



Old Regulations Never Die: Featherbedding and Maritime Safety After the *Titanic*

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Is regulatory reform inevitable? Or does an inefficacious regulation more plausibly endure until it is no longer a binding constraint? Experience leads me to believe that regulation normally outlives what it regulates. I propose here the folk theorem that “old regulations never die.” It extends the standard predictions of public choice theory when a regulation directly benefits a discrete faction while burdening a diffuse and unorganized constituency.¹ Once installed, such a regulation will endure, regardless of its demonstrated inefficiency, until the regulated activity becomes irrelevant or obsolete because of exogenous changes in demand or production technology.

In October 1987, when I was the young and earnest deputy general counsel of the Federal Communications Commission (FCC), a question concerning an obscure regulation landed on my desk. Still on the books was a statutory mandate—section 353(b) of the Communications Act of 1934, as amended in 1937,² which expanded legislation first enacted in 1912 in response to the sinking of the *Titanic*—that required that any U.S. cargo ship with a radiotelegraph auto alarm also carry a radiotelegraph operator possessing six months of experience acquired aboard a U.S. ship.³ The FCC in 1981 began to interpret section 353(b)’s six-month experience requirement so as to exclude a radiotelegraph operator’s experience acquired onboard a U.S. Navy or Coast Guard ship, because U.S. government ships were typically not equipped with

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¹ See MANCUR OLSON, *THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS* (Harvard Univ. Press 1965); JAMES M. BUCHANAN & GORDON TULLOCK, *THE CALCULUS OF CONSENT: LOGICAL FOUNDATIONS OF CONSTITUTIONAL DEMOCRACY* (Univ. of Michigan Press 1962).

² 47 U.S.C. § 353(b).

³ See Memorandum from J. Gregory Sidak, Deputy General Counsel, Federal Communications Commission, to Peter K. Pitsch, Chief of Staff to the Chairman, Federal Communications Commission 6 (Oct. 5, 1987) (on file with author) [hereinafter 1987 Sidak Memorandum].

(obsolete) radiotelegraphy equipment. The absurdity of the FCC's interpretation was breathtaking. By the 1980s, section 353(b) was obsolete. The U.S. maritime industry was necrotic, and a U.S. cargo vessel's safety—and its ability to function as a potential lifeboat for another vessel in distress—no longer depended on radiotelegraph communications. Even in 1937, when Congress enacted section 353(b), the principal effect of this provision was to create a barrier to entry in the market for radiotelegraph operators under the guise of promoting maritime safety.

It is the nature of public choice that the specifics of this particular regulatory intervention are likely to interest only the discrete factions benefiting or suffering from that intervention, along with the legislators and bureaucrats whose handiwork empowers the process of rent creation and income transfer. But one could say the same about the plethora of equally obscure rules that fill nearly 200,000 pages of the *Code of Federal Regulations*. In the aggregate, that multitude of regulatory commands can significantly impair social welfare and make it is worth considering, in microcosm, something as obscure as the federal licensure of radiotelegraph operators on U.S. cargo ships in the century following the sinking of the *Titanic* in 1912.

I. THE *TITANIC* AND THE REGULATION OF MARITIME RADIOTELEGRAPHY FROM 1912 TO 1965

The requirement that ships equipped with a radiotelegraph auto alarm carry at least one radio officer with six months of experience acquired aboard a U.S. ship or ships had its origins in safety concerns following the sinking of the *Titanic*.

A. *The Sinking of the Titanic and Radiotelegraphy Legislation from 1912 to 1934*

The *Titanic* sank in the North Atlantic approximately 160 minutes after striking an iceberg at 11:40 p.m. on April 14, 1912.⁴ The water temperature was 28 degrees Fahrenheit.⁵ Many persons refused to board lifeboats and leave the warm ship, and many available lifeboats left far below capacity. When the *Titanic* sank at 2:20 a.m. on April 15, roughly 1,500 persons either went down with the ship or, if they managed to jump overboard in time, slipped into hypothermia and drowned.⁶

A common belief at the time was that a failure of maritime radiotelegraphy increased the loss of life. The Senate Commerce Committee staff claimed, in its report on the loss of the *Titanic*, that amateur radio use hampered rescue

⁴ WALTER LORD, *A NIGHT TO REMEMBER* 176 (Bantam Books 1955).

⁵ *Id.* at 120.

⁶ *Id.* at 176.

efforts by interfering with the ability of other ships and stations to hear the *Titanic*'s distress signal.⁷ However, it is debatable whether a failure of maritime radiotelegraphy proximately caused this extraordinary loss of life. Thanks to radiotelegraphy, other ships had warned the *Titanic* about a large ice patch on its planned route, and the *Titanic*'s commander directly received at least three warnings on the day of the disaster.⁸ However, the *Titanic* took no action to avoid the ice patch.⁹ After hitting the iceberg, the *Titanic* sent out a distress signal by radiotelegraph.¹⁰ It also fired signal flares, which were visible from the *Californian*, an ocean liner not more than 19 miles away.¹¹ For reasons that defy understanding, the *Californian* did not respond to the distress flares and continued, away from the *Titanic*.¹² Had the *Californian* instead immediately steamed toward the *Titanic*'s position, it might have arrived before the *Titanic* sank.

The Senate Commerce Committee staff report found that the *Titanic* disaster “ma[d]e[] glaringly apparent the necessity for regulation of telegraphy.”¹³ The report recommended, among other things, that “there . . . be an operator on duty at all times, day and night, to insure the immediate receipt of all distress, warning, or other important calls,” that a ship provide “[d]irect communication either by clear-speaking telephone, voice tube, or messenger” between the wireless room and the bridge so the operator could stay at his radio station, and that Congress should enact legislation to ensure that radiograms and wireless messages be secure and to prevent amateur radiotelegraphers from interfering.¹⁴

Congress responded with the Post-Titanic Radio Communications Act, better known as the Radio Act of 1912.¹⁵ The new law required, among other things, that every station on shipboard be prepared to send distress calls and signals, to give “absolute priority to signals and radiograms relating to ships in distress,” and, “except when engaged in answering or aiding the ship in distress, to refrain from sending until all signals and radiograms relating thereto are

⁷ See STAFF OF S. SUBCOMM. OF THE COMM. ON COMMERCE, 62ND CONG., REP. ON INVESTIGATION INTO LOSS OF S.S. “TITANIC” 539–47 (1912), reprinted in THE TITANIC DISASTER HEARINGS: THE OFFICIAL TRANSCRIPTS OF THE 1912 SENATE INVESTIGATION 555 (Tom Kuntz ed., Pocket Books 1998) (“There must be definite legislation to prevent interference by amateurs.”).

⁸ *Id.* at 539.

⁹ *Id.* at 541.

¹⁰ *Id.* at 543.

¹¹ *Id.* at 546–47. The Senate Commerce Committee staff report concluded that the *Californian* was closer to the *Titanic* than the 19 miles that the *Californian* reported. *Id.*

¹² *Id.* at 546. Although the officers of the *Californian* claimed that they responded with a Morse lamp, the Senate Commerce Committee staff report found that “[t]here [was] no evidence that any rockets were fired by any vessel between the *Titanic* and the *Californian*, although every eye on the *Titanic* was searching the horizon for possible assistance.” *Id.*

¹³ *Id.* at 555.

¹⁴ *Id.*

¹⁵ Radio Communications Act of Aug. 13, 1912, Pub. L. No. 62-264, 37 Stat. 302.

completed.”¹⁶ However, the 1912 legislation did not expressly mandate that a ship carry a radiotelegraph station or that it carry a radio operator (full-time or otherwise). Curiously, the legislation required only that a shipboard radio station be capable of sending (and not sending and receiving) distress signals, and that a licensed person operate any radio apparatus.¹⁷ Consequently, any ship that had a radio apparatus needed to have a licensed person operate it.¹⁸ However, the text of the Radio Act of 1912 did not itself require ships to have a radio apparatus, and ships without a radio apparatus (which might have been few) were not required to have a licensed operator.

Fifteen years later, Congress increased the federal government’s regulation of radio communications through the enactment of the Radio Act of 1927, which, among other things, created the Federal Radio Commission (FRC), an agency within the Department of Commerce (and the predecessor of the FCC).¹⁹ Like the Radio Act of 1912, the 1927 legislation required that “[e]very radio station on shipboard . . . be equipped to transmit radio communications or signals of distress . . . with apparatus capable of transmitting and receiving messages over a distance of at least one hundred miles by day or night.”²⁰ Another similarity to the Radio Act of 1912 was that the 1927 legislation required that “[t]he actual operation of all transmitting apparatus in any radio station for which a station license is required by this Act shall be carried on only by a person holding an operator’s license issued hereunder.”²¹ By implication, only a licensed radio operator onboard a ship would be permitted to operate the transmitting equipment. Therefore, every ship so equipped to send distress messages needed a licensed operator onboard. Paradoxically (but like the Radio Act of 1912), what the 1927 legislation did not appear anywhere to have required is that every ship have a radio station that could transmit a distress signal.

The Communications Act of 1934 replaced the FRC with the FCC,²² but the new legislation retained the preexisting statutory requirements of the 1927 legislation, including this requirement concerning radio stations aboard U.S. ships.²³ In addition, section 322 of the 1934 legislation mandated interoperability between any land radio station and any ship radio station.²⁴ Like the Radio Acts of 1912 and 1927, section 321 of the Communications Act of 1934 required

¹⁶ *Id.* § 4.

¹⁷ *Id.* §§ 3–4.

¹⁸ *Id.* § 1 (“[A] person, company, or corporation . . . shall not use or operate any apparatus for radio communication . . . upon any vessel of the United States engaged in interstate or foreign commerce . . . except under and in accordance with a license, revocable for cause, in that behalf granted by the Secretary of Commerce and Labor upon application therefor.”).

¹⁹ United States Radio Act of 1927, Pub. L. No. 69-632, 44 Stat. 1162.

²⁰ *Id.* § 23.

²¹ *Id.* § 20.

²² Communications Act of 1934, Pub. L. No. 73-416, 48 Stat. 1064.

²³ *See, e.g., id.* §§ 301, 321.

²⁴ *Id.* § 322.

that radio stations onboard ships be equipped to “transmit radio communications or signals of distress on the frequency specified by the Commission, with apparatus capable of transmitting and receiving messages over a distance of at least one hundred miles by day or night.”²⁵ However, ships still were not required to have a radio apparatus. Once again, although ships that did have a radio apparatus also had to have a licensed operator,²⁶ nothing in the text of the Communications Act of 1934 required ships *without* a radio apparatus to have a licensed operator.

It is striking that Congress, in its three major initiatives to regulate maritime radiotelegraphy after the sinking of the *Titanic*, did not find it necessary to mandate that all ships have a radio apparatus. Perhaps the absence of such a command simply reflected common sense: no ship owner needed to be compelled by force of law to take the incremental step of increasing the protection of life at sea by having a radio station onboard. Or perhaps some other statute (regulating maritime safety as opposed to radio communications) independently imposed a duty on a ship owner to include a radio station on his ship.

B. The Enactment of Section 353(b) in 1937

In May 1937—25 years after the *Titanic* sank—Congress amended the Communications Act of 1934 to add provisions concerning radiotelegraphy standards.²⁷ One amendment made it unlawful for the first time as a matter of U.S. communications law “[f]or any ship of the United States . . . to be navigated in the open sea . . . unless such ship is equipped with an efficient radio installation in operating condition, in charge of and operated by a qualified radio operator or operators.”²⁸ Another amendment required that every ship fitted with a radio installation (with some exceptions) carry at least two qualified radio operators.²⁹ The ostensible purpose of this provision was to ensure that a single radio officer need not keep watch over the radiotelegraph station for all twenty-four hours of the day (which, of course, would have been physically impossible).

By 1937, automatic alarms were commercially available that enabled a ship’s crew to receive a distress signal sent by radiotelegraph even when the radio operator was away from his station. In August 1937, the Radio

²⁵ *Id.* § 321.

²⁶ *Id.* § 301 (“No person shall use or operate any apparatus for the transmission of energy or communications or signals by radio . . . upon any vessel or aircraft of the United States . . . except . . . with a license in that behalf granted under the provisions of this Act.”).

²⁷ Act of May 20, 1937, Pub. L. No. 75-97, 50 Stat. 189 (amending Communications Act of 1934, Pub. L. No. 73-416, 48 Stat. 1064).

²⁸ *Id.* at 192.

²⁹ *Id.* at 193.

Corporation of America (RCA) said in an advertisement supplement in *Life* magazine:

No radio operator can stay perpetually on duty. Thousands of small ships have but one operator. In [the] past this has limited radio's helpfulness. In time of need calls for help might not be heard by [the] nearest vessels. Keenly aware of this was the late Guglielmo Marconi, father of radio. Marconi's genius overcame this handicap . . . [and] tremendously increased [the] chances of rescue in case of disaster. The means is a mechanical watchman that never sleeps. This sea guardian is in [the] form of [a] permanently set alarm. When any ship sends out [a] radio distress signal[, the] new RCA device rings alarm bells on [the] bridge in [the] radio operators' and officers' quarters of all ships within [a] calling distance (1000 miles or more). [The r]adio operator then tunes in [the] distressed ship, learns [the] nature of [the] trouble and location. [The n]earest ships change courses to give aid. Many catastrophes at sea even since the invention of radio could have been made much less serious if the automatic "SOS" had been available at the time. Its rapid adoption by vessels all over the seven seas will vastly increase safety for sailors and travelers. So keen is [the] interest among ship owners in the RCA Auto Alarm, as the automatic "SOS" is called, that at [the] present time [RCA] Radiomarine has more than seven hundred orders for this equipment. It is predicted that within a short time all ships will have this equipment.³⁰

Congress added section 353(b) to the Communications Act in May 1937 to permit cargo ships equipped with a radiotelegraph auto alarm to carry a single radio officer instead of the two-officer minimum imposed on other ships.³¹ If a ship needed only one radio operator, section 353(b) required that that operator have "at least six months' previous service in the aggregate as a qualified operator in a station on board a ship or ships of the United States."³² In contrast, the Communications Act, as amended in 1937, did *not* require six-months of experience for radio operators on ships *lacking* an auto alarm. That is, when a ship was obliged to carry at least two qualified radio operators, neither operator needed six months of experience acquired as an operator aboard a U.S. ship or ships.³³

Perhaps Congress added section 353(b) to the Communications Act at the behest of labor unions. Mervyn Rathborne, the president of the American Radio Telegraphists' Association, a labor union of radio operators,³⁴ advo-

³⁰ *How Late, Great Marconi Made "SOS" Automatic*, LIFE, Aug. 16, 1937, at 46 (page 4 of a 6-page advertisement in *Life* magazine for the Radio Corporation of America).

³¹ Act of May 20, 1937, Pub. L. No. 75-90, § 10, 50 Stat. 189, 193 (amending Communications Act of 1934, Pub. L. No. 73-416, 48 Stat. 1064) (codified as amended at 47 U.S.C. § 353(b)).

³² *Id.*

³³ *Id.* § 353(a).

³⁴ See ESTELLE MAY STEWART, HANDBOOK OF AMERICAN TRADE-UNIONS: 1936 EDITION 278-79 (U.S. Bureau of Labor Statistics, 1936).

cated the six-month experience requirement before the Senate Commerce Committee.³⁵ With some revisions, Congress enacted Rathborne's recommendation.³⁶ Rathborne claimed that the six-month experience requirement would guarantee that the radio operator would be competent aboard a ship.³⁷ If lives depended on a radio operator, he argued, that radio operator needed to have experience at sea, and not merely a second-class radiotelegraph operator's license. "Many of these men," he said, "are not capable of operating a ship radio station when they receive their licenses [because] . . . they have not had an opportunity to be aboard ship; they do not know how a ship operates or functions; and they frequently get themselves into considerable trouble through their lack of knowledge of life aboard ship."³⁸

Alternatively, did Congress enact section 353 at the behest of RCA? It is important to understand the historical context of RCA's unique role as a producer of equipment for U.S. wireless communication at sea in the early twentieth century. During World War I, President Wilson nationalized the wireless industry in the United States.³⁹ The U.S. Navy completely controlled radio during the war. After World War I, the Navy was instrumental in creating RCA as America's national champion of radio technology.⁴⁰ The Navy went so far as to write into RCA's corporate charter the provision that at least one Navy officer would sit "by invitation" on the board of directors.⁴¹ I am not

³⁵ See *Safety of Life at Sea Through the Use of Radio: Hearing on S. 595 Before the Subcomm. of the Comm. on Commerce, 75th Cong. 45 (1937)* (statement of Mervyn Rathborne, President, American Radio Telegraphists' Association) [hereinafter *Rathborne 1937 Statement on S. 595*]; see also *Safety of Life and Property at Sea: Hearing on H.R. 4191 Before the Comm. on Merchant Marines and Fisheries, 75th Cong. 86 (1937)* (statement of Mervyn Rathborne, President, American Radio Telegraphists' Association) [hereinafter *Rathborne 1937 Statement on H.R. 4191*]; *Radio Operators on Cargo Ships: Hearings on H.R. 8251 Before the Comm. on Merchant Marine and Fisheries, 75th Cong. 2 (1938)* [hereinafter *1938 Hearings on H.R. 8251*].

³⁶ See, e.g., *1938 Hearings on H.R. 8251, supra* note 35, at 2 (statement of Frank R. McNinch, Chairman, Federal Communication Commission). Rathborne had proposed that the one radio operator onboard a ship have had at least "six months' previous service on board a ship, or ships, required by law to maintain a continuous radio service by means of two or more qualified operators." *Rathborne 1937 Statement on S. 595, supra* note 35, at 45 (emphasis added). Congress revised Rathborne's proposal by removing the proviso that the radio operator must have spent those six months onboard a ship that was mandated by law to maintain continuous radio service with two or more qualified radio operators. 47 U.S.C. § 353(b).

³⁷ See *Rathborne 1937 Statement on S. 595, supra* note 35, at 45; see also *Rathborne 1937 Statement on H.R. 4191, supra* note 35.

³⁸ *Rathborne 1937 Statement on S. 595, supra* note 35, at 45; see also *Rathborne 1937 Statement on H.R. 4191, supra* note 35, at 86 ("Cases are on record where a ship has left port with such an operator and has never been heard of until she came into the next port, due to the inability of the man to operate the equipment. . . . [I]t is of no use, in our opinion, to require a lot of very efficient equipment on board ship unless you put men on those ships who are capable of operating that equipment satisfactorily, and at the present time the condition exists where inexperienced men, who have never been to sea before [,] . . . can be placed aboard those ships and the lives of 35 or 40 men in the ship's crew be placed in their hands.")

³⁹ See, e.g., J. GREGORY SIDAK, *FOREIGN INVESTMENT IN AMERICAN TELECOMMUNICATIONS* 42–45 (Univ. of Chicago Press 1997).

⁴⁰ *Id.* at 46–53.

⁴¹ *Id.* at 53 (citing FEDERAL TRADE COMMISSION, *REPORT ON THE RADIO INDUSTRY* 19 (Government Printing Office 1924)). RCA extended this invitation to President Wilson, and the Navy responded by nominating Admiral W.H.G. Bullard, who sat on RCA's board from 1920 to 1931. *Id.* (citing L.S. HOWETH, *HISTORY OF COMMUNICATIONS—ELECTRONICS IN THE UNITED STATES NAVY* 19 (Bureau of Ships and Office of Naval History)).

aware of any evidence indicating that the Navy's influence on RCA had waned by 1937. Consequently, the RCA Auto Alarm that became commercially available in 1937 surely was both entirely familiar (and acceptable) to the U.S. Navy and likely therefore to have been seen by civilians as the industry standard. Thus, if a U.S. ship had a radio auto alarm, that auto alarm would likely be an RCA Auto Alarm.

Thus, RCA would have had an incentive to lobby Congress to encourage shipowners to fit their ships with an auto alarm. Although section 353 did not explicitly require shipowners to fit their ships with an auto alarm, it is likely that section 353 encouraged shipowners to do so, because section 353 stipulated that shipowners could either fit their ships with an auto alarm and employ only one radio operator or decline to fit their ships with an auto alarm and instead employ two radio operators. Assuming that both of those options made equal contributions to maritime safety, it was likely the case that the first option—equipping a ship with an auto alarm and employing only one radio operator—was the lower-cost option that shipowners would have chosen to maximize profits.

Curiously, RCA did not testify at the congressional hearings for the 1937 amendments to the Communications Act. The company's conspicuous absence was like the dog that did not bark in the night.⁴² RCA had much to gain from lobbying Congress to enact section 353 (and Congress would surely have welcomed RCA's input on legislation seeking to improve maritime safety through radio communications). Moreover, only three months after Congress enacted the 1937 legislation, RCA had advertisements in *Life* magazine (whose readership likely consisted of civilians who were not in need of a radio auto alarm), which touted its more than seven hundred existing orders for its radio alarm and predicted that all ships would eventually have this equipment.⁴³

C. *The Proposed Repeal of Section 353(b) in 1938*

After having amended the Communications Act in May 1937, Congress in March 1938 abruptly considered repealing section 353(b)'s new six-month experience requirement for radio operators.⁴⁴ The growing risk of war in Europe gave members of Congress reason to worry that an exogenous demand stimulus for U.S. cargo shipping to supply allies in such a war would increase the derived demand for radio telegraphers and make their presence onboard a binding constraint on the ability of U.S. ships to leave port. Coincidentally, Hitler announced the Anschluss—the annexation of Austria—on March 12, 1938, the day before the House Committee on Merchant Marine and

⁴² ARTHUR CONAN DOYLE, *Silver Blaze*, in *THE MEMOIRS OF SHERLOCK HOLMES* (1894).

⁴³ *How Late, Great Marconi Made "SOS" Automatic*, *supra* note 30, at 46.

⁴⁴ *1938 Hearings on H.R. 8251*, *supra* note 35, at 1.

Fisheries held hearings on repealing the six-month experience requirement in section 353(b).

The proponents of repeal included the American Steamship Owners' Association,⁴⁵ the Pacific American Steamship Association, the Shipowner's Association of the Pacific Coast, and the Waterfront Employers' Association of San Francisco.⁴⁶ They argued that eliminating the six-month experience requirement would alleviate shortages for radio operators. Chairman Frank R. McNinch of the FCC foresaw "difficulties in the administering of the positive requirements of the existing law . . . when vessels are in locations where it is found impossible, except with considerable expense and loss of time, to obtain operators who have had the previous required service."⁴⁷ One steamship captain testified that "vessels of our American merchant marine travel to many ports wherein there would be no such supply of radio operators with 6 months' sea experience, and, in such an event, if a vessel proceeded to sea without a radio operator with this 6 months' experience, the ship is liable to a fine of \$500 per day."⁴⁸ Proponents further argued that (1) the Telecommunications Treaty, which the United States signed at the Telecommunications Convention of 1932, did not require radio operators on board ships to have six months of experience at sea, and (2) the FCC's rules and regulations did not require radio operators to have experience at sea.⁴⁹ Consequently, proponents of repealing the six-month experience requirement questioned its necessity when neither the Telecommunications Convention nor the FCC had thought it necessary.⁵⁰

In 1938, the FCC also supported section 353(b)'s repeal. The FCC believed that it should be responsible for determining what experience should qualify a radio operator to serve aboard a ship, because, in the Frankfurterian view of Chairman McNinch, the FCC could be flexible in "unusual and unforeseen situations."⁵¹ In contrast, he believed, section 353(b), being a statute, was inflexible.⁵²

⁴⁵ *Id.* at 13 (statement of Ira L. Ewers, American Steamship Owners' Association).

⁴⁶ *Id.* at 5 (statement of Captain W. J. Petersen, Pacific American Steamship Association, Shipowner's Association of the Pacific Coast, and Waterfront Employers' Association of San Francisco).

⁴⁷ *Id.* at 2 (statement of Frank R. McNinch, Chairman, Federal Communications Commission).

⁴⁸ *Id.* at 7 (statement of Captain W.J. Petersen, Pacific American Steamship Association, Shipowner's Association of the Pacific Coast, and Waterfront Employers' Association of San Francisco).

⁴⁹ *Id.* at 6–7 (statement of Captain W.J. Petersen, Pacific American Steamship Association, Shipowner's Association of the Pacific Coast, and Waterfront Employers' Association of San Francisco).

⁵⁰ *Id.* at 11 ("[S]o far as the necessity for 6 months' experience at sea is concerned, if there was any such necessity, the International Convention would require it.")

⁵¹ *Id.* at 2–3 (statement of Frank R. McNinch, Chairman, Federal Communications Commission). The FCC proposed that section 353(b) be revised as follows: "A cargo ship, required by this part to be fitted with a radio installation, which is fitted with an autoalarm in accordance with this title, shall, for safety purposes, carry at least one *qualified* operator." *Id.* at 3 (emphasis added).

⁵² *Id.* at 2. In 1940, Justice Frankfurter penned the quotable phrase that the "public interest" in the Communications Act "serves as a supple instrument for the exercise of discretion." *FCC v. Pottsville Broadcasting Co.*, 309 U.S. 134, 137–38 (1940).

The opponents of repealing the six-month experience requirement included the American Radio Telegraphists' Association, the Labor's Nonpartisan League, the Inland Boatmen's Union of the Pacific, the Alaska Fishermen's Union, the Committee for Industrial Organization, the National Maritime Union of America, the Marine Engineers' Beneficial Association, and the Industrial Union of Marine and Shipbuilding Workers of America.⁵³ They argued that "the repeal of section 353(b) would result in the endangering of life and property at sea."⁵⁴ At the 1938 congressional hearings, Rathborne actually urged Congress to make section 353(b) more constraining by mandating that U.S. cargo ships with an auto alarm carry a radio operator with a full year of experience.⁵⁵

D. Amendments to Section 353(b) Between 1941 and 1965

The fight over repealing section 353(b) continued after the outbreak of World War II in Europe. On July 8, 1941, Congress amended section 353(b) to give the FCC the discretion to suspend or modify the six-month experience requirement "during the emergency proclaimed by the President on September 8, 1939, to exist, but not after June 30, 1943."⁵⁶ The FCC exercised this power of suspension, which drew opposition from labor groups that had supported the six-month experience requirement. One union leader said that "the only objective of this bill . . . [is] to create a vast surplus from which you can more readily select men who will be forced to take jobs that they [would] otherwise refuse."⁵⁷ Ultimately, the suspension of the six-month experience requirement from 1939 to 1943 was a political compromise, as Congress had considered instead giving the FCC the discretion, without any sunset provision, to determine the necessary qualifications for radio operators aboard U.S. ships.⁵⁸

In 1943, Congress modified the temporary suspension of the six-month experience requirement to empower the FCC to suspend or modify the

⁵³ *Id.* at 63, 73.

⁵⁴ *See, e.g., id.* at 63 (statement of Cecil Owen, Labor's Nonpartisan League).

⁵⁵ *Id.* at 18 (statement of Mervyn Rathborne, American Communications Association) ("Our amendment to this bill would be as follows: 'A cargo ship . . . which is fitted with an autoalarm . . . shall, for safety purposes, carry at least one qualified operator who shall have had at least 1 year's previous service in the aggregate as a qualified junior operator in a station aboard a ship or ships of the United States required . . . to carry at least two qualified operators.'").

⁵⁶ Communications Act of 1934, Amendment, Pub. L. No. 77-155, 55 Stat. 579 (1941).

⁵⁷ *Experience Requirements for Radio Operators on Cargo Ships: Hearings on H.R. 2074 Before the Comm. on Merchant Marine and Fisheries*, 75th Cong. 82 (1941) (statement of Murray Wincocur, Vice President, Marine Department, American Communications Association) [hereinafter *1941 Hearings on H.R. 2074*].

⁵⁸ *Id.* at 2 (report of E.S. Land, Chairman, U.S. Maritime Commission) ("A cargo ship . . . fitted with an auto-alarm . . . shall, for safety purposes, carry at least one qualified operator who shall have had at least 6 months' previous service in the aggregate as a qualified operator in a station on board a ship or ships of the United States, or, in lieu of such 6 months' experience, such training and experience as the Commission may by rules or regulations prescribe." (emphasis added)).

requirement “by regulation or order . . . for successive periods of not more than six months’ duration” during the time period between “the emergency proclaimed by the President on September 8, 1939, to exist, *but not after the termination of such emergency or such earlier date as Congress by concurrent resolution may designate*.”⁵⁹ In 1947, Congress—in a joint resolution to remove certain emergency and war powers—repealed, among other things, the 1941 and 1943 amendments to section 353(b), in light of the end of World War II.⁶⁰

In 1954, Congress exempted cargo ships of less than 1600 tons from the requirement that they be equipped with a radiotelegraph installation,⁶¹ allowing those ships to be equipped with a radiotelephone installation instead.⁶² Consequently, Congress revised section 353(b) to clarify that the requirement that ships with an auto alarm needed to carry at least one operator with at least six months of experience applied only to ships “required . . . to be fitted with a radiotelegraph installation”⁶³—that is, if ships were equipped with a radiotelephone installation and not a radiotelegraph installation (cargo ships of less than 1600 tons), they were not required to carry a radio operator with at least six months of experience on board a ship or ships of the United States.

In 1965, to conform with the 1960 Convention for the Safety of Life at Sea, Congress tightened section 353(b) by requiring ships equipped with radio auto alarms to carry at least one “radio officer,” as opposed to the prior requirement that those ships carry at least one “qualified operator.”⁶⁴ For U.S. ships, Congress defined the term “radio officer” to mean “a person holding at least a first or second class radiotelegraph operator’s license as prescribed and issued by the [Federal Communications] Commission.”⁶⁵ That radio officer, when employed to operate a radiotelegraph station on a U.S. ship, was additionally required to have a U.S. Coast Guard radio officer license in accordance with other laws in effect at the time (and still in effect as of 2016).⁶⁶ The Coast Guard was and remains the agency responsible for licensing radio officers aboard U.S. ships.⁶⁷ As part of the 1965 amendments to section 353(b),

⁵⁹ Act of June 22, 1943, Pub. L. No. 78-85, 57 Stat. 161 (emphasis added).

⁶⁰ Act of July 25, 1947, Pub. L. No. 80-239, 61 Stat. 449, 451.

⁶¹ Act of August 13, 1954, Pub. L. No. 83-584, 68 Stat. 704, 706 (“The radio installation . . . required by section 351 of this part . . . shall comprise a main and an emergency or reserve radiotelegraph installation.”).

⁶² *Id.* (“Cargo ships of less than sixteen hundred gross tons may, in lieu of the radiotelegraph installation prescribed by section 355, carry a radiotelephone installation.”).

⁶³ *Id.* at 705 (“A cargo ship, *required by this part to be fitted with a radiotelegraph installation*, which is fitted with an auto-alarm in accordance with this title, shall, for safety purposes, carry at least one qualified operator who shall have had at least six months’ previous service in the aggregate as a qualified operator in a station on board a ship or ships of the United States.” (emphasis added)).

⁶⁴ Act of August 13, 1965, Pub. L. No. 89-121, 79 Stat. 511, 513; *see also* Act of May 20, 1937, Pub. L. No. 75-90, 50 Stat. 189.

⁶⁵ 79 Stat. at 511.

⁶⁶ *Id.* (citing Act of May 12, 1948, Pub. L. No. 80-525, 62 Stat. 232 (current version at 46 U.S.C. §§ 7101, 7103)).

⁶⁷ *See* 46 U.S.C. § 7101; Definition of the Term “Radio Officer”; Clarification of Requirements for Qualification for Six Months’ Service Endorsement for Radio Officers on Ship Board in the Maritime Services,

Congress also replaced the words “radiotelegraph installation” with “radiotelegraph station” and “auto-alarm” with “radiotelegraph auto alarm.”⁶⁸

II. MARITIME SAFETY OR FEATHERBEDDING?

Did Congress enact section 353(b) because of safety concerns? If so, then one must ask whether the marginal costs of such safety regulations outweighed the marginal increases in safety (that is, the regulation’s marginal benefits). If not, then—in addition to analyzing whether the marginal benefits of the regulation outweighed the marginal costs—one must ask why else Congress would choose to regulate something so esoteric as the licensure of radiotelegraph officers, especially given that the *Titanic* had sunk 25 years before section 353(b)’s enactment in 1937.

A. Was Section 353(b) Necessary for Safety Purposes?

Although section 353(b) might seem on its face to have been enacted for safety purposes, it bears emphasis that market forces already encouraged safety.⁶⁹ If an experienced radiotelegrapher aboard a cargo ship could have reduced the risk that the ship would be lost at sea, then each ship owner individually would have had a strong incentive to hire only a competent and experienced radiotelegrapher. This incentive existed because, among other reasons, insurance companies do not insure against 100 percent of the risk of loss (that is, because of the problem of moral hazard, insurance companies require a deductible) and because insurers charge experience-rated premiums and thus impose higher insurance costs on firms with inferior safety records.⁷⁰ These higher liability costs for the ship owner either would have raised the price of and reduced the demand for his cargo services relative to those of safer competitors or, in a rate-regulated market, would simply have dissipated his profits.

Furthermore, ship owners collectively had an incentive to hire competent and experienced radiotelegraphers because no ship owner knows beforehand whether his ship might eventually be sending or receiving a distress signal at sea.⁷¹ To be sure, there was some potential for free-riding on the receiving side: one ship owner might have tried to avoid (private) costs by hiring a less competent and less experienced radiotelegrapher and thus shifting to other shippers his own responsibility for being able to receive a radiotelegraph message from

46 Fed. Reg. 18,717, 18,718 (Mar. 26, 1981) (to be codified at 47 C.F.R. §§ 13, 83) [hereinafter *Definition of “Radio Officer”*].

⁶⁸ 79 Stat. at 513.

⁶⁹ See, e.g., 1987 ECONOMIC REPORT OF THE PRESIDENT 179–207.

⁷⁰ See, e.g., Kenneth J. Arrow, *Insurance, Risk, and Resource Allocation*, in *ESSAYS IN THE THEORY OF RISK-BEARING* 134, 142–43 (North Holland Publishing Co. 1974).

⁷¹ See generally R.H. Coase, *The Lighthouse in Economics*, 17 J.L. & ECON. 357 (1974).

a ship in distress. Whether this problem ever manifested itself in the real world is questionable, because the probability that such behavior would be detected and the cost to the ship owner if it was detected were both significant. Even given the comparatively unsophisticated wireless communications technology of 1912, it was possible to ascertain the position of the *Californian* relative to the *Titanic* when it was sinking.

Influencing the probability of detection was the fact that other parties—such as insurance companies—had an incentive to check whether such shirking was occurring (just as they had an incentive to conduct boiler inspections) and to penalize (through higher insurance premiums or termination of coverage or refusal to pay claims) those insured who acted opportunistically or deceptively. In turn, two concerns affected the cost to the ship owner if he was caught shirking. First, such opportunism could have damaged a ship owner's reputation in the eyes of his customers, because it might signal that the ship owner was cutting corners elsewhere in a way that could increase the risk of loss for someone entrusting cargo to him (or to the insurer of the risk). Second, the master of a vessel had (and still has) the legal duty to “render assistance to any individual found at sea in danger of being lost.”⁷² This statutory duty supersedes the common-law rule that there is no duty to rescue.⁷³ A breach of this statutory duty to rescue at sea was (and still is) punishable by either a maximum fine of \$1,000 or a maximum prison term of two years, or both.⁷⁴ Perhaps the breach of this statutory duty would also give rise to private tort actions for loss of life or property. Therefore, it appears that the expected cost to the ship owner of engaging in such free riding would have been substantial and could have far exceeded the expected benefit from hiring a less competent and less experienced radiotelegrapher.

As long as the presence of a radiotelegrapher on a cargo ship continued, on the margin, to reduce the risk of losing one's ship at sea or to increase the likelihood of being able to rescue someone else's ship in distress, ship owners would have continued to have an incentive to demand competence and experience from radiotelegraphers. This incentive would have existed independently of how much experience Congress required radiotelegraphers to acquire before serving as the sole radiotelegrapher on a ship.

⁷² 46 U.S.C. § 2304.

⁷³ See, e.g., *Buch v. Armory Mfg. Co.*, 44 A. 809, 810 (N.H. 1897) (“The priest and Levite who passed by on the other side were not, it is supposed, liable at law for the continued suffering of the man who fell among thieves, which they might and morally ought to have prevented or relieved.”); RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 221–23 (Wolters Kluwer Law & Business 9th ed. 2014).

⁷⁴ 46 U.S.C. § 2304.

B. Why Did Congress Implement Section 353(b)?

Given ship owners' economic incentives to hire qualified radiotelegraphers, it is worth asking why Congress still chose to regulate the labor market for radiotelegraphers by enacting section 353(b). The legislative history surrounding section 353(b) and the subsequent attempts to repeal its six-month experience requirement contain evidence suggesting that, in 1937, the requirement was a featherbedding provision designed to raise wages for radiotelegraphers, as opposed to a provision genuinely designed to enhance safety at sea. It appears that labor groups sought to erect a barrier to entry in the market for radio operators so as to earn economic rent. It was the president of a radiotelegraphers' union, Mervyn Rathborne, who proposed in a Senate hearing in 1937 that Congress enact section 353(b).⁷⁵ Indeed, in 1941 it was openly discussed that Congress enacted the six-month experience requirement to benefit radio operators. During the congressional hearings for section 353(b)'s suspension in 1941, Francis B. Walker, representing the American Merchant Marine Institute, testified that it was "common knowledge" that section 353(b)'s six-month experience requirement "was inserted only to satisfy certain associations of marine radiotelegraph operators."⁷⁶

If section 353(b) genuinely existed to ensure adequate training of radiotelegraphers on ships and the safety of life at sea, then surely Congress would have enacted a similar measure in one of its three previous major statutes concerning radiotelegraphy and maritime safety (in 1912, 1927, or 1934). Why would Congress wait until 25 years after the *Titanic* sank and the initial legislation was enacted to consider mandating practices that were supposedly critical to protecting life at sea?

The conjecture that Congress enacted section 353(b) at the behest of radiotelegraphers' unions (and not because of safety concerns) is consistent with the trend in maritime deaths before 1937. Figure 1 reports the number of deaths from maritime disasters from 1912 (the year of the sinking of the *Titanic*) to 1938 (the year after Congress enacted section 353(b)). The dataset underlying Figure 1 excludes any maritime disasters that happened on board government ships (for example, submarines), which would not have been subject to section 353(b).⁷⁷ The dataset does, however, include deaths from civilian ships being torpedoed by German submarines, such as the sinking of the *Lusitania* in

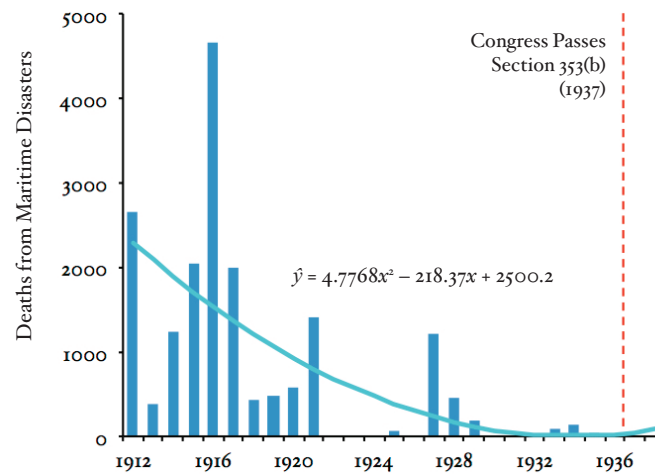
⁷⁵ Rathborne 1937 Statement on S. 595, *supra* note 35, at 45.

⁷⁶ 1941 Hearings on H.R. 2074, *supra* note 57, at 3 (statement of Francis B. Walker, American Merchant Marine Institute)

⁷⁷ Act of May 20, 1937, Pub. L. No. 75-90, § 10, 50 Stat. 189, 192 (amending Communications Act of 1934, Pub. L. No. 73-416, 1064) (codified as amended at 47 U.S.C. § 352) ("The provisions of this part shall not apply to—(1) A ship of war; (2) A ship of the United States belonging to and operated by the Government.")

1915.⁷⁸ When the sources underlying the dataset do not list any maritime disasters in a given year (such as 1922), the dataset will indicate that zero maritime deaths occurred that year. When those years are treated as having missing values, the trend that Figure I illustrates stays the same. I have also estimated a polynomial function for the trend in the number of deaths from maritime disasters not on government vessels.

Figure I. Deaths From Maritime Disasters
Not on Government Vessels, 1912–1938



Sources: *List of Maritime Disasters in the 20th Century*, WIKIPEDIA, https://en.wikipedia.org/wiki/List_of_maritime_disasters_in_the_20th_century; *Shipwrecks Since 1833*, INFOPLEASE, <http://www.infoplease.com/ipa/A0005329.html>.

The equation of the estimated trendline is $\hat{y} = 4.7768x^2 - 218.37x + 2500.2$. The dependent variable, \hat{y} , is the predicted number of maritime deaths given the trend in maritime deaths over the years. The independent variable, x , is a count of years, starting from a value of 1 in 1912. That is, in 1912, x is equal to 1. Similarly, in 1937, x is equal to 26. Although a literal reading of the trendline would indicate that deaths increase after 1934, that predicted increase is merely an artifact of the trendline being a quadratic function, with a minimum in 1934. I have also estimated a cubic function and a logarithmic function for the trend in the number of deaths from maritime disasters not on government vessels, but I have concluded that the quadratic function, relative to the two other functions, best predicts deaths per year, because the quadratic function has the highest adjusted R -squared for my dataset. I therefore present the

⁷⁸ *List of Maritime Disasters in the 20th Century*, WIKIPEDIA, https://en.wikipedia.org/wiki/List_of_maritime_disasters_in_the_20th_century; *Shipwrecks Since 1833*, INFOPLEASE, <http://www.infoplease.com/ipa/A0005329.html>.

quadratic function, even though it indicates a nonexistent increase at the extreme upper end of the estimated time interval.

As both the bar chart and the trendline demonstrate, deaths from maritime disasters not on government vessels were clearly declining from 1912 to 1937 (notwithstanding a spike in deaths in 1916, which occurred more than 20 years before 1937). It bears emphasis that Figure 1 reports an upper bound on the number of deaths from maritime disasters not on government ships reported for each year, because (1) Figure 1 includes deaths from maritime disasters that did not occur at sea—for example, maritime disasters that occurred in harbors, straits, rivers, and so forth—which means that section 353(b) would not have affected the ships involved in those disasters;⁷⁹ and (2) Figure 1 includes deaths from maritime disasters on non-U.S. ships that were not subject to U.S. regulation of radiotelegraphers.⁸⁰ Thus, Figure 1 overstates the number of deaths that occurred from maritime disasters on ships subject to section 353(b). The clear downward trend in deaths implies that Congress did not enact section 353(b) in 1937 because of safety concerns. Rather, the data support the proposition that Congress intended section 353(b) to be a featherbedding provision.

That section 353(b) was a featherbedding provision had economic consequences. Not only did ship owners already have an incentive to hire radiotelegraphers with the appropriate experience—thereby obviating section 353(b)'s six-month experience requirement—but section 353(b)'s mandated six-month experience requirement also caused problems for ship owners insofar as it restricted the supply of qualified radiotelegraphers. For example, in testimony during the 1941 congressional hearings on the temporary suspension of section 353(b)'s six-month experience requirement, Francis B. Walker expressed the concerns of the American Merchant Marine Institute, one of whose members was “faced with the very practical difficulty of obtaining [replacement radio operators] on [its] vessels,” and “ha[d] had numerous short

⁷⁹ Act of May 20, 1937, Pub. L. No. 75-90, § 10, 50 Stat. 189, 192 (codified as amended at 47 U.S.C. § 351(a)(1)) (“Except as provided in section 352 hereof, it shall be unlawful . . . [f]or any ship of the United States, other than a cargo ship of less than sixteen hundred gross tons, to be navigated in the open sea outside of a harbor or port, or for any ship of the United States or any foreign country, other than a cargo ship of less than sixteen hundred gross tons, to leave or attempt to leave any harbor or port of the United States for a voyage in the open sea, unless such ship is equipped with an efficient radio installation.” (emphasis added)).

⁸⁰ Congress exempted from its regulations “foreign ship[s] belonging to a country which is a party to the Safety Convention.” Act of May 20, 1937, Pub. L. No. 75-90, § 10, 50 Stat. 189, 192 (codified as amended at 47 U.S.C. § 352(a)(3)). In other words, ships from countries that had signed the 1929 International Convention for the Safety at Life at Sea were exempt from Congress’ requirement that a ship with an auto-alarm carry a qualified radio operator with six months of experience on board a ship or ships of the United States. Figure 1 includes accidents involving ships from countries such as the United Kingdom, France, and Canada, all three of which had signed the 1929 International Convention for the Safety at Life at Sea. Consequently, section 353(b) would not have affected those ships. International Convention on Safety of Life at Sea pmbl., May 31, 1929, 50 Stat. 1121, T.S. 910; see also *List of Maritime Disasters in the 20th Century*, WIKIPEDIA, https://en.wikipedia.org/wiki/List_of_maritime_disasters_in_the_20th_century (including, for example, the 1920 sinking of the *S.S. Afrique*, a ship of France).

delays to [its] steamers because of the lack of promptly securing radio operators, and . . . had a very definite and costly delay to one of [its] steamers.”⁸¹ In short, section 353(b)’s six-month experience requirement almost certainly forced ship owners to pay higher wages for qualified radiotelegraphers and to pass that wage increase through to shippers in shipping rates.⁸²

III. THE FCC’S INTERPRETATIONS OF SECTION 353(B) IN 1981 AND 1988

In 1981, the FCC made the six-month experience requirement even more burdensome by instituting a stringent interpretation of 353(b). However, radiotelegraphy was, by that time, an archaic means of maritime communication. Technology had changed greatly since the *Titanic* had sunk 69 years earlier, or even since the SOLAS Convention of 1960. New technologies of ship-to-ship and ship-to-shore communication were available and superior substitutes for radiotelegraphy. On July 16, 1979, the Convention on the International Maritime Satellite Organization (INMARSAT) entered into force and led to the deployment and operation of a network of satellites providing voice and data telecommunications services to ships anywhere around the globe.⁸³ With the advent of INMARSAT, a U.S. cargo vessel’s safety—and its ability to function as a potential lifeboat for another vessel in distress—no longer rested in the hands of radiotelegraph operators.

A. *The FCC’s 1981 Rule*

On March 26, 1981, the FCC adopted a rule that stringently interpreted section 353(b) to require the six months of service to be “[o]n board a ship or ships of the United States equipped with a *radiotelegraph* station.”⁸⁴ In other words, one’s “previous service” could not simply be “in a [radio] station on board a ship . . . of the United States” as section 353(b) literally allowed.⁸⁵ The FCC also required that a radio officer’s six months of experience be “[u]nder the authority of a first or second class radiotelegraph operator license prescribed and issued by the Federal Communications Commission”

⁸¹ *1941 Hearings on H.R. 2074*, *supra* note 57, at 3, 4 (statement of Francis B. Walker, American Merchant Marine Institute).

⁸² See, e.g., ROBERT S. PINDYCK & DANIEL L. RUBINFELD, *MICROECONOMICS* 291–92, 346 (Pearson Prentice Hall 6th ed. 2005).

⁸³ INMARSAT BASIC DOCUMENTS 9 (Inmarsat General Council, ed. 1989).

⁸⁴ *Definition of “Radio Officer,” supra* note 67, at 18,719 (emphasis added). President Reagan took office on January 20, 1981. He nominated Mark Fowler to be a commissioner, designated as chairman, of the FCC on March 13, 1981. See Public Papers of Ronald Reagan (Mar. 13, 1981) (nominations and appointments), <https://reaganlibrary.archives.gov/archives/speeches/1981/81mar.htm>. The Senate confirmed Fowler on May 18, 1981. See https://en.wikipedia.org/wiki/List_of_chairmen_of_the_Federal_Communications_Commission. Consequently, the FCC’s reinterpretation of section 353(b) was a policy initiative that the agency proposed before the end of the Carter administration.

⁸⁵ 47 U.S.C. § 353(b).

and that, during those six months, the radio officer hold a U.S. Coast Guard radio officer license.⁸⁶ The FCC's stringent interpretation of section 353(b) effectively excluded experience acquired aboard U.S. government ships from the experience that the agency counted toward fulfillment of the six-month experience requirement, because U.S. government vessels by the 1980s typically were no longer equipped for telegraph operation.⁸⁷ Naval vessels predominately used radioteletype communications. Even if U.S. government vessels were equipped with telegraph equipment, such equipment did not necessarily meet the FCC's requirements for private ships. Despite the expertise that one would expect the U.S. Navy and the U.S. Coast Guard to possess in maritime communications, and although many radio operators on U.S. government vessels held first- or second-class radiotelegraph licenses, the FCC determined that the actual work performed by Navy and Coast Guard radio operators conferred too little of the particular type of experience that the FCC interpreted section 353(b) to require.⁸⁸

Besides adding the radiotelegraph station requirement, the FCC also interpreted section 353(b) to require an applicant to hold, at the same time that he was accruing his six months of cognizable experience, a radio officer license issued by the Coast Guard pursuant to its statutory powers.⁸⁹ This requirement was in addition to a first- or second-class radiotelegraph license issued by the FCC and did not appear in the language of section 353(b).

B. The Economic Effects of the FCC's 1981 Rule

As Figure 2 shows, the FCC issued 340 six-month service endorsements between fiscal years 1974 and 1987.⁹⁰ In 1987, the FCC granted only seven of 23 applications for the six-month endorsement.⁹¹ The FCC did not retain records before 1987 from which to compute the percentage of applicants granted endorsements over time; but changes in the total number of endorsements granted anecdotally suggest that the FCC's 1981 interpretation introduced a period of substantially diminished entry into this labor market.

⁸⁶ *Definition of "Radio Officer," supra* note 67, at 18,719.

⁸⁷ *See, e.g., id.* at 18,719 n.5 ("The Commission recognizes that persons whose radiotelegraph experience has been limited to U.S. government vessels cannot meet these requirements as these vessels are not subject to the [Communications] Act or the SOLAS [Safety of Life at Sea] Convention.")

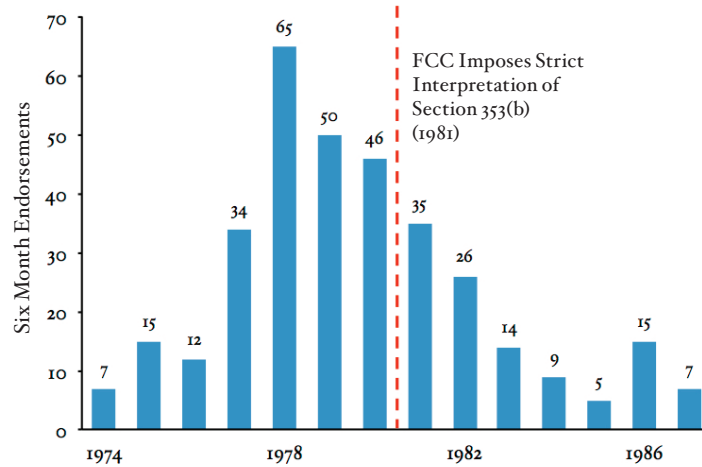
⁸⁸ *Id.*

⁸⁹ 46 U.S.C. § 7103.

⁹⁰ 1987 Sidak Memorandum, *supra* note 3, at 6.

⁹¹ *Id.*

Figure 2. Six-Month Endorsements for Radiotelegraph Officers Issued by the FCC, Fiscal Years 1974–1987



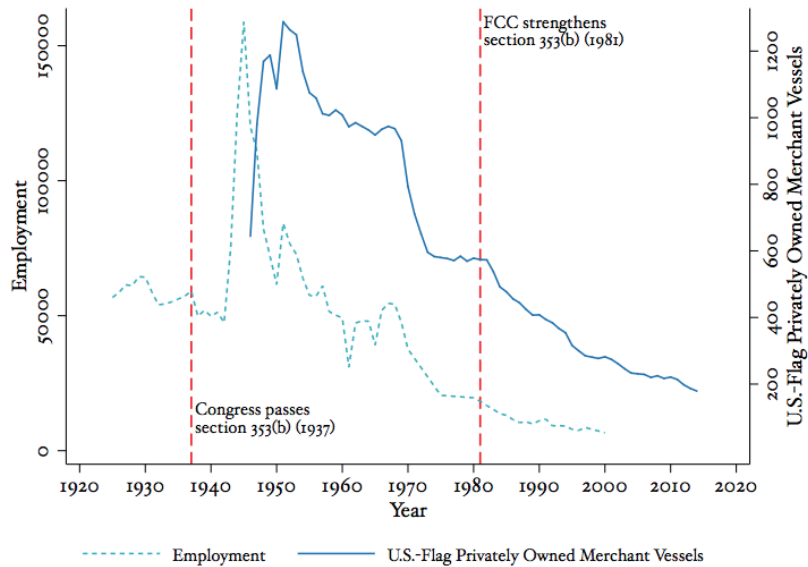
Source: 1987 Sidak Memorandum, *supra* note 3, at 6.

The average number of endorsements per year fell from 33.0 in the eight-year period from 1974 to 1981 to 12.7 during the six-year period from 1982 to 1987 following the FCC’s stringent interpretation of section 353(b). By October 1988, the FCC said: “Many otherwise qualified radio operators who have served on United States Navy, Coast Guard or other Government owned or operated ships, or who have undergone special training programs at sea nevertheless do not qualify for the six months service endorsement.”⁹²

The FCC’s 1981 rule came during a sharp decline in the number of U.S.-flag privately owned merchant vessels. That decline implies that a corresponding decline was occurring in the derived demand for radiotelegraph operators aboard such vessels. Figure 3 shows U.S. maritime employment (a proxy for the number of radiotelegraphers) and the number of U.S.-flag privately owned merchant vessels, which included U.S. cargo ships that were required to comply with section 353(b).

⁹² Report and Order, Amendment of Parts 13 and 80 of the Rules Concerning Ship Radio Officer Qualifying Service Endorsements, 3 FCC Rcd. 6361, 6361 (1988) [hereinafter *1988 Report and Order*].

Figure 3. U.S. Maritime Employment and U.S.-Flag Privately Owned Merchant Fleet



Source: ALEX ROLAND, *THE WAY OF THE SHIP: AMERICA'S MARITIME HISTORY REENVISIONED, 1600–2000*, at 437–38 (Wiley 1st ed. 2007) (internal citations omitted); *MARAD Open Data Portal Maritime Data & Statistics*, U.S. Maritime Administration, <http://www.marad.dot.gov/resources/data-statistics/> (released Jan. 7, 2014). The maritime employment data begin at 1925 and end at 2000, while the data on U.S.-flag privately owned merchant vessels begin at 1946 and end at 2014. The U.S.-flag privately owned merchant fleet includes oceangoing, self-propelled, privately owned merchant vessels of 1,000 gross tons or greater. Thus, the ships that were regulated by section 353(b)—that is, ships of 1,600 gross tons or greater—are included in this dataset, but this dataset of U.S.-flag privately owned merchant vessels also includes ships that were not bound by section 353(b), as this dataset includes ships between 1,000 and 1,600 gross tons. *MARAD Open Data Portal Maritime Data & Statistics, supra*.

As Figure 3 shows, U.S. maritime employment and U.S.-flag privately owned merchant vessels have followed similar declining trends over time. Both data series exhibit a long-term pattern of decline since the 1940s and particularly after the 1960s. For simplicity, if one were to assume that the supply of shipping services was held constant, then this decline in U.S.-flag privately owned merchant vessels represents a decline in the demand for the services of those ships and, consequently, a decline in the derived demand for U.S. maritime employees (which included radiotelegraphers). That the decline occurred during a period when global shipping was increasing puts the trend in U.S.-flag shipping into even starker contrast to the prospects of the industry as a whole. By 1981, it should have been abundantly clear to the FCC that U.S.

cargo shipping was in severe decline. One could argue that the reduction in six-month service endorsements issued by the FCC (evident in Figure 2) was because of the decline in the demand for U.S. cargo services and the consequent decline in the derived demand for radiotelegraphers aboard U.S. ships. Figure 3 confirms the plausibility of this explanation.

At the same time, the data are consistent with the hypothesis that the FCC in 1981 raised barriers to entry into this labor market. One datum supporting this interference was the \$60,000 to \$70,000 salary that holders of the six-month endorsement typically earned in 1987 on a six-month voyage—a salary substantially higher than that paid to radio officers lacking the endorsement.⁹³ In 2016 dollars, those salaries were equivalent to between \$125,135 and \$146,107 on an annualized basis.⁹⁴ To put the annual wage of an FCC-authorized radiotelegrapher in perspective, the median income in the United States in 1987 (converted to 2016 dollars) was \$40,451.⁹⁵ An FCC-authorized radiotelegrapher was therefore earning between 3.1 and 3.6 times the median income in the United States in 1987.

That holders of the six-month endorsement had such a high salary relative to radio officers without the endorsement suggests that the FCC's 1981 ruling was responsible (at least in part) for the low number of endorsements for radiotelegraph officers. Furthermore, that there was a decrease in demand for U.S. cargo shipping—and, consequently, a decrease in the derived demand for radiotelegraphers aboard U.S. cargo ships—suggests that unions representing radiotelegraphers lobbied the FCC to interpret section 353(b) more stringently so as to elevate radiotelegraphers' wages during a period when market forces were actually suppressing those wages. This hypothesis—that the FCC's 1981 ruling worsened an anticompetitive barrier to entry that artificially raised the wages of endorsed radiotelegraphers—comports with the growing economic consensus that occupational licensing, which section 353(b) exemplifies, typically impedes entry and raises wages for licensed members of the profession in question.⁹⁶ The FCC's stringent interpretation of section 353(b) was exacerbating incumbent protection in the labor market. That the FCC chose in 1981

⁹³ 1987 Sidak Memorandum, *supra* note 3, at 7.

⁹⁴ See *CPI Inflation Calculator*, U.S. BUREAU OF LABOR STATISTICS, http://www.bls.gov/data/inflation_calculator.htm.

⁹⁵ See *Table 1. Median Usual Weekly Earnings of Full-Time Wage and Salary Workers by Sex, Quarterly Averages, Seasonally Adjusted*, BUREAU OF LABOR STATISTICS, <http://www.bls.gov/webapps/legacy/cpswktab1.htm>; *CPI Inflation Calculator*, *supra* note 94. In 1987 dollars, the median income in the United States in 1987 was equal to \$19,396. See *Table 1. Median Usual Weekly Earnings of Full-Time Wage and Salary Workers by Sex, Quarterly Averages, Seasonally Adjusted*, *supra*.

⁹⁶ See Morris M. Kleiner & Alan B. Krueger, *Analyzing the Extent and Influence of Occupational Licensing on the Labor Market*, 31 J. LABOR ECON. S173, S199 (2013) ("On balance, our results . . . lend support for the interpretation that occupational licensing often serves as a means to enforce entry barriers to a profession that raise wages."); see also DEPARTMENT OF THE TREASURY OFFICE OF ECONOMIC POLICY, COUNCIL OF ECONOMIC ADVISERS & DEPARTMENT OF LABOR, OCCUPATIONAL LICENSING: A FRAMEWORK FOR POLICYMAKERS 12–13, 30, 34–36, 38–40 (2015), https://www.whitehouse.gov/sites/default/files/docs/licensing_report_final_nonembargo.pdf.

to interpret section 353(b) more stringently suggests that it was catering to unions representing radiotelegraphers. Why else would the FCC have chosen to tighten its interpretation of an obscure and obsolete regulation concerning a dying industry?

Further, as a consequence of the FCC's stringent interpretation of section 353(b), the agency was forced to engage in the laborious examination of ship logs to determine whether a given applicant had accrued the requisite number of hours of experience. The FCC required 1,440 hours of satisfactory experience to meet the six-month experience requirement in section 353(b). The FCC staff literally tallied individual hours, manually checking to see whether the hours that an applicant logged for a particular day should be excluded because, for example, the applicant spent the time repairing rather than using equipment, or the ship was not in the open sea, or more than one radio officer signed the log.⁹⁷ Assuming (very unrealistically) that an applicant logged eight satisfactory hours each day, the FCC would have needed to examine 180 separate daily records to rule on the suitability of an applicant's six months of experience.

It is elemental that government should not undertake a regulatory action unless its expected benefits to society exceed its expected costs to society. Consistent with the conclusion that section 353(b) on its face did not mandate any particular radiotelegraphy experience, the relevant public-interest question was this: did the additional regulatory hurdle that the FCC created in 1981 for the licensing of radiotelegraphers on U.S. cargo ships generate any marginal benefit in maritime safety and, if so, did the marginal benefit exceed the marginal cost that this additional hurdle imposed on consumers of maritime services and on communications workers who wished to enter this labor market? Because of technological advances in maritime communications and because of the incentive that ship owners had to hire competent radio officers even without section 353(b), the first part of this question was very likely to be answered in the negative. If so, then even a modest marginal cost imposed on consumers or communications workers as a result of the FCC's 1981 interpretation of section 353(b) would have outweighed the marginal benefit and thereby would have caused a net harm to the public interest. That outcome would have contravened the basic principle that government should choose regulatory objectives to maximize net benefits to society. Indeed, in 1987, the FCC was not aware of any empirical study that confirmed that its six-month endorsement rules had improved maritime safety.⁹⁸ It follows that the FCC was also bereft of evidence with which to estimate how much, if at all, a marginal relaxation of its interpretation of section 353(b) would have reduced maritime safety. In light of the explicit statement in section 353(b) that the

⁹⁷ 1987 Sidak Memorandum, *supra* note 3, at 3.

⁹⁸ *Id.* at 7.

six-month endorsement existed “for safety purposes,” the FCC would have better discharged its public-interest responsibility in 1987 by reconsidering its interpretation and implementation of the statute.

C. Did the Language of Section 353(b) Compel the FCC’s 1981 Statutory Interpretation?

The FCC’s stringent interpretation of section 353(b) was legally dubious. On its face, section 353(b) did not exact onerous requirements on someone wishing to work as a radio officer on a U.S. cargo ship. It required only that, to work as a radio officer on a cargo ship, one must have had at least six months’ experience as a radio officer on a U.S. ship. The meaning of these last two terms—radio officer and U.S. ship—was not in question in the 1980s. The Communications Act defined a radio officer on a ship of the United States as a person holding at least a first- or second-class radiotelegraph operator’s license as prescribed and issued by the FCC,⁹⁹ in addition to having a U.S. Coast Guard radio officer license.¹⁰⁰ To qualify for a second-class radiotelegraph operator’s license, one had to pass a written examination covering radiotelegraphy operating procedures and a Morse code examination (both receiving and transmitting) at 16 code groups per minute and 20 words per minute plain language, whereas a first-class license required passing Morse code examinations at 20 code groups per minute and 25 words per minute plain language.¹⁰¹ Thus, to receive a radiotelegraph operator’s certificate, one needed to demonstrate to the FCC an objective level of competency in sending and receiving Morse code.

The meaning of a U.S. ship also was not in question. Section 353(b) did not distinguish between U.S. government vessels and private U.S. vessels. Thus, Navy and Coast Guard ships constituted “ships of the United States” for purposes of this statute. To conclude the opposite would have required imparting an unnatural meaning to this phrase.

The remaining legal question before the FCC in the late 1980s was whether six months as a radio operator on a Navy or Coast Guard ship was the kind of “previous service” that section 353(b) required. The statute did not expressly indicate what the radio officer was required to do to acquire six months of experience. In particular, the statute did not require that one’s “previous service . . . as a radio officer” be performed *in a radiotelegraph station*.¹⁰² Therefore, the FCC in 1987 quite reasonably could have applied the plain language of section 353(b) and allowed that, as long as a radio operator on a U.S. government vessel held a radiotelegraph license, any kind of experience

⁹⁹ 47 U.S.C. § 153(38)(A).

¹⁰⁰ An Act to Amend the Communications Act of 1934 to Conform to the Convention for the Safety of Life at Sea, Pub. L. No. 89–121, 79 Stat. 511, 514 (1965).

¹⁰¹ 47 C.F.R. §§ 13.21–13.22.

¹⁰² 47 U.S.C. § 353(b).

that he had acquired while acting as a radio officer in a station aboard such a vessel would count toward the six months of “previous service” required of a sole radio officer aboard a U.S. cargo ship equipped with a radiotelegraph auto alarm. The plain language of section 353(b) did not compel the onerous interpretation that the FCC gave this statute in 1981. If anything, the statutory language supported a permissive and flexible interpretation. Section 353(b) said that the six-month endorsement existed “for safety purposes,”¹⁰³ and there was no indication in section 353(b) that one particular method of achieving safety must be frozen in time or pursued without reference to new communications technologies that improve maritime safety. The FCC’s stringent interpretation of section 353(b)’s six-month experience requirement in 1981 contradicted its statement in 1979 that the Communications Act should “allow and encourage the most effective form of distress and safety telecommunications that modern technology can make available consistent with the needs of each particular vessel.”¹⁰⁴

D. The FCC’s 1988 Rule

By the late 1980s, because of a shortage of radio operators knowledgeable in telegraphy, the radiotelegraph industry asked the FCC to accept experience as a radio operator on U.S. government vessels for the purpose of satisfying the six-month service requirement of section 353(b).¹⁰⁵ The proponents of this proposal included the American Institute of Merchant Shipping, the American Maritime Officers Service, the Marine Engineers Benevolent Association, and other ship owners and management organizations.¹⁰⁶ The main opponents were the American Radio Association and the Radio Officers Union, which argued that a radio officer should be considered qualified only if he had spent six months under a qualified radiotelegraph operator’s supervision.¹⁰⁷

As the FCC’s deputy general counsel at the time, my legal opinion was sought in September 1987 on whether service as a radio operator aboard U.S. Navy or Coast Guard ships satisfied the “previous service” requirements of section 353(b). I concluded in an October 1987 memorandum that such Navy or Coast Guard service satisfied section 353(b). I recommended that the FCC reexamine the broader question of whether its rules in this area advanced the public interest, and that it consider replacing its regulatory regime with

¹⁰³ *Id.*

¹⁰⁴ Inquiry into High Seas Public Coast Operations, Service and Industry, 44 Fed. Reg. 46,493, 46,495 (Aug. 8, 1979) (to be codified at 47 C.F.R. §§ 81, 83).

¹⁰⁵ Notice of Proposed Rule Making, Amendment of Parts 13 and 80 of the Rules Concerning Ship Radio Officer Qualifying Service Endorsements, 3 FCC Rcd. 732, 732 (1988) [hereinafter *1988 NPRM*].

¹⁰⁶ *1988 Report and Order*, *supra* note 92, at 6362.

¹⁰⁷ *Id.*

a system of self-certification administered by ship owners and made under penalty of perjury.

The FCC released a report and order amending its regulation of radiotelegraph officer licensing on October 31, 1988, nine months after issuing notice that it would consider new rules.¹⁰⁸ These rules adopted most of the proposals in my 1987 memorandum. Beginning on December 15, 1988, service as a radio officer on U.S. government ships would qualify an individual for the six-month service endorsement.¹⁰⁹ The FCC revised its rules to require the applicant to show that he had worked for six months on board ships of the United States that were “equipped with a radio station complying with the provisions of Part II of Title III of the Communications Act *or the ships were owned and operated by the U.S. government, for example the U.S. Navy or U.S. Coast Guard, and equipped with radio stations.*”¹¹⁰ In addition, the radio officer’s “time spent on board a ship performing maintenance duties, training, operating radiotelephone stations and time in port” qualified for the sixth-month service period, and the FCC’s report and order “also propose[d] to allow vessel owners, operators, captains and masters to certify that the applicant ha[d] successfully completed the six months qualifying service requirements.”¹¹¹

The FCC also made rule changes to allow applicants to qualify for the six-month service endorsement without having held a radio officer’s license issued by the Coast Guard for the entire six-month employment period. The FCC amended section 13.12(2)(i) of its rules to require the applicant to have been employed as a “radio operator,” instead of a “radio officer,” as the agency had required before 1988.¹¹² Furthermore, the applicant no longer needed a radio officer license issued by the Coast Guard for the entire six-month period; the applicant needed only to hold the license “at the time the six-month service endorsement [was] requested.”¹¹³ The FCC also redefined a “radio

¹⁰⁸ 1988 Report and Order, *supra* note 92; 1988 NPRM, *supra* note 105.

¹⁰⁹ Ship Radio Officer Qualifying Service Endorsements, 53 Fed. Reg. 46,454 (Nov. 17, 1988) (to be codified at 47 C.F.R. §§ 13, 80).

¹¹⁰ 1988 Report and Order, *supra* note 92, at 6,365 app. A (emphasis added). The FCC later shifted section 13.12 of its rules to section 13.201 in almost identical form when the agency privatized its commercial license examinations. Amendment of Part 13 of the Commission’s Rules to Privatize the Administration of Examinations for Commercial Operator Licenses and to Clarify Certain Rules, 8 FCC Rcd. 1046, 1052, 1055 (1993).

¹¹¹ Ship Radio Officer Qualifying Service Endorsements, 53 Fed. Reg. at 46,454.

¹¹² *Id.* at 46,454–55. This statutory interpretation does not appear to comport with the plain language of section 353(b), which required U.S. cargo ships with a radiotelegraph auto alarm to carry “at least one radio officer who shall have had at least six months’ previous service in the aggregate *as a radio officer* in a station on board a ship or ships of the United States.” 47 U.S.C. § 353(b) (emphasis added).

¹¹³ Ship Radio Officer Qualifying Service Endorsements, 53 Fed. Reg. at 46,454–55.

officer” to be a person “licensed as a ‘radio officer’ by the U.S. Coast Guard when employed to operate a ship radio telegraph station.”¹¹⁴

IV. THE FOREGONE IRRELEVANCE OF THE FCC’S 1988 STATUTORY REINTERPRETATION OF SECTION 353(B)

Although the FCC deserves credit for eventually loosening its constricted interpretation of section 353(b) in 1988, the FCC’s regulatory reforms were far too late relative to the demise of the U.S. maritime industry and the obsolescence of radiotelegraphy to make any difference. The FCC’s new rules were only a palliative, as the FCC obviously lacked Congress’ power to repeal the statute’s six-month experience requirement. Moreover, although the FCC changed its interpretation and enforcement of section 353(b)’s six-month experience requirement, it did so only after more than fifty years of regulatory suppression of competition in this particular labor market that was so constricting that the agency managed to create the remarkable phenomenon of a shortage of radiotelegraph operators while the derived demand for these workers was vanishing due to the morbidity of the U.S. shipping industry.¹¹⁵

Furthermore, the FCC’s belated regulatory reform came only four years before the agency, in February 1992, adopted the requirements of the International Safety of Life at Sea (SOLAS) Convention by implementing the Global Maritime Distress and Safety System (GMDSS), which the agency called “the biggest improvement in marine safety since the first maritime regulations were enacted following the sinking of the *Titanic* in 1912.”¹¹⁶ The GMDSS made radiotelegraphy literally obsolete, because GMDSS-equipped ships were not equipped with manual Morse code telegraphy equipment and instead used alternative means of sending distress alerts.¹¹⁷ The FCC applied the GMDSS provisions to “cargo ships of 300 tons gross tonnage and over when traveling on international voyages or in the open sea, and to all passenger ships irrespective of size when traveling on international voyages or in the open sea.”¹¹⁸ This category encompassed all ships subject to Title III, Part II of the Communications Act of 1934 (which includes section 353(b)) when trav-

¹¹⁴ *Id.* at 46,455.

¹¹⁵ The U.S. percentage of the world merchant fleet fell from 16.9 percent in 1960 to 3.5 percent in 1980. U.S. Department of Transportation, Office of the Assistant Secretary for Research and Technology, Bureau of Transportation Statistics, table 1-24 (Number and Size of the U.S. Flag Merchant Fleet and Its Share of the World Fleet) http://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/national_transportation_statistics/html/table_01_24.html_mfd.

¹¹⁶ Amendment of Parts 13 and 80 of the Commission’s Rules to Implement the Global Maritime Distress and Safety System (GMDSS) to Improve the Safety of Life at Sea, 7 FCC Rcd. 951, 951 (1992) [hereinafter *Amendments of Parts 13 and 80*].

¹¹⁷ See *Operational Requirements, THE GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM*, <http://www.gmdss.com.au/requirements.html>.

¹¹⁸ *Amendments of Parts 13 and 80, supra* note 116, at 953.

eling in the open sea.¹¹⁹ All of these “compulsory ships” had to be GMDSS-equipped by February 1999.¹²⁰ Moreover, the GMDSS did not require ships to be equipped with manual Morse code telegraphy equipment, and the GMDSS required alternative means of sending distress alerts.¹²¹

In the Telecommunications Act of 1996, Congress finally clarified that the six-month experience requirement of section 353(b) did not apply to ships operating in accordance with the GMDSS requirements.¹²² Congress removed section 353(b) as a binding constraint on ship owners when it provided that “a ship . . . operating in accordance with the Global Maritime Distress and Safety System provisions of the Safety of Life at Sea Convention shall not be required to be equipped with a radiotelegraphy station operated by one or more radio officers or operators.”¹²³ Yet, Congress still did not repeal section 353(b), such that, between 1992 and 1996, GMDSS-equipped ships were still required to be equipped with a radiotelegraphy station and at least one radio officer, even though GMDSS-equipped ships had methods of communication that were superior to radiotelegraphy. Even in 2016, more than a century after the loss of the *Titanic*, section 353(b) remains in Title 47 of the U.S. Code.

CONCLUSION

Old regulations never die. After the sinking of the *Titanic* in 1912, Congress began regulating maritime radiotelegraphy. A full quarter century passed between the occurrence of the disaster and the enactment of the most conspicuous rent-seeking legislation, which Congress continued to justify on grounds of maritime safety. However, exogenous changes in the demand for U.S. cargo shipping and in the technology of maritime communications reduced section 353(b) of the Communications Act to being an occupational licensure provision that was increasingly unable to deliver rents to the faction that had secured its enactment. The FCC loosened its regulatory grip only when satellite technology had displaced radiotelegraphy. And Congress still has not removed from Title 47 of the U.S. Code this obscure regulation of an obsolete guild.

¹¹⁹ *Id.*

¹²⁰ *Id.*

¹²¹ See *Operational Requirements*, *supra* note 117.

¹²² Telecommunications Act of 1996, Pub. L. No. 104-104, § 206, 11 Stat. 56, 114 (codified as amended at 47 U.S.C. § 363).

¹²³ *Id.*