ Although volume discounts are not unique to this market or the global maritime shipping industry, large volume shippers have more leverage to negotiate contracts with lower rates while small volume shippers or those that require infrequent service will likely pay higher rates. Based on our interviews with shippers, the negotiated rates vary substantially for shippers based on their companies' size and regularity of use of shipping services.
- The short travel distance between the United States and Puerto Rico makes it possible for barge operators to compete with self-propelled containership operators. As we noted, barge service takes longer to transport goods than self-propelled containerships.²⁴ However, barge vessels are less expensive to operate and maintain. As such, according to data provided by the four major Jones Act container carriers, freight rates for barge service from the United States to Puerto Rico are generally lower than rates for self-propelled containerships. For shippers with goods that are less time sensitive, barges offer a less expensive option for service between the United States and Puerto Rico. However, according to some shippers we interviewed, when they periodically require faster service or service

²³For the remaining cargo, freight rates are based on the carriers' publicly filed tariffs.

²⁴However, roll on/roll off barge services may offer some time savings in cargo loading and unloading relative to the lift on/lift off operations of containerships once in port.

from ports outside Florida there are fewer competitive alternatives, since only two carriers offer such service.

- Some of the cargo imported from the United States is temperature controlled perishable goods, such as dairy, meat, and agricultural products. According to representatives of the Puerto Rico Farm Bureau, the cost and reliability of shipping perishable food items is important because the island has less than a week's supply of perishables at any given time. Some shippers reported paying substantially more for service using refrigerated containers, sometimes a few thousand dollars more per container, compared to a non-refrigerated container. Although higher prices for refrigerated cargoes are not unique to this market or the global maritime shipping industry, these and other representatives of an association for food importers perceived less competition for this particular market segment.
- According to the four major Jones Act carriers, typically, vessels are about 80 percent full for their total container capacity moving southbound from the United States to Puerto Rico, and only 20 percent full for total container capacity moving northbound from Puerto Rico to the United States. The lower demand on return legs of the routes (known as "backhaul") results in relatively lower freight rates for this traffic. According to data provided by the four carriers, average freight rates for the return leg were about 55 percent less than the average rates from the United States to Puerto Rico in 2010. Some of the shippers we spoke with said low rates for the backhaul shipping services are beneficial to their business.

Another factor that could have affected freight rates in the past was conduct by certain carriers that led to a Department of Justice antitrust investigation. The investigation found that some Jones Act carriers conspired to fix rates at least as early as May 2002 until at least April 2008. In addition, with respect to a class action lawsuit against various Jones Act carriers, in August 2011, the United States District Court for the District of Puerto Rico granted final approval of settlement agreements. The settlement terms give class action members the option of freezing the base rates—not including other charges or fees, such as fuel

surcharges—of any shipping contract that exists with three of the Jones Act carrier defendants for a period of 2 years.²⁵

Foreign Carriers Serving Puerto Rico Face Different Market Conditions and Costs than Jones Act Carriers Which Can Lead to Different Freight Rates for Similar Shipments and Affect Sourcing Decisions

Foreign carriers operate in a different market with different characteristics and, as mentioned, generally have lower vessel operating costs compared to Jones Act carriers.²⁶ As with the Jones Act market, rates for shipments between Puerto Rico and foreign countries are determined by various supply and demand factors. For example, some foreign carriers' longer trade routes allow them to spread their costs out over more containers or cargo and achieve economies of scale that are not available to Jones Act carriers providing dedicated service between the United States and Puerto Rico. In addition, while the recession has resulted in reduced demand in global shipping and put downward pressure on freight rates, because foreign carriers and shipowners operate in a global market, they may have more flexibility than Jones Act carriers to reposition vessel capacity in response to market- or product-specific fluctuations in demand.

According to representatives of several shippers we spoke with, freight rates offered by foreign carriers are often lower than Jones Act carriers for shipping the same or similar goods from more distant foreign locations. Shippers provided a number of examples of specific rate differentials, but we were unable to validate these rate differentials or estimate an average differential because we could not obtain necessary data since most cargo move under negotiated contract rates that are confidential and foreign carriers were not responsive to our requests for information. Furthermore, we were unable to determine specifics of the services being provided for the rate examples we were given (e.g., delivery times, reliability of the service, etc.), and therefore, in some instances, the rate examples may not be comparable.

Nonetheless, some companies operating in Puerto Rico told us that they may not purchase goods from U.S. sources because of higher transportation costs on Jones Act vessels compared to foreign-flag

²⁵The ongoing investigation of shipping practices of various Jones Act carriers that serve Puerto Rico has led to, among other things, the imposition of about \$46 million in criminal fines and guilty pleas in 2011 and 2012 by three of the four major Jones Act carriers.

²⁶MARAD, *Comparison of U.S. and Foreign-Flag Operating Costs*.

vessels. In some instances, they may instead purchase the same or a closely substitutable good from a foreign country. This was particularly evident in the bulk shipping market. For instance, according to representatives of the Puerto Rico Farm Bureau, the rate difference between Jones Act carriers and foreign carriers has led farmers and ranchers on the island to more often source animal feed and crop fertilizers from foreign sources than from U.S. domestic sources, even though commodity prices were stated to be similar. They provided an example that shipping feed from New Jersey by Jones Act carriers costs more per ton than shipping from Saint John, Canada, by a foreign carrier—even though Saint John is 500 miles further away. According to the representatives, this cost differential is significant enough that it has led to a shift in sourcing these goods from Canada. Other companies involved in food importing gave additional examples of corn and potatoes being sourced from foreign countries rather than the United States, which they attributed to the lower cost of foreign shipping. However, data was not available to verify the extent to which changes in sourcing occurs because of higher transportation costs on Jones Act vessels.

Sourcing decisions in the market for petroleum products may also be affected by differences in freight rates between Jones Act vessels and foreign-flag vessels and the availability of qualified Jones Act vessels. An oil and gas importer in Puerto Rico told us that the company makes purchasing decisions based on the total price of oil or gas—including any applicable duties or other charges—plus transportation costs. The company looks at total prices from numerous suppliers around the world—including U.S. suppliers—but generally does not purchase from U.S. suppliers because the total cost is higher as a result of the differential in transportation costs. Representatives noted that the company does not purchase from U.S. suppliers in some case because of a lack of available Jones Act vessels to ship the product from U.S. ports. In another example, representatives of airlines purchasing jet fuel for use in Puerto Rico told us that they typically import fuel to the island from foreign countries, such as Venezuela, rather than from Gulf Coast refineries. They do so because of difficulty in finding available Jones Act vessels to transport jet fuel and, when vessels are available, the high cost of such shipments compared to shipping the product from foreign countries. These representatives noted that jet fuel availability in certain areas of the East Coast of the United States as well as in Puerto Rico was recently adversely affected by the closures of several refineries, including the one in St. Croix, U.S. Virgin Islands.

The cost and availability of vessels can also affect future sourcing decisions. For example, the Puerto Rico Electric Power Authority (PREPA) is planning to transition its primary power generation fuel from oil to natural gas and expects its natural gas consumption to increase substantially in the future. PREPA currently purchases most of its natural gas from Trinidad and Tobago and transports it on foreign-flag vessels, but is developing plans to purchase more natural gas from U.S. suppliers beginning in 2014, because of the expected lower price of natural gas from the United States. To do so, Jones Act-qualified LNG tankers would need to be available.²⁷ However, PREPA officials voiced concerns about the availability of eligible vessels, since none currently operates between the United States and Puerto Rico. They said the cost to build and operate a new LNG tanker under Jones Act requirements could result in high shipping costs that offset the savings from purchasing natural gas from the United States. Some foreign-flag LNG vessels are eligible to apply for an exemption under statute,²⁸ but PREPA officials were concerned that these vessels may not be available because they are currently under long-term contracts. Furthermore, because many of these vessels may be 16 years old or older, officials were concerned that they may not be as efficient or have the same level of safety that newer vessels may have.

We examined trade data for various commodities mentioned by shippers to see the extent to which these goods are sourced from other countries. Some commodities showed high percentages of foreign sourcing, while others were either split more evenly or mostly sourced domestically. It is difficult to discern the effect of any one factor, such as freight rates, on the sourcing of imports, because many factors can affect a business's sourcing decision at any given time, including the availability of ships and

²⁷LNG is natural gas that has been liquefied for purposes of transport. To form, natural gas is cooled to below -260 degrees Fahrenheit to form a liquid. LNG is transported in double-hulled vessels specifically designed to handle the low temperature of LNG.

²⁸In November 2011, a statute was enacted into law to authorize the Coast Guard to issue coastwise endorsements to three specific LNG vessels. These ships are currently operating in the Northeast. In addition, in 1996, a statute was enacted into law that created an exemption for non-Jones Act eligible vessels to transport LNG to Puerto Rico if the vessel (1) is a foreign built vessel built before October 19, 1996 or (2) was documented under the U.S. flag before October 19, 1996, even if the vessel then sailed under a foreign flag before being reflagged under the U.S. flag. According to MARAD and the White House's Domestic Policy Council, 37 such vessels exist—13 were built by U.S. shipyards and 24 were built in foreign shipyards.

the price of the goods. In any case, to the extent that the lack of available vessels may be causing shippers to seek foreign sources for some products, this lack of availability may signal the need for new Jones Act vessels to enter this trade. However, if carriers do not believe that the rates they will be able to charge in the future would be sufficient to support such investments, new vessels might not enter the trade and the products may continue to be sourced from non-U.S. sources. Recent announcements from two Jones Act carriers concerning plans to build new vessels indicate the willingness of the U.S. flag industry to respond to market demand.

Many Factors Influence Prices of Goods in Puerto Rico and the Impact of Transportation Costs Likely Varies by Type of Good

The prices of goods sold in Puerto Rico are determined by a host of supply and demand factors, similar to freight rates, and therefore, the impact of any costs to ship between the United States and Puerto Rico on the average prices of goods in Puerto Rico is difficult, if not impossible, to determine with precision.²⁹ On the demand side, key factors include the state of the economy and associated level of income of consumers, the tastes of potential consumers for various goods, and the extent to which consumers have ready substitutes (of other goods or the same good from elsewhere) available to meet their needs. For example, if consumers have ready substitutes available to them, it may be more difficult for retailers to pass on transportation costs in prices. On the supply side, a host of cost factors is also important, transportation costs among them. Some shippers we interviewed told us that transportation costs to Puerto Rico from the United States represent a minimal portion of the costs of goods they sell in Puerto Rico, while other shippers stated that these costs were more significant. These differences in the impact of transportation costs appear to vary depending on the nature of the shipper, and the shipping requirements of the goods. In particular, we were told that prices for some goods that require fast delivery or refrigerated containers—particularly food products subject to spoilage—may be more affected by transportation costs, because transportation costs represent a higher proportion of the total cost of the goods. We were also told that other cost factors that may influence pricing are somewhat unique to Puerto Rico. Some shippers noted that doing business on the island is expensive relative to costs for similar

²⁹Because of the complexities in how product prices are set, and because sufficient data on freight rate differentials and product prices are not available, we did not attempt to estimate the impact of any freight rate differentials on product prices in Puerto Rico.

businesses in the United States. In particular, some shippers stated that storage and distribution in Puerto Rico can be more costly than in the United States and are factors in the prices at which goods sell.

Some shippers told us that their decisions on pricing are influenced by the extent of competition in Puerto Rico for the goods they provide. For example, according to a major U.S. company doing business in Puerto Rico, its pricing strategy is dependent on the pricing of the local competitors on the island. Company representatives explained that their prices may or may not be similar in Puerto Rico compared to U.S. mainland stores, but that those prices are not driven by shipping costs. Further, for some larger chain stores, pricing decisions are made at a corporate level so that prices for goods often do not differ considerably from location to location, despite variances in transportation costs. For example, according to a major U.S. chain store operating in Puerto Rico, its merchants often want to be able to offer a consistent every day price in its stores. Thus, the company decides, in some cases, to price some goods in Puerto Rico the same as in U.S. stores at potentially reduced profitability for those goods sold in Puerto Rico.

Modifying the Jones Act in Puerto Rico Would Have Uncertain Effects and May Result in Difficult Trade-offs

Potential Effects and Trade-offs of a Full Exemption

Many of the shippers and other stakeholders we interviewed expressed the view that allowing foreign carriers to enter this trade would create a more competitive marketplace with lower freight rates, which could in turn, affect shippers' business decisions and product prices. For example, shippers told us that lower freight rates between the United States and Puerto Rico could result in shippers choosing to source more goods from the United States as opposed to foreign countries, and that lower rates could lead to lower prices for products sold to consumers in Puerto Rico. We were also told that a broader array of providers available in the international market would help to ensure that specific services and vessels are always available to meet shippers' needs.

However, the effect on competition and freight rates from allowing foreign carriers to enter this trade is uncertain and depends on a variety of factors. Foreign carriers operating in the U.S. coastwise trade could be required to comply with other U.S. laws and regulations, even if Puerto Rico were exempted from the Jones Act, which could increase foreign carriers' costs and may affect the rates they could charge. We reported in 1998³⁰ and continue to find that arriving at an accurate estimate of the costs to foreign carriers of complying with U.S. laws would be very difficult, in part, because the estimate would depend heavily on which laws are considered applicable and on how they are applied.³¹ Federal agency stakeholders we talked with generally indicated that they were reluctant to speculate on the extent to which U.S. laws might be applicable to such foreign carriers in the absence of Jones Act requirements. However, we reported in 1998 that, in particular, additional taxes and labor costs might be incurred. Some stakeholders contend, albeit speculatively, that if these costs were estimated and included, any rate advantage foreign carriers may have over Jones Act carriers would be lessened. For example, income generated by foreign corporations operating foreign-flagged vessels in the domestic trade could be subject to U.S. taxation,³² depending on the circumstances. In addition, if foreign-flagged vessels were to spend most of their time in U.S. waters—as they might if they were to provide dedicated service between the United States and Puerto Rico—it would be necessary to obtain for any foreign crewmembers an immigration status that permits them to engage in

³⁰GAO, *Maritime Issues: Assessment of the International Trade Commission's 1995 Analysis of the Economic Impact of the Jones Act*, [GAO/RCED-98-96R](#) (Washington, D.C., Mar. 6 1998).

³¹As we reported in 1998, if the Jones Act was repealed and the Congress were not to amend other statutes to take repeal into account, the administrative agencies and the courts would be left to interpret the existing laws. The applicability of the laws may depend on the extent to which foreign vessels operated in U.S. domestic commerce. Intermittent or infrequent contacts might make the laws inapplicable. See [GAO/RCED-98-96R](#).

³²The Internal Revenue Code has special rules for "transportation income." If the transportation income is attributable to transportation that begins *and* ends in the United States, it is treated as income derived from sources in the United States. If it begins *or* ends in the United States, 50 percent of the transportation income is treated as income derived from sources in the United States. The Internal Revenue Code also excludes from the gross income of foreign corporations income derived from the international operation of vessels if their home countries grant an equivalent exemption from paying taxes to U.S. corporations.

employment in the United States, requirements that could increase costs.³³

Regardless of the legal questions above, entry by foreign carriers could have a number of other consequences. Although complying with U.S. laws could lessen any cost advantage to foreign carriers, current Jones Act carriers could still be operating at a cost disadvantage. Economic theory would suggest that entry into a market by lower-cost providers would likely alter the market dynamics in a way that higher-cost producers may have difficulty continuing to compete in the market. To the extent that foreign carriers can use cost advantages to charge lower rates and take market share from the existing carriers, such entry could lead to lost service by Jones Act carriers, their exit from the market, or consolidation among carriers serving the market. Current Jones Act carriers might also opt to provide service under a foreign flag to avoid costs associated with the U.S. flag. According to MARAD officials, unrestricted competition with foreign-flag operators in the Puerto Rico trade would almost certainly lead to the disappearance of most U.S.-flag vessels in this trade. MARAD officials noted that U.S. carriers currently do not typically compete with foreign-flag carriers in other Caribbean markets under the U.S. flag. Where U.S. carriers do compete with foreign-flag carriers, they typically operate non-U.S.-flag vessels, suggesting that U.S.-flag vessels may not be able to successfully compete against foreign-flag vessels if Jones Act restrictions were lifted for Puerto Rico.

To the extent that the number of carriers operating under the U.S. flag decreases under this scenario, expectations for future orders for new vessels built in U.S. shipyards could be reduced or eliminated—which is discussed in more detail later in this report—and the number of U.S. mariners could likewise decrease. According to MARAD, up to 1,400 mariners were crewed full-time on Jones Act vessels in Puerto Rico in 2011, including on offshore service vessels, harbor tugs, ferries, and

³³ Aliens admitted as D nonimmigrant crewmembers may not be employed in connection with the domestic movement of vessels or aircraft in the United States. 8 C.F.R. § 214.2(d)(1). Thus, they may not be employed in connection with the transportation of goods between one U.S. port and another. An alien crewmember who is allowed to leave the vessel on the basis of a D nonimmigrant visa must leave the United States on the same vessel or, with permission, on another vessel, and may not remain ashore more than 29 days. 8 C.F.R. § 252.1(d). If a crewmember is not permitted to go ashore, the master or agent of the vessel or aircraft must keep the crewmember aboard at all times while the vessel or aircraft is in the United States. 8 C.F.R. § 252.1(a).

barge services in addition to the vessels we identified earlier (see tables 1 and 2). A decline in the number of U.S.-flag vessels would result in the loss of jobs that employ skilled mariners needed to crew the U.S. military reserve and other deep-sea vessels in times of emergency. Furthermore, according to MARAD, the loss of U.S.-flag service would reduce their ability to ensure that marine transportation serves the Puerto Rico economy.

The nature of the service provided between Puerto Rico and the United States could also be affected by a full exemption from the Jones Act. In particular, foreign carriers that currently serve Puerto Rico as part of a multiple-stop trade route would likely continue this model to accommodate other shipping routes to and from other Caribbean destinations or world markets rather than provide dedicated service between the United States and Puerto Rico, as the current Jones Act carriers provide. If this were to occur, some stakeholders expressed concerns about the effect that such an altered shipping service would have on the reliability of service to and from the United States. For example, longer multi-port trade routes make it difficult to ensure that scheduled service will be consistently reliable, because carriers are more likely to experience weather delays or delays at ports, and could even intentionally bypass ports on occasion to make up lost travel time. According to some shippers, reduced reliability of service could result in shippers needing to keep larger inventories of products, and could thus increase warehousing and inventory-related costs for companies in Puerto Rico. As we described previously, importers' inventory management relies on prompt and regular shipping and receipt of needed goods to stock shelves, which is less costly than warehousing goods on the island. Additionally, some stakeholders expressed concern about the possible loss of convenient and inexpensive backhaul service. If, under new market conditions, carriers choose not to provide dedicated service, then backhaul services from Puerto Rico to the United States would also be part of longer multi-port trade routes and may not be direct from Puerto Rico to the United States. Because of limited volumes in this market, the result could be sporadic service or higher rates.

Potential Effects and Trade-offs of an Exemption to the U.S.-Build Requirement

Rather than allowing foreign carriers to provide service between the United States and Puerto Rico, a different modification advocated by some stakeholders would be to allow vessels engaged in trade between the United States and Puerto Rico to be eligible for an exemption from the U.S.-build requirement of the Jones Act. This would allow U.S.-flag carriers to purchase or use foreign-built vessels for shipping between the

United States and Puerto Rico.³⁴ According to industry stakeholders we interviewed, foreign-built barges can be priced about 20 percent less than U.S.-built barges,³⁵ and foreign-built containerships can be priced 50 percent less than similar U.S.-built containerships.³⁶

According to proponents of this change, the availability of lower cost vessels could encourage existing carriers to recapitalize their aging fleets. As previously mentioned, many of the Jones Act vessels in this trade are operating beyond the end of their expected useful life, and according to some stakeholders, the high cost of building new U.S. vessels, as well as decreased demand in the market, may result in carriers deferring recapitalization decisions. Proponents also point out that newer, more efficient vessels generally have lower operating costs than vessels currently operating in the trade and thus may reduce operating costs for carriers. In addition, according to proponents, the availability of lower cost vessels would encourage additional competition, particularly in those sectors where demand may be increasing and available vessels are lacking, such as in bulk cargo shipping.

Regardless of whether vessels are U.S.-built or foreign-built, the costs of any new vessels will need to be recouped over the life of the vessel through freight rates. Should carriers decide to move forward with recapitalizing their fleets, they will need to decide if expected freight rates over many years are sufficient to support the purchase of new vessels.³⁷ The vessels currently involved in the trade, because they have largely been paid for and depreciated, have negligible ongoing capital costs. Purchasing new vessels will result in higher ongoing capital costs for

³⁴In this scenario, according to DHS, foreign-built vessels operated by U.S.-flag carriers would be required to be documented with a registry endorsement pursuant to 46 U.S.C. § 12111.

³⁵According to one shipbuilder, this cost differential may be largely eliminated when factoring in delivery costs of moving a barge from shipyards in Asia to the United States.

³⁶To some extent, current prices for foreign vessels could be unusually low because of a global slowdown in the shipbuilding markets, which has led to considerably reduced prices, according to industry publications and reports.

³⁷Among the key factors, beyond the purchase price, that affect whether a carrier will be able to recover its capital investment in a newly built vessel, given expected freight rates, are 1) the expected useful life of the vessel, and 2) the rate of interest applicable on the funds used to finance the purchase of the vessel. A longer expected life for a vessel, and a lower interest rate would tend to lower the annual capital cost of a new vessel.

carriers, although these higher capital costs will be offset to some extent by reduced fuel, and vessel maintenance and repair costs. Given the current economic conditions in Puerto Rico and decreases in overall demand, it could be challenging for some carriers to invest in new vessels. The higher cost of U.S.-built vessels relative to foreign-built vessels—particularly containerships—exacerbates that challenge. However, one carrier recently placed an order for two new U.S.-built vessels for the Puerto Rico trade and another Jones Act carrier recently purchased two new tankers for use in the Gulf of Mexico, indicating that—despite the poor economic conditions currently—the higher cost of U.S.-built vessels is not a barrier in their case. Nonetheless, allowing carriers to purchase or charter new or existing foreign-built vessels would presumably reduce the expense of recapitalizing the fleet, and make it more likely that carriers would choose to invest in newer vessels because they will be able to recoup that investment.

Foreign shipyards can build vessels for less than U.S. shipyards for several reasons. For example, foreign shipyards—particularly large yards in China, Japan, and South Korea—enjoy considerable economies of scale because of long production runs of relatively standard vessel designs. Long production runs reduce labor costs per unit, as workers become more efficient because they repeat their job frequently due to the high volume of vessels being built, and support a strong industrial base of parts and material suppliers. U.S. shipyards typically build customized vessels, according to customer design specifications, which might only be used to build one or a few vessels.³⁸ Specifically, for self-propelled vessels such as containerships, which are manufactured in small volumes in the United States, U.S. shipyards often cannot take advantage of the efficiencies of scale afforded by large-series production and common design orders. According to one shipyard we interviewed, when they do have longer production runs, U.S. shipyards—like foreign shipyards—are able to develop efficiencies of scale and reduce costs. Some foreign shipyards also tend to be more operationally and cost efficient with the production steps of building a vessel and the amount of labor associated with those steps, according to representatives from one U.S. shipyard

³⁸If the Jones Act carriers in this trade were permitted to use foreign-built vessels, any order from a Jones Act carrier is likely to be for a small number of vessels given the current fleet size and market; if these vessels are not part of a larger production run of vessels, the foreign shipyard may not be able to reach the higher production volumes that contribute to lower prices.

where we interviewed. However, because some U.S. shipyards are subsidiaries of, or partners with foreign shipyards, many of these types of efficient production processes—such as streamlined workflow and sequencing, and consistent workforce collaboration—are being adopted in these U.S. shipyards. Other factors such as lower wages in foreign shipyards and a variety of construction, safety, and environmental regulatory standards that exist in U.S. shipyards—such as required shipyard safety measures when using certain paints such as those containing lead—can also reduce costs for foreign shipyards compared to U.S. shipyards.

Because of these price differentials, eliminating the U.S.-build requirement and allowing Jones Act carriers to deploy foreign-built vessels to serve Puerto Rico could reduce or eliminate U.S. shipyards' expectations for future orders from this market and could have serious implications for the recent order for two U.S.-built ships for this market from one of the Jones Act carriers. According to MARAD and DOD officials, and representatives of U.S. shipyards, orders for commercial vessels have become significantly more important to retaining the industrial shipbuilding base because military and other non-commercial vessel orders have declined. Although the number of vessels that could likely be replaced is small, it would equate to a substantial order for U.S. shipbuilders that could help sustain their operations, as well as help them to retain a skilled workforce and supplier base. Absent new orders, that workforce could be put at risk.

Shipyards and other supporters of the Jones Act also raise concerns that allowing an exemption to Puerto Rico would open the possibilities of allowing an exemption for all noncontiguous markets subject to the Jones Act, such as Hawaii and Alaska, as well as coastal markets, a situation that could result in more significant effects on shipyards and the shipyard industrial base needed by DOD. According to DOD officials, to the extent that Jones Act markets are unable to sustain a viable reserve fleet, DOD would have to incur substantial additional costs to maintain and recapitalize a reserve fleet of its own.

Concluding Observations

The Jones Act was enacted nearly a century ago to help promote a viable maritime and shipbuilding industry that would, among other things, provide transportation for the nation's maritime commerce and be available to serve the nation in times of war and national emergency. The possible effects of the Act on Puerto Rico as well as U.S. businesses are manyfold. The Act may result in higher freight rates—particularly for

certain goods—than would be the case if service by foreign carriers were allowed. Nevertheless, at the same time, the law has helped to ensure reliable, regular service between the United States and Puerto Rico—service that is important to the Puerto Rican economy. Because of freight rate differentials or the lack of availability of Jones Act vessels for certain products, the Act may cause businesses in Puerto Rico to import goods from foreign locations when the same goods are readily available from U.S. providers. However, it is not possible to measure the extent to which rates in this trade are higher than they otherwise would be because the extent to which rules and regulations that would apply to international carriers' vessels that may serve this trade are not known, and so many factors influence freight rates and product prices that the independent effect and associated economic costs of the Jones Act cannot be determined. Finally, the original goal of the Act remains important to military preparedness and to the shipbuilding and maritime industries, but understanding the full extent and distribution of the costs that underlie these benefits is elusive. This circumstance results in a question as to whether the status quo presents the most cost effective way to achieve the goals expressed in the Jones Act. Ultimately, addressing these issues would require policymakers to balance complex policy trade-offs with the recognition that precise, verifiable estimates of the effects of the Act, or its modification, are not available.

Agency and Third-Party Comments

We provided a draft of this report to the departments of Commerce, Defense, Homeland Security, Justice, and Transportation for review and comment. Commerce, Defense, and Justice had no comments. Homeland Security and DOT provided technical clarifications, which we incorporated, as appropriate. DOT also generally agreed with the information presented in the report, but noted that many of the issues related to the Jones Act are both complex and multifaceted. In particular, DOT noted that while the report highlights issues that could affect the number of new vessels added to the Jones Act trade, carriers have recently purchased or announced plans to purchase new U.S.-built ships for the petroleum and container trades. DOT further noted that consideration of a ship's age, cost, efficiency, and their effect on the Jones Act trade is influenced by numerous factors such as the types of ships involved, their condition, and the way in which they are maintained and operated. In addition, to verify information, we sent relevant sections of the draft report to various shippers and stakeholders, the Shipbuilders Council of America, and the four major Jones Act carriers, which also provided technical comments that we incorporated, as appropriate.

As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies of this report to other interested congressional committees and members; the Secretary of Commerce; the Secretary of Defense; the Secretary of Homeland Security; the U.S. Attorney General; the Secretary of Transportation; the Chairman of the Surface Transportation Board; the Chairman of the Federal Maritime Commission; the Director, Office of Management and Budget; and others. The report is also available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-2834 or by e-mail at stjamesl@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix III.



Lorelei St. James
Director, Physical Infrastructure Issues

Appendix I: Scope and Methodology

To address the two objectives, we reviewed relevant literature related to maritime shipping between the United States and Puerto Rico, and Puerto Rico and other foreign locations based on search results from databases, such as ProQuest®, as well as trade publications, industry stakeholder groups, and the Internet. We also reviewed and synthesized published reports from government sources that discussed and analyzed effects of the Jones Act,¹ including reports from GAO, U.S. International Trade Commission, Maritime Administration (MARAD), Customs and Border Protection (CBP), Congressional Research Service, Congressional Budget Office, U.S. Department of Energy, and Federal Reserve Bank. We also reviewed literature that described the nature and economics associated with global shipping markets. Furthermore, we synthesized information on the legal framework that governs U.S. domestic cargo shipping between U.S. and Puerto Rico and other domestic noncontiguous markets. This synthesis included information on the Jones Act, its requirements and pertinent legislative history, and other related laws and regulations. We also reviewed federal agency documentation of CBP and the Coast Guard responsible for enforcing and administering Jones Act provisions, U.S. vessel documentation laws and requirements, and the process for granting administrative waivers for Jones Act requirements.

We collected and analyzed data relevant to these markets and gathered the perspectives and experiences of numerous public and private sector stakeholders through interviews and written responses. We gathered information from the four major Jones Act carriers—Crowley Maritime Corporation; Horizon Lines, Inc.; Sea Star Line; and Trailer Bridge, Inc.—and Moran Towing Corporation about their business operations in providing shipping services between the United States and Puerto Rico, including information about the vessels used, the ports served, the routes operated, the frequency of service, and rates charged for shipping. We analyzed information on capital and operating costs for the four major carriers to understand how aspects of the Jones Act impact their costs of doing business. We interviewed representatives of these companies with respect to the economics of the market, differences between their services and services provided by foreign carriers, and implications associated with certain potential changes to the Jones Act. Nine of the

¹Section 27 of the Merchant Marine Act of 1920, Pub. L. No. 66-261, 41 Stat. 988, 999 (1920) (codified as amended at 46 U.S.C. § 55102).

ten foreign carriers we contacted declined to be interviewed, although representatives from two foreign carriers participated in a larger meeting of stakeholders held in Puerto Rico. As a result, we were not able to gather detailed cost or rate information from foreign carriers that make port calls in Puerto Rico.

We interviewed numerous U.S. industry associations, and a selection of companies in the United States and Puerto Rico that purchase shipping services from Jones Act and foreign carriers, to obtain a range of different perspectives on these shipping markets, the impacts of those markets on their operations, and to understand different perspectives on the implications associated with changes to the Jones Act. We interviewed representatives of the American Maritime Partnership, American Maritime Congress, and Chamber of Shipping of America. We interviewed representatives of 10 U.S. and 6 Puerto Rico companies that ship products between the United States and Puerto Rico that included a range of major business areas, such as pharmaceutical, biotechnology, personal and household consumer products, food and beverage products, and large retail industries. We obtained information and discussed their perspectives on the nature of the maritime trade markets in Puerto Rico and the Caribbean Basin, the reliability of shipping service, volume and products being shipped, how they determine product prices and how shipping costs may or may not affect those prices, and how the Jones Act may affect these markets.

We selected the U.S. companies within the major business areas by assembling a list from Internet searches and from a customer list provided by one Jones Act carrier that purchases shipping services in the Puerto Rico trade. We divided the list into five industry categories and randomly selected six in each category for a total of 30 companies to contact. We conducted semistructured telephone interviews with the 10 companies that agreed to talk to us. We selected the Puerto Rico companies by requesting representatives of six of the Puerto Rico trade associations we met with while visiting Puerto Rico to provide a diverse list of about 20 businesses based on their unique knowledge of their members and those they considered generally representative of the different business sectors within their association's membership base. We requested that the list included a size range of large, medium, and small companies in terms of the number of monthly shipments imported or exported. We received a list of 20 companies from three of the six associations. In consultation with a GAO design methodologist, we randomly selected 15 companies, five within each list, to contact. We conducted semistructured telephone interviews with the 6 Puerto Rico

companies that agreed to talk to us. Because we selected a nonprobability sample of the companies to interview, the information we obtained from these interviews cannot be generalized to all U.S. and Puerto Rico companies (shippers) that purchase shipping services from Jones Act carriers between the United States and Puerto Rico.

We also interviewed representatives from five shipyards in the United States to understand their capabilities to build vessels for the Puerto Rico trade, how the Jones Act affects their operations, and differences in costs associated with shipbuilding in the United States and shipyards abroad. We selected the shipyards based on size of operations, type of vessels built, and recommendations from the representatives of the Shipbuilders Council of America. They included Bay Shipbuilding Co., Gladding-Hearn Shipbuilding, Kvichak Marine Industries, National Steel and Shipbuilding Company (NASSCO), and VT Halter Marine shipyards. We also visited the NASSCO shipyard in San Diego, California, to meet with representatives. Furthermore, we interviewed representatives from General Dynamics' American Overseas Marine to discuss the market and availability of LNG tankers for transporting LNG cargo from the United States to Puerto Rico currently and in the future. Because we selected these shipyards as part of a nonprobability sample, our findings cannot be generalized to all U.S. shipyards.

We also visited Puerto Rico to meet with a range of stakeholders to obtain information and perspectives on the range of views regarding how the Jones Act affects Puerto Rico, the shipping market, and the broader economy. We met with government officials from CBP responsible for San Juan and Ponce entry ports, Government Development Bank, Puerto Rico Electric Power Authority, Department of Economic Development and Commerce, Puerto Rico Port Authority, the City of Ponce (along with officials associated with the former Port of the Americas Authority), as well as economists in Puerto Rico who have analyzed the Jones Act in relation to Puerto Rico's economy, to understand their perspectives on these issues. We also met with representatives of nine trade associations: the Puerto Rico Shipping Association, the Puerto Rico Manufacturers Association, the Puerto Rico Chamber of Commerce, the Puerto Rico Pharmaceutical Industry Association, the Puerto Rico Products Association, the Puerto Rico Chamber of Food Marketing, Industry & Distribution, the Puerto Rico Farm Bureau, the Puerto Rico United Retailers Association, and the Gasoline Retailers Association. Because we selected various stakeholders as part of a nonprobability sample, our findings cannot be generalized to all Puerto Rico stakeholders.

We collected data and information and discussed the Puerto Rico market and implications of changes to the Jones Act with officials from MARAD and several other federal government agencies. For example, we discussed the process for documenting Jones Act vessels with the U.S. Coast Guard; how tax laws may apply given changes to the act with the Internal Revenue Service; and information about federal antitrust actions taken in connection with an ongoing investigation, by the Department of Justice, of price fixing in the shipping market between the United States and Puerto Rico.² We collected data on waterborne commerce between the United States and Puerto Rico, and between Puerto Rico and the rest of the world, from the U.S. Census Bureau. We reviewed related documentation and interviewed knowledgeable agency officials about the data and determined the data to be sufficiently reliable for our reporting purposes. We discussed the process for granting waivers to the Jones Act with Department of Homeland Security (DHS) and CBP officials, and discussed administration and enforcement of the Jones Act and implications of changes to the act with CBP officials in Puerto Rico. We interviewed officials from the Department of Defense (DOD) to understand how the Jones Act supports its strategic and mission objectives, and to understand the agency's perspectives on the implications of making changes to the Jones Act specifically with respect to Puerto Rico and more broadly.

Undertaking an analysis to measure the economic impact of the Jones Act on Puerto Rico requires a credible estimate of the differences in freight rates between Jones Act carriers and prospective international carriers that could serve this market. We did not attempt to develop a model to provide such estimates because the necessary data on routes, carriers, vessels, shippers, cargo, and rates, were not available to us.³ If we had been able to obtain all the necessary data, we could have

²An ongoing investigation by the Department of Justice's Antitrust Division has led to, among other things, guilty pleas in 2011 and 2012 by three of the four Jones Act carriers that serve Puerto Rico. In general, the three carriers each separately pled guilty to conspiracy to suppress and eliminate competition by agreeing to fix rates and surcharges for certain water freight transportation services between the continental United States and Puerto Rico. In addition, to date, the three shipping companies have been sentenced to pay about \$46 million in criminal fines and six executives have been sentenced to serve prison time totaling more than 11 years.

³Necessary data, particularly for foreign carriers, are not publicly available, and would be considered proprietary. Foreign carriers are under no obligation to provide data to us and were not responsive to our requests for information.

conducted an analysis that would attempt to reveal whether and to what extent freight rates are higher on Jones Act routes to Puerto Rico compared to similar service in the international shipping market. We would have also been able to hold constant other key factors that would influence rates such as distance travelled, size and age of vessel, and characteristics of shippers and cargo. However, a further step in this analysis would require a series of assumptions about the extent to which U.S. laws would be applicable to foreign carriers providing service between the United States and Puerto Rico. These assumptions would allow us to better gauge whether foreign carriers entering this trade would have higher costs than they currently do in providing their international services. Federal stakeholders we talked with indicated that they were, in general, reluctant to speculate on the extent to which U.S. laws might be applicable to such foreign carriers in the absence of Jones Act requirements. Ultimately, even if the necessary data for these analyses were available and even if we could develop alternative scenarios about how international carriers' costs might be affected by the application of U.S. law, it would still remain uncertain how those costs would be manifested in freight rates. Finally, there are also many uncertainties about how any change in freight rates would affect the Puerto Rico economy—and in particular how they would affect product prices—under varied circumstances.

We conducted this performance audit from October 2011 through February 2013 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: Federal Agency Roles in Relation to the Jones Act

The Maritime Administration's (MARAD) mission is to promote the maintenance of an adequate, well-balanced U.S. merchant marine to ensure that the United States maintains adequate shipbuilding and repair services, efficient ports, and a pool of merchant marines for both domestic commerce and national defense. In support of that mission, MARAD administers (1) the Federal Ship Financing Program that guarantees private loans to commercial shipowners and shipyards for ship and shipyard building and modernization, (2) the Small Shipyards Grant Program that funds capital and related improvements for qualified small shipyard facilities, (3) the Capital Construction Fund Program that assists owners and operators of U.S.-flag vessels to help modernize and expand the U.S. merchant marine through construction, reconstruction, or acquisition of vessels, and (4) the Construction Reserve Fund that provides financial assistance as tax deferral benefits to eligible U.S.-flag operators whereby gains attributable to the sale or loss of a vessel may be deferred as long as the proceeds are used to expand or modernize the U.S. merchant fleet.

Within the DHS, the U.S. Coast Guard is responsible for administering and enforcing documentation requirements for U.S.-flag registry (e.g., determining whether vessels meet U.S.-ownership and build requirements), and CBP is responsible for enforcing and administering laws and regulations pertaining to the coastwise trade, including the Jones Act. The Surface Transportation Board (STB) has regulatory oversight of certain domestic shipping-freight rates, including noncontiguous ocean shipping freight rate matters, and Jones Act carriers are required to file tariff rates with STB as well as terms and conditions of contracts they execute with shippers.¹ Foreign maritime carriers operating in the United States come under the jurisdiction of the Federal Maritime Commission (FMC), which exercises regulatory oversight of foreign trade, and requires common carriers involved in foreign-U.S. trade to file tariffs and service agreements. Section 7 of the Shipping Act of 1984, as

¹Carriers providing transportation or service in noncontiguous domestic trade, such as Jones Act carriers, are required by statute and associated regulations to file tariffs showing their rates and service terms and joint rates that they establish with other carriers including motor carriers, water carriers, and freight forwarders. STB has the authority to determine the "reasonableness" of a rate for a movement by or with a water carrier in noncontiguous domestic trade, among other things. A complaint can be filed with STB that a rate, classification, rule, or practice in noncontiguous domestic trade violates the requirements related to transportation or service provided by a carrier subject to this jurisdiction. See 49 U.S.C. Chapter 137.

amended, exempts agreements between foreign common carriers from U.S. antitrust law so long as the carriers file with FMC, and allows foreign carriers to discuss and set rates and service terms and conditions.²

In general, with respect to navigation and vessel inspection laws, such as the Jones Act, statutorily authorized administrative waivers may occur in the interest of national defense. More specifically, such waivers are to occur upon request of the Secretary of Defense whereby the head of the agency responsible for the administration of the particular navigation or inspection laws at issue is required by statute to waive compliance with those laws to the extent the Secretary of Defense considers necessary in the interest of national defense.³ National defense waivers may also occur where the head of the agency responsible for the administration of such navigation or vessel inspection laws, (i.e., DHS), considers it necessary in the interest of national defense to waive such compliance, following a determination by the Maritime Administrator on the non-availability of qualified U.S.-flag capacity to meet national defense requirements.⁴ In November 2012, for example, following the effects of Hurricane Sandy, the Secretary of Homeland Security issued a temporary waiver of the Jones Act to allow non-Jones Act oil tankers to transport oil from U.S. ports in the Gulf of Mexico to Northeastern ports to provide additional fuel resources to the region. This waiver provided, in part, that the lost production, refining, and transportation capacity had resulted in the imminent unavailability of petroleum products, including gasoline, and threatened the nation's economic and national security.

In addition to administrative waivers, special legislation has been enacted which permits the Coast Guard to issue limited coastwise endorsements to specific vessels, or for specific purposes, and some for limited periods of time, that allows specific vessels to engage in coastwise transportation. For example, the America's Cup Act of 2011 authorized the issuance of coastwise endorsements for three specified vessels as well as for three

²See Pub. L. No. 98-237, 98 Stat. 73 (codified at 46 U.S.C. § 40307). Under this exemption, antitrust immunity is not, however, extended to such agreements relating to transportation within the United States.

³See, 46 U.S.C. § 501(a).

⁴See, 46 U.S.C. § 501(b). December 2012 amendments to this authority additionally require MARAD to identify any actions that could be taken to enable qualified U.S.-flag capacity to meet national defense requirements, among other new notification duties.

liquefied gas tankers, under certain specified conditions. Also, such legislation has been enacted specifically in relation to the Puerto Rico trade. The most recent legislation specific to Puerto Rico was enacted in 2006 to authorize DHS, through the Coast Guard, to issue a coastwise endorsement to allow, for example, foreign-built liquefied gas tankers built before 1996 to transport LNG or liquefied petroleum gas to Puerto Rico from other ports in the United States.⁵

Although DOD does not administer or enforce the Jones Act, the military strategy of the United States relies on the use of commercial U.S.-flag ships and crews and the availability of a shipyard industrial base to support national defense needs. MARAD and DOD jointly manage the VISA program, which was established for emergency preparedness and which includes over 300 commercial U.S.-flag vessels to provide DOD assured access to emergency sealift capacity that complements its sealift capabilities in transition to wartime operations.⁶ DOD needs vessels with specific requirements, such as speed capability, cargo capacity, and capability of carrying specialized equipment and supplies without significant modification. Whether or not the vessel is militarily useful, commercial U.S.-flag vessels provide employment to trained officers and unlicensed seamen, many of whom could be available to crew government-owned sealift vessels in times of war or national emergency. Having such vessels and crews available in times of emergency is beneficial to DOD and limits its need for procuring and maintaining comparable vessels in the government-owned fleet of cargo vessels, which could constitute a significant additional cost to the agency.

Similar to the continued decline in the pool of vessels and U.S. mariners, the U.S. shipyard industrial base has also been declining, according to DOD officials. DOD relies on commercial shipyards and an adequate

⁵Pub. L. No. 109-304, 120 Stat. 1485, 1504 (2006) (codified at 46 U.S.C. § 12120).

⁶In addition to the VISA program, other programs exist to ensure sealift capability using a mix of government and commercial vessels. MARAD operates the Ready Reserve Force, consisting of a fleet of 46 government-owned cargo vessels, which is activated only upon the request of the DOD and supports the transport of unit and combat support equipment during the initial military mobilization period before commercial vessels can be marshaled. MARAD also administers the Maritime Security Program which enrolls 60 modern, militarily-useful, U.S.-flag commercial ships—operating in the international trades—where owners receive a fixed retainer payment in exchange for providing DOD with access to their vessels during times of war, national emergency, or when deemed necessary by the Secretary of Defense.

shipyard industrial base to service and repair military vessels, and build new vessels to replace or expand the military fleet. Seven major shipyards currently construct the vast majority of military vessels, and some of these also construct a small number of commercial vessels, and according to industry representatives, are generally capable of building larger oceangoing vessels such as those used in the Puerto Rico trade and other noncontiguous and coastwise trades. About 280 medium and small commercial U.S. shipyards are engaged in repairing government ships and producing the large majority of smaller commercial vessels such as tugboats, barges, and service boats engaged in Jones Act trade. Some of the larger yards are also capable of building large oceangoing vessels, according to the Shipbuilders Council of America and a shipyard we interviewed. According to DOD, these shipyards play an important role in sustaining industries that support shipbuilding. Overall, the number of oceangoing commercial vessels produced in the United States is low in comparison to the production from foreign shipyards, which typically specialize in building certain types of large containerships, tankers, LNG carriers, or bulk carriers. Most large, commercial cargo vessels that supply the world shipping industry are being built in China, Japan, and the Republic of Korea, as discussed earlier.

In an effort to address these declines, the U.S. Navy partnered with MARAD in November 2011, through memorandum of agreement, for supporting the objectives relating to the American Marine Highway Program, particularly in the development, design, construction, and operation of U.S.- built and U.S.-crewed dual-use vessels that can serve in peacetime in the Jones Act trade and also provide sealift capability for DOD in time of national emergency.⁷ The purpose of the American Marine Highway Program is to expand the use of the inland and coastal waterways for transporting cargo to reduce congestion in other transportation modes, thus expanding the domestic waterborne-transportation markets that would be served by Jones Act vessels. The program is expected to help generate commercial work for U.S. shipyards

⁷Under the American Marine Highway Program, the goal is to focus on designing vessel types best suited for transporting trailers and cargoes, normally driven over U.S. highways, on the marine highways to contribute to the national goals of reducing congestion, pollution, and wear and tear from large tractor-trailers on the nation's highway system. The military dual-use goal of the program will require the design of applicable ship types to meet minimum speed, size, and range requirements to meet DOD's needs. See MARAD, *American Marine Highway Design Project Final Report*, (Annapolis, MD: Oct. 28, 2011).

and jobs for U.S. mariners. In support of the American Marine Highway program, the National Defense Authorization Act for Fiscal Year 2010 required the establishment and implementation of the Marine Highway Grants program,⁸ and \$7 million in funds was congressionally directed to the new grants program in committee reports⁹ accompanying the Consolidated Appropriations Act, 2010.¹⁰ Grants under the Marine Highway Grants program could extend to the purchase or lease of equipment used at port terminals and facilities, and construction or modification of vessels to increase energy efficiency and meet environmental standards. According to the Navy, the American Marine Highway Program and dual-use vessel concept is likely to be the most cost-effective means of addressing future recapitalization of the government-owned and commercial vessels on which they rely. Many of the vessels in the Ready Reserve Force are nearing the end of their practical service life and must be replaced by newer ships. The estimated cost for the recapitalization for the entire Ready Reserve Force is in the billions of dollars.¹¹

⁸Pub. L. No. 111-84, 123 Stat. 2190, 2724-25 (2009).

⁹See, H. R. Conf. Rep. No. 111-366, at 425 (2009), and S. Rep. No. 111-69, at 97-98 (2009).

¹⁰Pub. L. No. 111-117, 123 Stat. 3034 (2009).

¹¹See MARAD, *America's Marine Highway Report to Congress*, April 2011.

Appendix III: GAO Contacts and Staff Acknowledgments

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In addition to the contact named above, the following individuals made important contributions to this report, Andrew Von Ah, Assistant Director; Amy Abramowitz; Ken Bombara; Stephen L. Caldwell; Vashun Cole; Laura Erion; Emil Friberg; Geoffrey Hamilton; Sarah Jones; Hannah Laufe; Thanh Lu; Joshua Ormond; Amy Rosewarne; and Shana Wallace.

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