

HAS THE SHIP SAILED? THE CHANGING ROLES AFTER WORLD WAR II OF
DOMESTIC WATER TRANSPORT IN THE ISLAND NATIONS
OF BRITAIN AND JAPAN

by

ADRIAN D. S. DONOVAN

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THESIS APPROVAL PAGE

Student: Adrian D. S. Donovan

Title: Has the Ship Sailed? The Changing Roles after World War II of Domestic Water Transport in the Island Nations of Britain and Japan

This thesis has been accepted and approved in partial fulfillment of the requirements for the Master of Arts degree in the Department of History by:

George J. Sheridan	Chairperson
Jeff Hanes	Member
Craig Parsons	Member

and

Scott L. Pratt	Dean of the Graduate School
----------------	-----------------------------

Original approval signatures are on file with the University of Oregon Graduate School.

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THESIS ABSTRACT

Adrian D. S. Donovan

Master of Arts

Department of History

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Title: Has the Ship Sailed? The Changing Roles after World War II of Domestic Water Transport in the Island Nations of Britain and Japan

Britain and Japan, fellow island nations, share many geographical similarities, and accordingly both societies have long taken advantage of water transport domestically. In modern times the two nations' governments have diverged in terms of philosophies toward economy and industrialization. Britain is known as today's consummate private-industry advocate within western Europe, while Japan is noted for the strong level of government "guidance" in its post-WWII economy. Using the abovementioned similarities as a baseline, this thesis examines how the supposedly different relationships between government and economy in Britain and Japan have affected the ongoing use of water in their domestic transport sectors since World War II. Some forms of water transport have continued to thrive commercially in both nations, due primarily to those forms' inherent economic and technical advantages, while other water transport modes are maintained through government support because of other, less commercial benefits they offer to the two societies.

CURRICULUM VITAE

NAME OF AUTHOR: Adrian D. S. Donovan

GRADUATE AND UNDERGRADUATE SCHOOLS ATTENDED:

University of Oregon, Eugene
University of Hawai'i, Mānoa
University of Southern California, Los Angeles
University of Chicago, Chicago, Illinois

DEGREES AWARDED:

Master of Arts, History, 2015, University of Oregon
Post-Baccalaureate Certificate in Secondary Education, 2002, University of
Hawai'i, Mānoa
Bachelor of Science, Electrical Engineering, 1998, University of Southern
California
Bachelor of Arts, Linguistics, 1990, University of Chicago

AREAS OF SPECIAL INTEREST:

Post-WWII Transport in Europe and Japan
Economic History of Modern Europe and Japan

PROFESSIONAL EXPERIENCE:

Secondary School Teacher, Kahuku High and Intermediate School, Kahuku,
Hawai'i, 2004-2006
Japanese Language Teacher, Kalaheo High School, Kailua, Hawai'i, 2002-2004
Marketing Technical Engineer, Intel Corporation, 1998-2000
Coordinator for International Relations, Miyagi Prefectural Government, Sendai,
Japan, 1993-1994
Assistant English Teacher, Monou Town Board of Education, Miyagi Prefecture,
Japan, 1991-1993
Legal Assistant, Debevoise & Plimpton, New York, New York, 1990-1991

GRANTS, AWARDS, AND HONORS:

Graduate Teaching Fellowship, History, 2013 to present

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CHAPTER I

INTRODUCTION

“Britain and Japan, 1858. The two island empires had little in common when at Britain’s demand their representatives met that August to negotiate a commercial treaty. Britain, a world-wide empire dedicated to free trade; Japan, a group of four islands, almost isolated from the world for more than two centuries by a self-imposed seclusion policy. Britain, a constitutional monarchy run by a parliamentary system; Japan, a decadent military dictatorship. Britain, a rich manufacturing nation; Japan, a traditionally feudal society undermined by a developing money economy.”¹

With these words Grace Estelle Fox begins her comprehensive study of these two “island empires.” In her work Ms. Fox examines the first twenty-five years of official interaction between Britain² and Japan. However, in asserting that the two island nations – no longer empires in today’s parlance – “had little in common,” she appears to neglect geography. The two were called “island empires” for a reason: excluding overseas territories, each of them is composed of a handful of main islands surrounded by a plethora of smaller ones. In Japan, other than the “four islands” mentioned by Ms. Fox, there are more than four-hundred-fifty smaller populated ones.³ Britain boasts about a hundred inhabited isles off the coasts of Scotland alone.⁴ In true island fashion, both countries have a very high length of coastline relative to their land area when compared

¹ Fox, *Britain and Japan*, 3.

² Unless otherwise specified, in this thesis “Britain” is used interchangeably with “UK,” to give historical continuity with the pre-Northern Ireland entity.

³ Un’yushō, *Un’yu hakusho*, 1965 Kakuron II (I) Dai 2-shō Dai 2-setsu no 5. See Appendix B for information on how to navigate Japanese white papers.

⁴ Scottish Executive, *Scotland’s Transport Future*, 10.

with continental states. Nowhere in either country can one find a point on land more than seventy-two miles away from the sea.⁵

Geographical similarities were just that, however – similarities, not exactly the same. Each of the four main islands of Japan has a tall mountainous spine running roughly down its center, so that including several volcanoes and hilly areas, about 75% of Japan's total land area is mountainous. Peaks, reaching up to 12,400 feet (3800 meters) at Mount Fuji's summit, are often separated by valleys, so that mountain sides are steep.⁶ Given this topography, the bulk of Japan's rivers descend rapidly out of the mountains and then travel only a short distance over lowland plains to the ocean. Their water levels vary widely during the year, making them prone to flooding. Rivers emptying into the Pacific Ocean (on the south and east coast of Honshū, Japan's main island, as well as on Kyushu and Shikoku, Japan's third- and fourth-largest islands, respectively) run highest during Japan's monsoon and typhoon seasons (early and late summer, respectively) and run low in the winter. Those emptying into the Japan Sea (on Honshū's north coast) are highest in spring due to snow runoff.⁷ Britain, on the other hand, is split roughly into two zones by a line running from the Exe River in the southwest, up to the Tees River in the Northeast. The area north of this line, comprising all of Scotland and Wales and the extremities of western and northern England, is considered Britain's highlands. The lowlands, south of the line, comprise the bulk of England. In this part of the country, the plains are interrupted at most by hills. Even in the highlands, the mountains are low

⁵ 113km (70 miles) for Britain (see Haran, "farm furthest from the sea"), 115km (72 miles) for Japan (see Saku Shiyaku-sho, "Nihon de umi kara...").

⁶ Geographical Survey Institute, *National Atlas of Japan*, 5.

⁷ *Ibid.*, 22. The Japan Sea coast of Honshū receives much more snow in winter than the Pacific coast, especially north of Tokyo.

compared with those of Japan – Britain’s tallest peak, Ben Nevis, stands at 4400 feet – and many mountainous areas above 2000 feet take the form of elevated plateaus rather than the alternating steep mountain faces and valleys of Japan.⁸ This division between highlands and lowlands also leads to a drainage divide in Britain that runs north to south but whose axis is far west of England’s longitudinal center. Rivers flowing west from the divide have a comparatively short, quick trip out to the Atlantic Ocean or Irish Sea, whereas those flowing east are longer and tend to coalesce into wide estuaries near England’s east and south coasts. Rainfall is much more evenly distributed throughout the year in Britain than in Japan, so seasonal changes in river heights are less pronounced in Britain.⁹

Settlement in England was thus not limited to coastal areas, as it largely was in Japan. Early population centers of Britain, such as London, were ports located inland along rivers in England’s lowland areas, providing access to the sea for coastal shipping but also protection from dangerous seafarers. It was only after the Norman Conquest, during a huge urban expansion in the eleventh through thirteenth centuries due largely to growing international shipping trade, that Britain’s port system moved outward to the coasts.¹⁰ Historically most of Japan’s population settled in the relatively narrow lowland plain areas running along the coasts. From the fifth century CE Japanese rulers were establishing their capitals on Honshū in the lowland plain to the east of the Seto Inland Sea. This area offered a benevolent climate and cultivable land with fertile soil, but also

⁸ Gilbert, “United Kingdom,” 1-2

⁹ Ibid., 4-5

¹⁰ Hutchinson, *Medieval Ships*, 105.

access to the relatively calm waters of the Inland Sea, which linked Honshū with the nearby main islands of Shikoku and Kyushu.¹¹ This plain area, known as Kinai, would be Japan's dominant population and economic center up until premodern times, featuring the urban areas of Osaka, Kyoto, and Kobe. Japan's largest lowland-plain area, Kantō, would become host to a growing population after the establishment of the military shogunate government there at the end of the twelfth century. The premodern Tokugawa shoguns would establish their capital, Edo, in the Kantō plain as well, and Edo would later grow into the modern capital of Tokyo.

Another point of strong similarity between Britain and Japan which Ms. Fox omits concerns transport. Both nations have been transporting people and goods on their coastal waters since the beginnings of their recorded histories, a practice known as coastal shipping (Japanese: *naikō kaiun* or *engan kaiun*). Boats often found their way along substantial numbers of navigable rivers as well. When river access was insufficient artificial waterways – canals – were constructed. Transport on rivers or canals was known as inland water transport (IWT) (Japanese: *nairiku suiun* or *kasen shūun*).

But why would Britain and Japan use water transport so readily? After all, Japan had an organized overland system of roads, complete with an *ekisei* network of horse relay stations, from at least the seventh century CE.¹² Britain made use of the legacy Roman road network while adding their own improvements, especially from the sixteenth century on, when the capacity to raise money and labor for road upkeep more easily

¹¹ Shapinsky, *Lords of the Sea*, 25, 28-9.

¹² Toyoda and Kodama, *Kōtsū-shi*, 9.

enabled local bodies to develop the turnpike system.¹³ The simple answer to the question of “why water?” is that transport on water is simply more efficient than over land, due to the low friction between ship and water. In eighteenth-century Britain a horse was able to pull a one-ton load on the poorly-designed and constructed roads, perhaps two tons on the best roads, while a barge floating on a canal could be pulled by that same horse with thirty tons or more loaded on it. A horse-drawn wagon on the roads could carry up to four tons, a horse-pulled cart 1.5 tons, and a pack horse could be fitted with up to two hundred pounds. An average “coaster” (coastal-shipping vessel), by comparison, could haul seventy tons, while the largest coasters could haul three hundred tons.¹⁴ A typical overland trip in Tokugawa-era Japan cost six times more than a similar trip over a lake, and up to 17.5 times more than in coastal waters. On land each *koku* (a traditional measure) of cargo required the accompaniment of one horse and rider, whereas on a boat a thousand-*koku* load needed at most a twenty-man crew.¹⁵ An example British scenario, using a load of fifty tons, will show the incredible economies of coastal shipping versus overland freight carriage. By land the fifty-ton load would require thirteen horse-drawn wagons, each with one conductor and six horses, for a total of thirteen conductors and seventy-eight horses; by contrast an average coastal vessel, which could easily handle the whole fifty-ton load, required a crew of only four or five people. Each four-ton freight portion on land would cost £10 per horse and £40 for the wagon, giving a total of £10 x 6 + £40 = £100 per four-ton segment, or £100 * 12.5 = £1250 total for the fifty tons not including the cost of £20 per day for horse feed. A

¹³ Dyos and Aldcroft, *British Transport*, 29-34.

¹⁴ Armstrong, “British Coastal Shipping,” 16-17.

¹⁵ Toyama, Ninomiya, and Baba, “Dōro miseibi no haikai,” 97.

coaster would cost a maximum of £24 for each four tons, or $£24 * 12.5 = £300$ for the fifty-ton load. In other words, freight rates on coastal shipping lines could amount to less than $\frac{1}{4}$ that of land carriage with horses. Coastal shipping had additional advantages. Costs were incurred only at start and end points of a journey irrespective of the distance between them, meaning the longer the trip, the lower the transport cost per ton-mile. For road transport costs rose in proportion to distance due to the necessity of horse feed and manpower wages that were computed relative to trip length. Normally horses had a working life of five years, as opposed to twenty years for an average ship. Even the supposed major drawback of coastal shipping, its slow speed, was not necessarily a fact. A well-loaded wagon could travel perhaps twenty miles a day on roads before stopping for the night, but a coaster, running at all hours of the day and night, could travel one-hundred forty miles in a twenty-four-hour period.¹⁶

For all of these reasons, any kind of low-value bulky freight in premodern Britain or Japan would travel by coastal shipping wherever possible. If start and end points were close enough to the coast, and transport distances greater than forty miles or so, even trips carrying higher-value freight would be made on coasters.¹⁷ The benefits were even greater if the portions of a trip between inland start/end points and the coast were done on water as well, whether by natural (river) or artificial (canal) waterway. The proximity of Japan's population centers – the lowland plains – to the nation's coastline meant relatively easy access for coastal shipping. Freight could be carried the short distance over land to the coastline for loading onto boats, and according to early evidence

¹⁶ Armstrong, "British Coastal Shipping," 16-18.

¹⁷ *Ibid.*, 19.

Japanese used the relatively flat, lowland sections of their rivers as thoroughfares between inland locales and the coastline.¹⁸ Both Kinai and Kantō are blessed with large navigable waterways allowing freight to be carried from inland extremities of the lowland plains out to the ocean. Their respective population centers, Osaka and Edo, were located on calm, protected waters (Inland Sea or Tokyo Bay) at the mouths of those large rivers.¹⁹ With respect to England, much of its lowland was within short distance of rivers, on which freight was moved extensively. Even after the port system moved outward to the coasts to provide easier access for large deep-sea ships, river transport was kept active through river improvement and diversion projects as early as the thirteenth century. The coastal port ring formed many of its nodes at locations offering inland access through waterways.²⁰

A main goal of this thesis is to show how demand for waterborne transport in the economies of Britain and Japan was, and still is, largely proportional to water transport's technical advantages over carriage on land. Once quick, efficient, high-capacity overland transport modes appeared in the nineteenth century, waterborne modes began to lose their prominence. The first overland mode of this type, the railways, usurped much of the passenger traffic in both countries within short order, and took a significant share of freight traffic as well. Canals always suffered from low speeds and a host of technical issues; they could compete with road transport at low speeds, but succumbed in short order to the relatively swift railways. Coastal shipping continued to hold on to a significant portion of each nation's freight traffic because railways could never quite

¹⁸ For example, see Yamamoto, *Transportation in Japan*, 4, or Yui, "Introduction," xii.

¹⁹ Mosk, *Japanese Industrial History*, 18.

²⁰ Bagwell and Lyth, *Transport in Britain*, 21; Duckham, "Canals and River Navigations," 132.

match its economies of scale for large loads of bulk, low-value cargo. Passenger transport, which had always been popular on coasters and less so (but not nonexistent) on canal boats, continued on well past World War II. Motor vehicles proved to offer even stronger competition for waterborne transport, especially after the construction of large motorway networks starting in the late 1950s and 1960s. After this point road haulage largely eclipsed freight traffic on canals, yet again coastal shipping held on to a significant portion of domestic freight traffic due to economies of scale.

Comparisons

The historical literature on domestic transport is quite rich for both Britain and Japan, as is attested to by the many titles in the bibliography. Moreover, such works frequently illustrate the specific advantages of waterborne transport discussed here. Yet the existing literature addresses transport in each country individually, rather than comparing Britain and Japan with respect to transport. This thesis takes a comparative approach to the two countries. In doing so it extends to transport, the comparative study of the two countries undertaken in other areas of history. By setting the two nations' similar geographies as a baseline, this thesis will compare and contrast political, industrial, and economic developments in Britain and Japan to show what effects, if any, those developments have had on the fortunes of water transport in the two countries' histories. Prior to the advent of efficient, high-speed overland transport – railways – in the nineteenth century, water transport in both countries faced no substantial overland competition and thus was used wherever possible out of utility or even necessity, regardless of political, industrial, or economic developments. After World War II, however, the rapid proliferation of motorized transport with the spread of modern, high-speed roadways meant the existence

of two highly-competitive overland alternatives to water. Focusing on the post-World War II era, the thesis will address the question whether other differences in the two countries changed the distribution of transport differently among these alternatives.

This chronological focus has the advantage of an abundance of readily-available primary sources published since World War II which illustrate both governmental and private-industry perspectives on developments in the transport sector. Two main classes of primary sources were consulted for this thesis: government transport white papers and newspaper articles. A white paper may be defined as “a kind of declaration of intention in which the [issuing body] commits itself to a clear policy and actions that go with it...it should be the consequence of intensive prior consultation within and outside the [issuing body].”²¹ White papers thus give first-hand insight into public transport policy. Newspaper articles, on the other hand, were used in the research for this thesis because they often quote, or at least summarize, the opinions of a wide range of members of the private transport industry, all the way from representatives of large shipping companies to owners of small coastal vessels.

Other than their similar monikers, the white papers of Britain and Japan are very different animals. The postwar Japanese national transport ministry has published these papers annually since 1964, all available online. Each year’s copy is extensive, giving a plethora of statistics, the names and dates of key laws and regulations, much history – Japanese transport history and economic history more generally – and separate detailed sections for 1) “hot” topics of the year; and 2) the latest occurrences in each transport mode. While a direct Japanese translation of “White papers,” *un’yu hakusho* or *kōtsū hakusho*, is a common term used to describe these documents, the formal name, *un’yu*

²¹ European Commission, “What is a White Paper?”

keizai nenji hōkoku or “Annual Transport Economy Reports,”²² more accurately reflects their nature. British white papers, in comparison, have been published sporadically in the postwar period. Each one covers either global transport policy or focuses on one of its specific facets. They present government ideas and directions, and embellish little with statistics or historical information.²³ British White Papers at times ooze emotion, especially when discussing key policy supported by either political party but not by both, while Japanese white papers are largely dispassionate in tone. One can understand this difference in light of several important facts about the two countries’ political systems.

From the beginning of Japan’s shift in the late 1860s to a modern industrialized economy, its governments have felt justified in pursuing a high level of intervention in the nation’s economic development, even in industries such as coastal shipping where ownership and operation have remained nominally private.²⁴ Postwar governments have carried on this tradition, their job made easier by Japan’s unique political situation: from 1955 on one party has dominated Japan’s political arena virtually uninterrupted to the present. This is the Liberal Democratic Party, or LDP (*Jiyū Minshu-tō*, usually *Jimintō* for short). While debate occurs between the LDP and minority parties in the National Diet, Japan’s version of the U.S. Congress, this political posturing acts effectively as a veneer hiding the true legislative engine of the country, its elite state bureaucracy.

²² See Un’yushō, *Un’yu hakusho*, published annually by the Japan Ministry of Transport (Un’yushō) from 1964 to 2000. From 2001 on they have been published under the Ministry’s new name, Ministry of Land, Infrastructure, Transport and Tourism (MLIT) (in Japanese: Kokudo Kōtsū-shō); see Kokudo Kōtsū-shō, *Kokudo kōtsū hakusho*.

²³ Due to this latter point, in the researching of this thesis British Government Transport Acts were consulted as well for information on specific laws and regulations.

²⁴ The glaring exception to this rule was the government’s attempt in the very beginning of the Meiji era to start up a public coastal shipping enterprise. Chapter II shows how this venture failed in short order, after which the government pursued a policy of financial support and strategic “advice” towards private coastal-shipping firms.

Predominantly graduates of the nation's best law schools, the members of this bureaucracy enter the various government ministries on the basis of national examinations, not through appointment by elected officials. Japan's leading elected official, the prime minister, has the power to appoint only about twenty ministers or agency chiefs throughout the entire government. The result is a civil service that "drafts virtually all laws, ordinances, orders, regulations, and licenses that govern society" and which "has extensive extra-legal powers of 'administrative guidance' and is comparatively unrestrained in any way, both in theory and in practice, by the judicial system."²⁵ This has allowed a remarkable long-term continuity of policy direction in Japan, largely free of the shakeups created by regular electoral turnover of appointed bureaucrats such as members of the U.S. Cabinet. Given their annual release, their detailed and voluminous nature, and their political neutrality, it is hard to imagine that busy, politically involved Ministers of Transport or their appointees would have much say in the composition of Japan's transport white papers. No doubt they are the product of the insulated ranks of civil servants.

Quite different from Japan's transport experience in the modern era, in Britain "[g]iven the [earlier] success of private enterprise in so radically improving transport provision by water, by road and... by rail... the liberal politicians of the nineteenth century were content to 'leave it to the market' to choose how and where to invest in service-provision..."²⁶ As Chapter II will show, it was only with the outbreak of World War I that British governments would start to challenge this *laissez-faire* trend. After

²⁵ Johnson, *Japan: Who Governs?*, 13.

²⁶ Glaister et al., *Transport Policy in Britain*, 15.

World War II Britain's government would again differ markedly from Japan's, this time in the sphere of politics. Post-WWII British politics would continue a tradition started in the 1920s, whereby the Labour Party and Conservative Party would trade national power back and forth. Vastly different from the gradual, long-term evolution of transport policy in Japan, Britain experienced many shifts and even reversals of public policy with all the changings of the political guard. White papers offered a means for the parties to extend their policy debates into a public written forum, where occasionally they even pointed out the "errors" of previous administrations.²⁷ Politicians filling top-level transport posts, including Transport Ministers themselves, have had extensive input into the drafting of the white papers. This can be seen from the prefaces, drafted by transport Ministers, that often accompany the papers especially in more recent decades, as well as from ministerial notes attached to white paper drafts available in British government archives.²⁸

The authors of the Japanese transport white papers, in the interest of thoroughness, repeat much of the same information from year to year. While this may be useful for a reader tracking, for example, the annual funding of a specific transport program, researchers looking for more global trends must comb carefully through the white papers' voluminous text to find truly new transport developments or directions. Since Britain's white papers, on the other hand, are published sporadically and not according to a regular schedule, the researcher can be fairly certain that each paper will hold significant changes in policy developments or directions. Naturally, the first paper, or set of papers, after a change of government leadership from one political party to the other tend to signify

²⁷ For example, in a 1966 transport policy white paper the Labour government of the time complained of "...the determination of successive Conservative governments to destroy the machinery for integrating road and rail transport." Ministry of Transport, Transport Policy, at para. 90.

²⁸ For an excellent example see National Archives Online, "Cabinet Papers 1915-1986."

relatively fundamental shifts in transport policy. Of course, given the rapid turnover of British politics as compared with those in Japan the white-paper reader must be prepared for new policy changes or even reversals with each switch of party in power, whereas in Japan a long-term policy initiative described in white papers tends to have more chance of actually being carried out over the long term than it would in Britain.

Thesis Organization

Chapter II of this thesis will compare and contrast the two countries from early recorded history up until the modern era, through the first half of the twentieth century. Until the advent of railways transport in both countries would be largely in private hands, the main contrast being the stronger overland alternatives available in premodern Britain as compared with Tokugawa Japan. Chapter III will compare and contrast the fate of coastal shipping for freight transport in both island nations from 1945 to the present. Despite huge differences in the extent of government oversight in Britain as compared with Japan in the postwar era, in both countries coastal shipping will be seen to have thrived or suffered in large part due to levels of demand from freight shippers for the maritime mode's special economic and technical strengths. Chapter IV will examine passenger traffic around the coasts of both island nations, with a focus on the "lifeline" ferry services afforded to residents of the smaller islands, known as "offshore islands" in Britain and *ritō* in Japan. These ferry services will appear in many ways to be the opposite of coastal shipping for freight, in that the passenger ferries are maintained due to social necessity despite their clearly uneconomic nature – they are unable to remain financially independent and must rely on heavy government subsidy. Finally, Chapter V will show what remains of IWT, in postwar Britain and Japan. Unlike coastal shipping,

which even today can compete with any overland transport mode purely on economic criteria, IWT was burdened with a host of technical issues that caused it to largely fade away under the specter of railways and motorized transport on roads. However, as a waterborne mode IWT still has inherent strengths; it has been kept alive to some extent by various public and private institutions attempting to exploit those strengths.

CHAPTER II

THE HISTORICAL CASE FOR WATER

Introduction

In the seventh century BCE Japan's legendary first emperor, Jimmu, traveled by boat from the island of Kyushu to present-day Osaka in the Seto Inland Sea, where he battled for and won the country's throne. Several hundred years later, just before the start of the Christian era, Jimmu's ninth successor Emperor Sujin issued orders that boats be built in all the nation's provinces to take advantage of the superiority of travel on Japan's coastal waters.¹ About the same time as Sujin, Julius Caesar described in his writings at least five different types of "Celtic" ships used along the coasts of Britain and in the nearby Atlantic.² The largest Roman outpost in Britain, Londinium (present-day London), however, was not on the coast but about forty-five miles inland along the River Thames. River transport has a similarly long pedigree in Japan, as in the case of the Empress Jitō (r. late seventh century CE), for whose new palace wood and other construction materials were shipped along the "Jimmu" route to the Inland Sea, then up the Yodo River to its tributaries the Uji and Kizu for the final float to Nara.³

In this way, early records show the importance of water transport to both island nations from early in their histories. Traditional overland transport, either on foot, on horseback, or by horse-drawn cart or carriage, was far less efficient than its waterborne equivalent, and the island-nation geography of both countries was ideally configured to

¹ Furuta, *Kaiun no rekishi*, 1-2.

² Unger, *Ship in the Medieval Economy*, 56-57.

³ Kimura, "Yodonotsu no seisui," 434.

take advantage of water's greater efficiency. The mountain spines running down the middle of Japan's main islands led the majority of its population to live in lowland plains with relatively easy access to the coast. The location of Japan's earliest population centers of Kyoto and Osaka, clustered in Kinai around the Seto Inland Sea, meant that coastal shipping was both very convenient and assisted by the extensive waterway system of the Yodo River delta which flowed from Kyoto down into the Sea at Osaka. In Britain the long, relatively slow rivers of the lowlands making up most of England enabled extensive inland transport networks from early times. After a port network emerged along the British coastline in the high middle ages, coastal shipping around Britain grew in importance, but rivers continued to be important transport arteries, helped along by artificial improvements.

This chapter will illustrate how water remained the preferred transport medium in both countries until the advent of efficient, speedy, high-capacity overland modes, first with railways starting in the 1820s and next with motor vehicles from the twentieth century on. Even after the appearance of technically-improved overland transport, however, water's inherent advantages for certain transport purposes have allowed it to remain in high demand with customers in both countries' transportation networks in the modern era. This ability to stay relevant in the face of strong modal competition was not due to luck or magic, but rather a result of physics and economics as discussed in the Introduction.

Earliest CE Developments

Roads in Medieval Britain were poor affairs, and could not compete with waterborne transport. A horse, or even horse-drawn cart, was no match for a boat in carrying power

due to one simple fact: there was less friction on water.⁴ In the case of low-value bulk materials it was critical to keep shipping costs low, as these made up a relatively large share of the final market price. Between 600 and 1600 CE in Britain ship capacities grew at a significant rate, allowing ship operators to keep costs down through economies of scale.⁵ Ships plied the coastal seas and rivers of the country, bringing commodities such as fresh sea fish far inland.⁶ Up to the eleventh century the majority of Britain's ports were located inland, somewhat upstream from river mouths, to allow proximity to inland distribution centers and to give shelter from hostile ships on the sea. Then between the eleventh and thirteenth centuries Britain saw phenomenal urban expansion due in large part to increasing international trade. A noted example of this was the wine trade between Britain and France; shipping across the English Channel picked up significantly after the Norman Conquest of 1066, and by the thirteenth century wine was the principal commodity of commerce in ports such as Bristol.⁷ The increased flow of products from overseas led to larger ships that had more trouble sailing upstream on ever-silting rivers, so a fundamental shift occurred in the country's urban structure: most of the port system shifted out to the coasts. While some river improvements and diversions were made to accommodate river travel,⁸ coastal shipping around the new ring of port towns grew in importance. Grain moved extensively by coastal routes, with large shipments between

⁴ Unger, *Ship in the Medieval Economy*, 22.

⁵ *Ibid.*, 27-28.

⁶ Hutchinson, *Medieval Ships and Shipping*, 1.

⁷ Sherborne, *Port of Bristol*, 7.

⁸ Hutchinson, *Medieval Ships and Shipping*, 105.

Yorkshire and London as early as 1351.⁹ The Port of Southampton already had a large coastwise trade in salted herrings in the 1420s, to and from locations such as Suffolk, Norfolk, and Newcastle.¹⁰ This shipping activity was overwhelmingly in private hands, as attested to by the fact that the King's own maritime fleet consisted only of warships and not cargo carriers because in the event of need for more ships he could rely on conscription of private cargo vessels.¹¹

Japan witnessed similar growth in shipping. When the country was united in the mid-seventh century CE under the central control of the Ritsuryō Kokka, the government developed the *ekisei*, an overland horse-relay system, to help it centralize its power.¹² Given the increased size of the new united territory, however, the government needed to use water transport to keep in touch with regions on the outer fringes. During this era ships began to go as far north as Tōhoku, the northern extreme of Honshū.¹³ The new government had centralized tenure over all land in Japan, and farmers working the land were required to send a tax or “tribute” to the central government every year, usually in the form of heavy bulk produce such as rice or other crops. This type of cargo was sent by boat whenever possible, through government shipping agents using *corvée* to man vessels.¹⁴ From the early eighth century the government shifted to a system of private

⁹ Ibid., 93.

¹⁰ Ibid., 144.

¹¹ Ibid., 149-50.

¹² Toyoda and Kodama, *Kōtsū-shi*, 2-3.

¹³ Furuta, *Kaiun no rekishi*, 6.

¹⁴ Toyoda and Kodama, *Kōtsū-shi*, 41-2.

land tenure, in part to assist religious institutions.¹⁵ As the land fractured into a plethora of private estates, or *shōen*, taxes bound for the government decreased but shipping remained busy as the taxes now went from the various estates to their respective proprietors (*ryōshu*), mostly absentees living in the Kyoto-Osaka area. As with the taxes bound for government coffers, tribute from *shōen*, known as *nengu*, was most easily moved on water, along the coasts to the Seto Inland Sea and then either overland or by river from the coast to Kyoto. The former private shipping agents now became private entrepreneurs, selling their services and employing wage labor rather than enforcing *corvée*.¹⁶ Chronicles from the 920s CE already document sea routes between nineteen provinces and the capital,¹⁷ and by the early thirteenth century law codes were dealing with shipping-related issues such as how to prevent the theft of cargo from vessels run aground in storms.¹⁸ By the fifteenth century the Seto Inland Sea commercial economy could boast the annual passage of thousands of cargo-carrying vessels back and forth across the length of the Sea,¹⁹ whose coastline, by this time, was dotted with port cities and merchant houses.²⁰

What this shows is that whether under government or private control, waterborne transport in both early Japanese and British history was chosen by public and private customers because of its technical advantages over land transport, not because

¹⁵ Shapinsky, *Lords of the Sea*, 73.

¹⁶ Toyoda and Kodama, *Kōtsū-shi*, 41-2.

¹⁷ Furuta and Hirai, *Japanese Merchant Shipping*, 11.

¹⁸ *Ibid.*, 26.

¹⁹ Shapinsky, *Lords of the Sea*, 70.

²⁰ Farris, “Shipbuilding and Nautical Technology,” 275.

government dictated its use. In fact, in Japan by the sixteenth century government itself, namely the shoguns and *daimyō* (provincial chiefs), were dependent on autonomous “sea lords” for domestic maritime operations.²¹ The ultimate water-transport entrepreneurs of the period, sea lords were the descendants of pirates who earlier had branched out from “protection” services into the management of littoral *shōen* for absentee *ryōshu*.²² They dominated shipping routes in the Inland Sea²³ and elsewhere. Officials had no choice but to accept this dependence because coastal transport was so important. Leading sea-lord bands such as the Noshima Murakami, which numbered over one thousand heads at the peak of their power in the 1580s, would even sell their services to both sides of a conflict where possible, because they knew their “clients” had no choice but to rely on them anyway.²⁴

Premodern Developments

Coastal shipping reached its pre-railway zenith at roughly the same time in both Britain and Japan. Shortly after Tokugawa Ieyasu reunited, in 1600, a Japan reeling from the effects of a century of civil war, his family successors closed the country to maritime voyages abroad and to virtually any other contact with the outside world,²⁵ yet they realized the importance of domestic waterborne transport and encouraged it.²⁶ Regular

²¹ Shapinsky, *Lords of the Sea*, 36.

²² Ibid., 49-50. The term “sea lord” as used by some scholars in English is a nearly literal translation of Japanese terms equating to “*ryōshu* (or) *daimyō* of the sea” (*umi no ryōshu* or *umi no daimyō*) See Ibid., p. 13 footnote.

²³ Shapinsky, *Lords of the Sea*, 103-4.

²⁴ Ibid., 12-13, 24, 105-8.

²⁵ Mitsui, *First Century of Mitsui O.S.K.*, 6.

²⁶ Yamamoto, *Transportation in Japan*, 5.

coastal routes soon covered virtually all of Japan's coastline. In Britain coastal shipping traffic grew by leaps and bounds during the Industrial Revolution, starting in the second half of the eighteenth century. This shipping facilitated the distribution of coal, the main fuel of the Revolution, and of grain, needed more and more to feed the rapidly-increasing population.

The core economic zone at the beginning of the Tokugawa era was the lowland plain of Kinai, as it had been for almost a millennium. The zone then began to stretch eastward and northward along Honshū's Pacific coast, first along the Nobi lowland plain (present-day Nagoya) and finally reaching the Kantō plain, Japan's largest, on which was founded the urban center of Edo, the Tokugawa shogunate's capital. This resulting area, encompassing Osaka and Edo at alternate ends, was known as the "Tōkaidō," or "Eastern Seaway." Both coastal and inland-transport routes grew with increased movement along the Tōkaidō.²⁷ While this was the most busy area for transport, coastal shipping, inland water transport (IWT), and road networks also joined Edo with the castle towns of the various *daimyō* across Japan.

The first big Tokugawa-era coastal-shipping links were forged between Edo and Osaka at the very beginning of the era. Besides all the rice collected from farmers as taxes and then redistributed by the shogunate and *daimyō* to their retainers as compensation, coasters began carrying high quantities of *sake* between the two cities, then later other staples such as soy sauce, sugar, and vinegar. Rice shipments increased into Edo to feed the rapidly-growing population, and by 1673 coasters were circling all of

²⁷ Mosk, *Japanese Industrial History*, 15.

Japan excepting parts of Kyushu.²⁸ Rice and other products continued to pour into Edo from all around Japan, moved primarily by coastal vessels.

Inland water transport had a strong role as well in Tokugawa times. From early in the era the *daimyō* began reclaiming and dredging rivers, as well as building canals, to increase cultivable land through more extensive irrigation networks. These infrastructure efforts, especially river improvements, also helped to facilitate transport of cargo such as rice. Construction of new river banks simplified loading and unloading of freight onto and off of boats.²⁹ Most Japanese rivers were not ideal for navigation as they “flow[ed] fast and short out of mountain ranges running along the country’s spine,”³⁰ but transport was made possible through the efforts of the *daimyō* as well as by the use of various types and sizes of boats. Small boats would start far upstream and cargo would be reloaded into larger boats downstream where the rivers widened. Similar to the early history of coastal trade in Japan discussed above, the *daimyō* river shipping economy spawned a cadre of shipping entrepreneurs. *Daimyō* would entrust handling of their river freight to “river-bank agents” who directed boat owners and operators, as well as stevedores in the loading and unloading of cargo. Some agents began to buy the boats themselves and doubled as ship owner/operators. Besides the official *daimyō* freight they would also carry passengers and cargo from “commoners.”³¹

The two cities under direct shogunate control, Osaka and Edo, became foci of inland waterway activity, possible because they both were located in lowland plain areas, on the

²⁸ Yui, “Introduction,” x – xi; Furuta and Hirai, *Japanese Merchant Shipping*, 65.

²⁹ Mosk, *Japanese Industrial History*, 14.

³⁰ Yamamoto, *Transportation in Japan*, 4.

³¹ *Ibid.*, 4.

coast, with few deviations in altitude. Tokugawa shoguns encouraged merchants to cluster in Osaka to form a national rice market. Osaka was turned into a huge network of canals augmenting the Yodo, with flat-bottomed boats transporting cargo and passengers around it all.³² Tokugawa Ieyasu, the first Tokugawa shogun, had his new capital, Edo, planned and built with waterways as an integral part of the design. He used existing rivers, as well as canals he had constructed, to mark off different quarters of the town, to enable oceangoing boats to penetrate further into the city before handing off their cargo to local lighters, and to serve as natural barriers to the spread of flames in the case of fire.

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In Britain the coming of the Industrial Revolution in the late 1700s marked the pre-railway high point of water transport. Coal, the key fuel for the steam engines driving new automated factories, constituted on average over 40% of total coastwise shipping cargo between 1779 and 1829, absolute quantities growing from 1.5 million tons up to 5.5 million in the same period.³⁴ Between 1791 and 1841 coastal trade as a whole multiplied roughly three times in volume.³⁵ Coasters were popular in passenger transport as well, especially for holiday travel as a new middle class gained discretionary income.³⁶

Between 1660 and 1750 river improvements had already increased IWT navigation mileage from 685 to almost 1400 miles, leaving the majority of lowland England within

³² Mosk, *Japanese Industrial History*, 35-36.

³³ Okashima, "Kindai Tōkyō...", 493.

³⁴ Armstrong and Bagwell, "Coastal Shipping," 155, 168-69.

³⁵ Jackson, "The Ports," 205.

³⁶ Bagwell and Lyth, *Transport in Britain*, 22-3.

fifteen miles of a waterway.³⁷ Britain's economy was growing so rapidly, however, that IWT soon hit a plateau and needed to evolve to continue growing. Private businessmen and investors as well as local public bodies began to cut their own waterways, by building canals. Between 1761 and 1830 IWT navigation mileage was again extended, this time to over 4000 miles.³⁸ Canals not only acted in a supplementary role to rivers, as connections between inland points and the coastline, but were also major thoroughfares for bringing coal from inland collieries to inland factories. In fact, the explosion of canals was responsible for a phenomenon described as "turning the economy 'outside-in':" whereas up to 1760 the most populous urban centers in Britain were all coastal,³⁹ by the twilight of canal construction in 1830 five of England's seven largest cities were located "on inland coalfields."⁴⁰ This kind of locational shift would not have been possible in Japan, as the habitable lowland plains along the coastline are too narrow to support such extensive canal networks penetrating far inland.

The premodern explosion of waterborne transport in both island nations thus was driven by private initiative looking for greater economic advantages in transport. In Japan even *daimyō* efforts to promote infrastructure improvements can be considered quasi-private because in their own domains the *daimyō* were largely autonomous from the central shogunate government regarding economic matters.⁴¹ The vast majority of Britain's river and canal projects were funded through joint-stock corporations, often by

³⁷ Hadfield, *British Canals*, 26-7; Crompton, "The tortoise and the economy," 2.

³⁸ Crompton, "The tortoise and the economy," 2; Hadfield, *British Canals*, 33-35.

³⁹ Armstrong and Bagwell, "Coastal Shipping," 144.

⁴⁰ Crompton, "The tortoise and the economy," 4-5.

⁴¹ Tipton, *Modern Japan*, 3; Gordon, *Modern History of Japan*, 2, 13.

local businessmen (and less frequently by local landowners) who stood to reap rewards in their business ventures through the added convenience of the new or improved waterways.

⁴² A notable example of this trend was the pottery and tableware magnate Josiah Wedgwood, who in the 1770s latched on to the canal idea as a way to transport his product without breakage, which “straw-filled crates on pack-horses could never guarantee.” ⁴³ While local public bodies might invest in canal schemes that affected their home regions, central government stopped short of direct investment, going no further than offering loans to interested private investors. ⁴⁴ The fact that such capital-intensive projects were undertaken through private initiative and management speaks volumes about the value placed on waterborne transport.

The Advent of Modern Land Transport

In 1663 a Turnpike Act authorized local public bodies in Britain to assess tolls on users of roads in their territory in order to fund maintenance and improvement of the thoroughfares. This launched rapid road improvements, bolstered by a series of engineers working from the 1760s on methods for improving road surfaces. ⁴⁵ Stage coaches emerged to offer new passenger and freight services. By the last quarter of the seventeenth century almost every town within a 25-mile radius of London was accessible from the capital by stage coach. ⁴⁶ By the end of the eighteenth century pack horses and

⁴² Hadfield, *British Canals*, 33-5; Dyos and Aldcroft, *British Transport*, 97-9.

⁴³ Dyos and Aldcroft, *British Transport*, 90.

⁴⁴ Hadfield, *British Canals*, 35, 51.

⁴⁵ Barker and Savage, *Economic History of Transport*, 31-33; Dyos and Aldcroft, *British Transport*, 78-79.

⁴⁶ Dyos and Aldcroft, *British Transport*, 35.

mule caravans began to fade away, replaced by stage coach wagons,⁴⁷ and passenger transport boomed. While not a substitute for water in the transport of heavy bulk freight, and not even necessarily faster than coasters, stage coaches had an advantage over IWT and coastal shipping which made them attractive for moving lightweight, high-value goods: they could stick to timetables. The one “fatal flaw” of coastal shipping was that the boats were sail-powered and thus at the whim of the weather. If winds failed to cooperate, the ships might find themselves stuck in harbor even for weeks at a time. Stage coaches, on the other hand, could travel in virtually any weather and thus could be expected to arrive on schedule.⁴⁸ So for much of the period of the Industrial Revolution Britain had a two-tiered transport system: 1) stage coaches for small, high-value goods going to and from points not near the coasts; and 2) coastal shipping or IWT for everything else.⁴⁹

The Tokugawa *bakufu* revived the *ekisei* horse-relay system, expanding it into the Gokaidō road network. This system of five main roads, eight auxiliary roads, and close to 250 post stations, was created not with cargo transport as its focus, but rather as a way to secure the *bakufu* edict of *sankin kōtai*, whereby *daimyō* were required to alternate attendance between their regional seats of power and the shogunal court in Edo, the latter at which their families lived full-time. Frequent travel of the *daimyō* and their retinue along these roads meant that the post stations were prioritized for their free use, including changes of horses and overnight stay. Commoners used the road system as well for both commercial and recreational travel. If they were lucky to arrive at the post stations at

⁴⁷ Ibid., 72.

⁴⁸ Bagwell and Lyth, *Transport in Britain*, 21-22; Freeman, “Introduction,” 11-15.

⁴⁹ Toyama, Ninomiya, and Baba, “Dōro miseibi no haikai,” 97.

times of low activity, they could use the facilities, albeit at a cost. Japan, however, never developed a two-tiered transport system as in Britain because the horse cart and wagon failed to bridge the gap between the Asian continent and the Japanese islands. Freight was carried overland on one's back, on horseback, or by pack animals. In the *ekisei*, horses had to be exchanged at each post station. This required the frequent transferring of cargo between animals, which greatly increased the chances for wear or breakage and made overland cargo transport very inconvenient. The roads themselves were in much poorer shape than in Britain as the *bakufu*, primarily concerned with roads as a device for enabling the *sankin kōtai*, saw no need to improve road surfaces for commerce, especially as the horse-drawn vehicles so common in Britain did not exist in Japan. Construction of better roads was also handicapped by a shogunal prohibition against bridges over large rivers, in the interest of territorial defense.⁵⁰

For these reasons water transport was used in Japan as the “default” shipping mode wherever possible. Even in Britain, which had a viable overland alternative, transport on water was still the default. It would take an even more efficient overland mode to really challenge water. The answer was to apply the low-friction concept, which made ships so efficient, to land. At first wood-, and later iron-wheeled, coal-filled cars were pulled by animals along tracks between British factories or collieries and waterway banks.⁵¹ Under the constant tinkering of Industrial-Revolution-era British inventors, the steam engine, invented in 1698 and first used to pump water out of coal mines, would a century

⁵⁰ Ibid., 97-98.

⁵¹ Dyos and Aldcroft, *British Transport*, 111-14; Barker and Savage, *Economic History of Transport*, 33-35; Evans, “Roads, Railways, and Canals,” 33.

later be ready for trial in “mobile” applications.⁵² A steam-powered car, or locomotive, was now used to pull the coal cars across the tracks in lieu of animals. The first commercial railway application of this new technology came in 1825.⁵³ For the next few decades railways spread slowly, their traffic consisting at first mostly of passengers.⁵⁴ By the 1850s steam trains were carrying greater volumes of freight than the canals.⁵⁵ Canal traffic thenceforth petered out quickly, as did long-distance goods transport on roads, although the horse-drawn carriages found a new role as door-to-door shuttles between railway stations and surrounding homes and businesses.⁵⁶ Canals were rife with technical issues that had proved only a nuisance while overland transport had remained so primitive. With the competition of railways these issues turned fatal for canals.⁵⁷ Canal transport was slow, especially so because of complicated lock systems at level transitions that on average allowed only one boat to pass through every ten minutes.⁵⁸ The “national” network comprised a myriad of unintegrated, privately-owned segments; through-traffic was often impossible because canals with different owners were built to differing technical standards and most owners had no interest in through freight agreements.⁵⁹ Moreover, it was not uncommon for canals to freeze in the winter.⁶⁰

⁵² Mokyr, *Lever of Riches*, 84-5; Hartwell, “Industrial Revolution,” 123.

⁵³ Evans, “Roads, Railways, and Canals,” 33.

⁵⁴ Dyos and Aldcroft, *British Transport*, 201; Bagwell and Lyth, *Transport in Britain*, 24.

⁵⁵ Evans, “Roads, Railways, and Canals,” 20-21.

⁵⁶ Evans, “Roads, Railways, and Canals,” 21; Bagwell and Lyth, *Transport in Britain*, 43, 59.

⁵⁷ Evans, “Roads, Railways, and Canals,” 8, 11-12, 17-18.

⁵⁸ *Ibid.*, 11-13.

⁵⁹ Bagwell and Lyth, *Transport in Britain*, 8-9, 15; Hadfield, *British Canals*, 198.

Finally, railways responded quickly to canal competition, forming through-freight agreements and other partnerships, and even buying out much of the surviving canal infrastructure.⁶¹

At the end of the Nineteenth Century coastal shipping remained the only transport mode in Britain still competitive with railways for long-distance transport of cargo such as coal, grain, iron ore, china clay, bricks and timber, fodder and manure.⁶² In 1910 coastal shipping was still moving 59% of all freight (by ton miles), whereas railways were at 39% and canals down to 2%.⁶³ Coasters were able to remain competitive not only due to all their advantages as previously discussed, but also because they had finally surmounted their “fatal flaw” – susceptibility to the weather. About a decade earlier than railways, in 1812 the coaster *Comet* became the first commercial steam-powered transport conveyance.⁶⁴ Early steamships were slow, unreliable, and gobbled up coal.⁶⁵ As with railways, however, steam-engine technology advanced rapidly, allowing ships to run at high speed in virtually any weather so they could finally stick to timetables. By the second half of the nineteenth century coastal “liner” services, which ran around the British coasts from port to port on set schedules, became popular for both passengers and freight alike.⁶⁶ While steam was tried in IWT and gained some popularity on riverboats,

⁶⁰ Hadfield, *British Canals*, 63; Crompton, “The tortoise and the economy,” 5.

⁶¹ Hadfield, *British Canals*, 227-28, 254.

⁶² Bagwell and Lyth, *Transport in Britain*, 30, 34; Hadfield, *British Canals*, 198.

⁶³ Bagwell and Lyth, *Transport in Britain*, 59-60.

⁶⁴ Robins and Meek, *The Kingdom of MacBrayne*, 3.

⁶⁵ Armstrong, “British Coastal Shipping,” 19-20; Bagwell and Lyth, *Transport in Britain*, 23-24.

⁶⁶ Armstrong, “British Coastal Shipping,” 20

the new engine technology was not able to lift canal shipping to a level where it could truly compete with rail.⁶⁷

Officials of Japan's new Meiji government, taking power in 1868, felt it urgent that Japan transform itself into a modern, industrialized country as quickly as possible; until such a task was complete the nation would be vulnerable to the Western Powers already arriving at its shores – Britain, USA, and others.⁶⁸ Under impetus from government and private-industry advocates, railways debuted in Japan in 1872 but caught on quite slowly, largely due to heavy competition from coastal shipping.⁶⁹ While early rail lines were built through the Tōkaidō plain district to connect inland industrial centers such as Tokyo with sea ports, or to connect Kinai and Kantō, Japan's largely mountainous geography and frequent river flooding put practical limits on where rail lines could go.⁷⁰ Railways would go through alternate waves of government and private ownership and investment, until the whole network was nationalized in 1906.⁷¹ Meanwhile the Meiji government and private industry were pushing Japanese coastal shipping into the modern era. The government acquired steam technology through the purchase of foreign ships. Alternately, former *daimyō* who had purchased steam ships to support their own

⁶⁷ Evans, "Roads, Railways, and Canals," 20-21; Crompton, "The tortoise and the economy," 18-19; Barker and Savage, *Economic History of Transport*, 70.

⁶⁸ Westney, *Imitation and Innovation*, 18-19; De Fellner, *Communications in the Far East*, 63-64; Sorensen, *Making of Urban Japan*, 45.

⁶⁹ Mosk, *Japanese Industrial History*, 137-38; Watarai, *Nationalization of Railways*, 21-23.

⁷⁰ Watarai, *Nationalization of Railways*, 19, 23-24.

⁷¹ The early fortunes of Japanese railways are covered by a wide range of literature in both English and Japanese. See Watarai, *Nationalization of Railways*, for a good, early example in English, which describes Meiji railway history but also analyzes the Meiji government's actions towards railways up to nationalization. The author himself was a Meiji government railways insider before writing this work, his PhD thesis.

territories before the Meiji era, entrusted those ships to the new government.⁷² After two purely state attempts at coastal shipping failed miserably, the government turned over its whole coaster fleet to the most successful of the many independent private shippers of the time, the Mitsubishi Company (Mitsubishi Shōkai), and heavy government subsidies allowed Mitsubishi to undercut foreign competition in Japan's waters, forcing them out so Mitsubishi could become a de facto monopoly by the mid-1870s. During the next two decades the government and smaller private coastal shipping companies pushed massive consolidation in the industry.⁷³ After the government passed laws in 1896 giving impetus to Japanese shipbuilding and encouraging a shift to overseas maritime routes, the biggest shipping companies began to convert to deep sea routes, but many small, independent companies remained in Japan's coastal waters.⁷⁴

Coastal shipping remained dominant in domestic Japanese freight carriage even as it converted over from sail to steam, because it was ideally suited to serve the newly arising Meiji industry. Factories in these industrial centers required great amounts of coal to power their steam-driven machines. Unlike Britain in the era of industrialization, where many factories situated themselves in close proximity to coal fields and the canal system, in Japan the coal had to be brought from far-away mines located in areas inhospitable to industrial development. Since this was long-distance haulage of bulk material, and the new industrial centers were all located on or near deep-water ports that could accommodate the new steam ships, coastal shipping was naturally the first choice for

⁷² Chida and Davies, *Japanese Shipping*, 3-4; Furuta and Hirai, *Japanese Merchant Shipping*, 110.

⁷³ Furuta and Hirai, *Japanese Merchant Shipping*, 110-15; Yui, "Introduction," xiv-xvi.

⁷⁴ Furuta and Hirai, *Japanese Merchant Shipping*, 121; Yui, "Introduction," xvii; Chida and Davies, *Japanese Shipping*, 17; Miwa, "Maritime Policy," 124; Nakagawa, "Japanese Shipping," 6.

transport.

These new industrial centers arose through a fortuitous combination of circumstances. Tokugawa era had seen strong agricultural and population growth from its beginnings, but by the first half of the eighteenth century that growth started to slow down.⁷⁵ With specialization of labor a wave of proto-industry then arose, first in and around Osaka, and later spreading through the Tōkaidō district up to Edo. When the Meiji government began to push “inorganic,” i.e. coal- and steam-based, industry, the former proto-industrial centers – Kyoto, Osaka, Kobe, Tokyo, and Yokohama – re-emerged as the leaders in early industrial centers. They were able to do this because the organic proto-industrial production based on wood and water power was complementary, not competitive, with inorganic industry. The two even shared much of the same labor force at similar wages, mostly young women arriving from farms. These centers had strong concentrations of merchants and artisans from pre-Meiji days, which helped push trade in their areas. They also benefited from trade engendered by foreigners, who by and large settled there because the centers were all located on or near deep-water ports that could accommodate the foreigners’ deep-hulled steam ships. Nagoya, one of the proto-industrial centers, failed to convert over to inorganic industry because it lacked a deep-water port. Foreigners were basically locked into these locations because they were “treaty ports,” small territories within which foreigners enjoyed extraterritorial legal status.⁷⁶

At about the same time horse-drawn carts were introduced to Japan, and took up the

⁷⁵ Mosk, *Japanese Industrial History*, 48-49.

⁷⁶ *Ibid.*, 63-65, 137-38.

same role as in Britain: short jaunts between train stations and surrounding homes and businesses.⁷⁷ So entering the twentieth century, the multimodal transport network was quite similar in both island nations, at least in form if not in degree: 1) overland transport led by railways, especially at long distances; 2) road conveyances, including horse-drawn carts, bicycles, and even rickshaws in Japan, carrying a growing amount of short-distance urban traffic, much of it clustered around train stations; and 3) coastal shipping, which continued to handle much of the long-distance freight transport, especially that for heavy, bulk loads. While railways in Japan would not even reach the same magnitude of track length as in Britain until just before WWI, or the same magnitude of freight traffic until the 1920s,⁷⁸ Japanese railways, where available, were still preferable to most road transport. Horse-drawn carriages, still relatively new to Japan, cut further into IWT shipping traffic, as motor vehicles did in both countries.⁷⁹ For Japan the effects of the latter may have been due more to actual infrastructure support for the vehicles than to the vehicles themselves. The country's roads, still in "ancient" condition at the start of the twentieth century, finally began to receive significant funding with the explosion of road conveyances in the Meiji Era. For Japan, however, road construction equated to river reclamation, as frequent river floods would threaten any new roads, and Japan's ancient tracks still had old, antiquated bridges or none at all. Through an 1896 River Law, reclamation led to many river improvements that were actually inimical to transport on

⁷⁷ Yamamoto, *Transportation in Japan*, 21.

⁷⁸ Palgrave Macmillan, *International Historical Statistics*, spreadsheets IHSIIF01-001.xls and IHSIIF02-001.xls for Britain data, spreadsheets IHSIF01-002.xls and IHSIF02-002.xls for Japan data.

⁷⁹ Hey, "Transport co-ordination," 25; Hadfield, *British Canals*, 296; Yamamoto, *Transportation in Japan*, 161-62.

the water.⁸⁰

Then in the first half of the twentieth century domestic water transport would face damage in both countries for the opposite reason that it had flourished previously through history: its economic attractiveness to shippers would be compromised, by direct government actions and/or interventions during wartime. Japan faced a series of wars, first the Sino-Japanese of 1895, then the Russo-Japanese of 1905, and finally World War I. The government's divided loyalties from the 1890s on – military versus economic presence on the world stage – led to a chaotic cycle of peaks and troughs in the Japanese shipping industry for the next few decades. Beginning with the Sino-Japanese conflict, strong state promotion of domestic shipbuilding was countered by the navy's initial seizure of all existing tonnage for use in the conflict.⁸¹ Shipping operators were able to avail themselves of state aid to make up the deficit in tonnage, but once the war with China ended the flood of requisitioned ships returned by the Navy to their owners led to rampant oversupply in the domestic market. The resulting fierce competition for shipping traffic brought a free fall in prices and hence a recession to the industry. Operators inched towards recovery through control of tonnage capacity, but then the Russo-Japanese War of 1905 brought another round of naval confiscation and the whole cycle repeated itself.⁸² In World War I a third cycle reached new levels of intensity: when German U-boats decimated a large part of the Allied shipping fleet⁸³ Britain and other leading western shipping powers virtually halted all non-war-related water-

⁸⁰ Yamamoto, *Transportation in Japan*, 82.

⁸¹ *Ibid.*, 67.

⁸² *Ibid.*, 68.

⁸³ *Ibid.*, 103-04.

transport services; Japanese companies were happy to step in and take their place. Even though in 1910 fully 99.2% of cargo/passenger ships and 89% of tonnage making entries into Japanese ports were domestic coastal-shipping vessels,⁸⁴ the WWI period saw a rapid worldwide expansion of Japanese shipping routes as well as tonnage capacity: from 1905 to 1919 Japan went from sixth to third on the world list of largest ship-owning countries. This oligopoly situation allowed Japanese shipping to increase its rates, both internationally and domestically. Improved shipbuilding technology such as diesel engines also helped the industry.⁸⁵ But true to the cyclical pattern, at the end of WWI the major western players hurried to retake their former shipping glory, creating strong competition for Japanese firms, who found themselves once again saddled with a large oversupply of capacity.⁸⁶ Those firms still standing in the 1920s had to face the subsequent worldwide depression of the 1930s in a weakened state.⁸⁷

During WWI the British government asserted its right, provided by an Act from the 1880s, to seize control of railways. The private railway companies were paid flat rates for operating their rail lines per government instructions.⁸⁸ In the same period, however, the government, while requisitioning some deep-sea ships for the war effort, left the coastal-shipping industry alone because it judged that the plethora of small, independent ships would be too difficult to administer.⁸⁹ Operating costs began to increase rapidly

⁸⁴ Ibid., 67-69.

⁸⁵ Ibid., 110-11.

⁸⁶ Furuta and Hirai, *Japanese Merchant Shipping*, 118-20; Chida and Davies, *Japanese Shipping*, 29.

⁸⁷ Yui, "Introduction," xx-xxii.

⁸⁸ Dyos and Aldcroft, *British Transport*, 277-78.

⁸⁹ Ibid., 280.

during this period for all transport modes. Rail could keep its rates constant due to government payments, whereas coastal shipping, always independent, had to pass along cost increases to customers in the form of higher rates. Thus the government transferred a good deal of freight from coastal shipping to rail to get a better deal. As a result coastal-shipping traffic volumes were cut in half between 1913 and 1918.⁹⁰ During the same period canal traffic volumes fell significantly as well, by a full third.⁹¹ Many canal-boat workers went off to war, leaving the boats out of operation.⁹² After the war corporate consolidation allowed the coastal-shipping industry to survive and inch back to health. Canals, however, already in such a weak financial state, were hit by a new wave of short-distance competition from motor vehicles, so many of the artificial waterways were closed down or fell into disuse in the interwar years.⁹³

Conclusion

This chapter's narrative has shown how water transport held an exalted position throughout most of the recorded history of Japan and Britain. Coastal shipping was ideal for their island-nation geographies, especially given the inefficiency of overland alternatives. IWT was widely used on each country's extensive river networks, and later on artificial waterways cut to extend those networks. While featuring advantages of a water mode, such as low friction and high carrying capacity, IWT in Britain was replete with seemingly irrelevant technical issues that became fatal once IWT had to compete with the truly efficient overland modes of railways and motorized transport on roads. In

⁹⁰ Ibid., 289.

⁹¹ Ibid., 289-90.

⁹² Hadfield, *British Canals*, 295.

⁹³ Dyos and Aldcroft, *British Transport*, 289-90.

Japan as well IWT had difficulty competing with the attractive new overland transport modes. However, coastal shipping must be seen as the star of the show. The two island nations' geographies, very similar in many respects, are virtually tailor-made for coastal shipping, which survived against all overland challenges up to World War II. Coastal shipping has all the advantages of IWT without all of the nagging issues.

As long as overland transport was slow and inefficient, water transport was preferred due to its technical and economic advantages, not because government favored its use. With the coming of railways, and later motor vehicles, customers had a choice of efficient transport modes. Coastal shipping, though, continued to thrive thanks to the same technical and economic advantages it had always offered. This was true both in *laissez-faire* private-industry-friendly Britain, where coastal shipping was virtually untouched by government up until WWII, and in Japan, where the coastal-shipping industry was the target of heavy government intervention. For coastal shipping to lose its bread-and-butter bulk freight would require "artificial" government intervention. During WWI in Britain the military apparatus worried that coastal shipping would be too hard to control for wartime purposes because the industry consisted of a plethora of small- and medium-sized independent operators. However, by setting rail rates arbitrarily low and then moving huge amounts of freight traffic from coasters to trains to take advantage of those rail rates, the military harmed the coastal shipping industry without any direct intervention. During three wartime eras in Japan – 1895, 1905, and WWI – the military did intervene directly in the coastal shipping industry by confiscating ships, which wreaked havoc on the industry's tonnage supply, rendering operators less able to respond to customer demand for freight carriage.

Chapters III - V will explore how waterborne transport has fared in post-WWII Britain and Japan. Of particular concern will be the ferocious competition of motorized road transport once its scale graduates to the same distance as railways. Technological improvements in both countries will precipitate shifts in patterns of industrial production and commercial distribution, again shifting the balance between road, rail, and water.

CHAPTER III

COASTAL FREIGHT SHIPPING

Introduction

Chapter II's main goal was to show that water transport had a "natural" role to play in the island nations of Japan and Britain; due to their geographies the two countries were ideally suited for coastal shipping, and inland water transport (IWT) was also historically active on their many rivers and canal systems. There was high demand for water transport in both Britain and Japan, primarily because of its economic advantages rather than due to effects of government policy or intervention. In fact, government interference, in the form of military control, was shown to hurt water transport's fortunes in the late nineteenth and early twentieth centuries. For long-distance trips water transport modes were more efficient, offered more convenience, and were lower in cost than any overland alternatives until the advent of railways in the nineteenth century. Subsequently IWT largely succumbed to overland transport competition, while coastal shipping continued to dominate the long-distance bulk transport segment of the economy. The British government, traditionally a fan of *laissez-faire* economics and private industry, allowed competition between rail and shipping to remain in private hands throughout the nineteenth century. In Japan, where the modern shipping industry was created almost simultaneously with the debut of railroads around the 1870s, both sectors, while nominally private in ownership and operation, were the recipient of heavy government influence and intervention from their beginnings. Despite the vastly different levels of government involvement in Britain and Japan, a similar picture was seen in both vis-à-vis coastal shipping: railways quickly took over a large share of

transport traffic after their introduction, notably passenger traffic, but rail had difficulty challenging coastal shipping in its area of greatest strength, namely, the long-haul transport of heavy bulk goods such as coal or grain. It was only through the effects of direct government action in wartime, from about 1896 in Japan and from 1914 on in Britain, that coastal shipping would appear (temporarily) less economically attractive to shippers than rail. IWT traffic would decline further in the face of road transport in the twentieth century, especially in Japan where an 1896 River Law pushing reclamation to help roads through flood control and bridge building would hurt rivers' potential as transport arteries.

This chapter will continue the story of coastal shipping in the post-WWII era up to the present, in the face of competition from rail but also from the newest overland competitor, motorized road transport. Road transport's main advantages over water, namely speed and the ability to go anywhere on land, are exactly the advantages railways held over IWT in the previous century, yet motor vehicles on the road raised the competitive threat to an even higher level. It will be shown here how motorized road transport will go on to largely replace even rail's market in both countries for both passenger and freight traffic, while coastal shipping will hold its own in its areas of natural advantage. In postwar Britain the government will continue its standard policy of benign neglect towards coastal shipping, whereas Japan's government will maintain heavy involvement in, and oversight of, the nominally-private industry.

Coastal shipping in postwar Japan will achieve a much higher "market share," i.e. share of total domestic freight transport, than in Britain. I argue that this is less a product of closer government oversight of the industry than it is of other factors. First of all, I

will illustrate how fortuitous initial circumstances gave coastal shipping a much stronger jump-start in Japan than in Britain in the immediate postwar years. Once the situation of coastal shipping is specified for each country in the immediate postwar years, the remainder of the discussion in this chapter will take the situation at that time as the “initial conditions” from which the comparative development of coastal shipping in the two countries will be assessed. Extraordinary economic growth in postwar Japan, especially through the mid-1970s, will allow coastal shipping to maintain the excellent initial conditions even to the present day, as a very large share of the domestic transport market. Britain’s coastal-shipping industry will never obtain the high level of market share seen in postwar Japan. Britain’s relatively slow, steady post-WWII economic growth will allow its coastal shipping industry to maintain roughly its initial conditions up to the present day, while advancing beyond this initial postwar state for a relatively brief interval as a consequence of a temporary “chance windfall” in the economy. Coastal shipping’s market share will still remain significantly lower in Britain than in Japan throughout the postwar period. In both countries, fluctuations in coastal-shipping’s freight market share track developments in the nations’ economies as a whole. The choices of private shipping operators and customers will cause changes in freight share much more than any government action. As a notable example, in line with a phenomenon called “modal shift,” both countries’ governments in the 1990s will attempt to transfer domestic freight from road to coastal shipping (and rail) once the post-WWII explosion of motorized road transport becomes associated with a variety of negative consequences to society. These modal-shift efforts will be largely unsuccessful, due to

the rejection of the alternatives promoted by such efforts on the part of the private operators and customers, for whom such alternatives were found to be uneconomical.

The “Initial Conditions” of Post-WWII Coastal Shipping

WWII brought water transport under government control in both Britain and Japan, and the famous naval battles of both nations saw the destruction of massive numbers of ships. In Japan the destruction was almost complete.¹ In Britain coastal liners suffered losses as they played the role of rescue duty in the long British convoys,² but the coastal tramp fleet was left largely intact. Coastal liners had provided the last coastal passenger traffic in prewar Britain; with the large-scale destruction of these ships most owners gave up on resuming service after WWII. This meant the near demise of coastal passenger transport³ except for a handful of companies which eked out “mini-cruise” services, targeted at the vacation market, until the early 1970s.⁴ In Japan coastal passenger transport was down to only 2.2% of all domestic passenger transport in 1950, and this share would drop further, going below 1% for most of the postwar period. For these reasons this chapter will restrict its discussion to coastal freight transport, while what remained of coastal passenger traffic will be covered in Chapter IV.

Britain and Japan, both strong economies before WWII, would not waste time rebuilding that strength after the cessation of hostilities. Britain’s new postwar Labour government under Clement Attlee embarked on a program of “industrial nationalization,”

¹ Furuta and Hirai, *Japanese Merchant Shipping*, 144.

² Robins, *Coastal Passenger Liners*, 112.

³ *Ibid.*, 119.

⁴ *Ibid.*, 125-27.

⁵ which included the 1947 nationalization of virtually all transport except shipping. ⁶ By 1947, total British national production for the economy as a whole was already back at 110% of 1938 numbers, and a focus on the repair of transportation and communication infrastructure was aided by organized labor and their choice not to strike at all in the years of 1945-6. Further gains in production would be made with the help of funds obtained through the Marshall Plan, and by 1951 national production totals were at 145% of 1938 levels. ⁷ As in postwar Germany, the leadership of the occupation forces in Japan (Supreme Commander for the Allied Powers, or SCAP) initially had plans to hold the country back from large-scale recovery, fearing the rekindling of war sentiment. By 1947, however, SCAP thinking had changed. Again similar to Germany's case, the new SCAP plan was to help revive Japan to provide a strong bulwark against communism, the "threat" in this case coming not from the Soviet Union but rather from China and Korea on the Asian continent. ⁸

Postwar Japan saw a grim transport reality: railways had been decimated by Allied bombing raids, roads had yet to reach the modern expressway stage, and motor-vehicle parts and fuel were in short supply. Shipping thus became the default transport mode for domestic freight. ⁹ This was the first step of coastal shipping's big jump start after World

⁵ Eichengreen, *European Economy*, 63.

⁶ Ministry of Transport, Transport Act, 1947. There were a few exceptions: shipping interests owned by railways transferred to public control under railway nationalization. These "interests" included short-sea routes, which I will not cover as they are technically international, as well as a number of ferry services to offshore British islands. The bulk of the latter are low-traffic, socially-necessary "lifeline" services to the islands, and will be covered in Chapter IV of this thesis for their passenger component. Finally airlines, which factor little into this thesis, were not nationalized either.

⁷ Eichengreen, *European Economy*, 56-57.

⁸ Mitsui, *First Century of Mitsui O.S.K.*, 116, 122.

⁹ Yamamoto, *Transportation in Japan*, 254.

War II; the second step was a quick provision of ships for domestic transport purposes. SCAP's original postwar thinking – the fear of lingering wartime sentiment – was very much focused on Japan's shipping industry. The occupation authorities believed that the industry as a whole was sympathetic to the war cause, and had gone as far as forbidding the Japanese government from reimbursing the industry for ships lost in the war, as a way to “confiscate” wartime profits.¹⁰ Once SCAP changed its mind in 1947 about its plans for Japan's overall redevelopment, it provided 215 ships for Japan's use¹¹ but limited them to domestic transport, i.e. coastal shipping (international, or deep-sea, shipping would not be allowed again until the 1950s). The Japanese government was now allowed to involve itself in the coastal-shipping industry and hit the ground running in 1947, initiating both the Ship Corporation (Senpaku Kōdan) and a Programmed Shipbuilding Scheme (PSS, or *keikaku zōsen* in Japanese) to help finance ship construction. The *keikaku zōsen* provided up to 70% of funds to potential ship buyers, in a joint-ownership arrangement where private owners had the option of buying out the Ship Corporation's share. Until 1949, when it was disbanded, the Ship Corporation was virtually the sole means in Japan for potential ship owners to acquire the capital they needed for investment in coastal tonnage.¹² These ships benefitted from the Keisha Seisan Hōshiki (“Hōshiki”), which the Japanese government instituted in December 1946 to concentrate resources in a few key targeted national industries, such as coal and steel, under the belief that increased production in these areas would help lead growth for the economy as a

¹⁰ Chida and Davies, *Japanese Shipping*, 61.

¹¹ Furuta and Hirai, *Japanese Merchant Shipping*, 145.

¹² Chida and Davies, *Japanese Shipping*, 69-73, 75.

whole. Not only were coal and steel ideal freight for coastal shipping, but the Hōshiki also happened to include orders to switch much cargo from the badly-damaged railways to sea.¹³

By 1950 coastal shipping in Japan already had a huge 41% share of all domestic freight transport, a level from which it would not deviate much up to the present.¹⁴ Then, with the declaration of the Korean War in 1951 came the third and final step in Japanese coastal shipping's impressive postwar jump-start. The U.S. decided to use Japan as "in effect a military supply base"¹⁵ instead of shipping war materiel in bulk from the United States.¹⁶ The resulting huge intake of orders allowed the Japanese economy as a whole to climb mightily in a two-year period, up to 100% of prewar production levels by 1952, whereas production in 1945 had been at 10% of prewar levels. Total domestic freight traffic (in all transport modes) rose 26.2% in ton-km between 1950 and 1955.¹⁷ Profit margins in the coastal shipping industry increased strongly as a result: profits of the twenty-four major shipping companies went from 1.7 billion yen in the second half of 1950 to 5 billion yen in the first half of 1951, then up to 6 billion yen in the first half of 1952.¹⁸ The industry regained its prewar freight volume levels by 1955-56.¹⁹ Yet in terms of domestic freight market share coastal shipping was down from 41% in 1950 to

¹³ Ibid., 66-67.

¹⁴ Kokudō Kōtsū-shō, *Kōtsū kanren tōkei*, I.I-1, spreadsheet 23000000x011.xls; Yamamoto, *Transportation in Japan*, 254.

¹⁵ Mitsui, *First Century of Mitsui O.S.K.*, 126.

¹⁶ Yamamoto, *Transportation in Japan*, 199-200.

¹⁷ Un'yushō, *Un'yu hakusho*, 2000 Dai 1-bu Dai 1-shō Dai 1-setsu no 1.(1).(ア).

¹⁸ Mitsui, *First Century of Mitsui O.S.K.*, 127.

¹⁹ Yamamoto, *Transportation in Japan*, 254.

35.7% in 1955. The Korean War proved to be a boon for Japan's railroads as well, which were needed for troop deployment and movement of materiel. Both private and state-owned rail lines were quickly rebuilt, and made strong technological progress during the period through conversion to electric power and improved diesel engine efficiency.²⁰ We will take Japanese coastal shipping's situation in 1955 as the initial conditions from which its development will be assessed in the remainder of this chapter.

The post-WWII British coastal shipping industry did not have the jump start afforded to its Japanese counterpart, so its domestic freight market share never reached Japanese levels. The British Government had two schemes for the postwar revitalization of the nation's shipping fleet, both deep-sea and coastal. First, from 1942 onwards it began taking orders for government-owned ships to be sold after the war to private concerns at cost less depreciation. Second, a government tonnage replacement scheme helped return the value of lost ships to their former owners.²¹ However, the part of Britain's coastal fleet affected by wartime damage, namely coastal liners, were by and large not replaced in the postwar period as operators decided that total costs to restart services would be prohibitive.²² The new Labour government not only left shipping out of its 1947 nationalization of transport but did coastal shipping a big disservice when it transferred large shares of domestic coal shipments, the former coastal liners' bread and butter, to its new nationalized darling, the railways, in an effort to pad the railways' books.²³ Thus British coastal shipping began the postwar era with a much-reduced level of tonnage.

²⁰ Ibid., 202-03.

²¹ Hope, *New History of British Shipping*, 388.

²² Robins, *Coastal Passenger Liners*, 119.

²³ *Lloyd's List International*, "Short Stories."

The few coastal liner services still remaining could not compete with rapidly-growing road transport.²⁴ Not surprisingly, the earliest postwar data available for British coastal shipping shows the transport mode's share of domestic freight carriage at 16% in 1965, as opposed to Japan's whopping 43.4% in the same year.²⁵ As that 1965 number is the earliest available data for postwar British coastal shipping, it will be taken as an indication of the industry's initial conditions for purposes of this chapter.

One might argue that Japanese coastal shipping's jump start after WWII was the direct result of various government actions. These were three: 1) the provision of ships by SCAP; 2) the PSS Program; and, 3) the Hōshiki. However, although generous lending by the Japanese national government early on may certainly have helped the industry grow, the PSS program lasted only two years for coastal shipping, and "normal" post-war procedures would have reimbursed coastal operators for their lost ships anyway had SCAP not expressly forbidden such reimbursements. In other words, without government actions 1) and 2) coastal operators would have been reimbursed anyway for ships lost during the war. Of greater significance is the fact that regardless of tonnage capacity, ships will not carry freight or make money doing so unless freight is there to carry. It was a historical accident that coastal shipping was favored in the immediate postwar years because other transport modes were in such a state of disrepair. At the same time, coastal shipping was extremely useful in its own right. Action 3), the Hōshiki, did happen to set priorities on industries whose output was ideal for coastal shipping, but it would be illogical to argue that the Hōshiki was set up solely – or even in part – for the purpose of spurring on coastal shipping. Rather, the Hōshiki was designed to spur

²⁴ Committee of Inquiry into Shipping, Report, at para. 270.

²⁵ Appendix A Chart 3.

growth in the economy in general. Industries targeted by the Hōshiki produced growing quantities of materials for which coastal shipping happened to be the best transport mode. All these reasons show that government intervention was not the primary cause of coastal shipping's successful jump start in early postwar Japan, although they do illustrate how economically useful coastal shipping is in island nations such as Japan.

British coastal shipping's relatively low share of domestic freight transport reflected low shipping tonnage following the due to the failure of the coastal-liner fleet to be restored. The industry itself made a conscious decision to leave supply low after the war. As well, when the national government used rail to transport significant amounts of what had previously been prime coastal-shipping freight, namely coal, the government's actions, despite their deleterious effects on the coastal shipping industry, did not actually constitute intervention in the industry *per se*. Rather, the government took those actions as a transport operator in the transport market, so in this case coastal shipping was actually (negatively) affected by transport market developments rather than by government intervention. The case is also another example of the British government's historical neglect of coastal shipping, although in this case the neglect was not benign. Arguably, the Labour government did not specifically intend to harm coastal shipping, but rather the latter remained outside its field of vision. The negative effects of its actions on coastal shipping were therefore not considered. The Attlee government's Transport Act of 1947 lends support to this claim. While nationalizing most transport, the Act specifically mentions "transport by air" as except from nationalization,²⁶ but the text of the act makes no mention of coastal shipping as being included or excluded.

²⁶ Ministry of Transport, Transport Act, 1947. See, especially, s. 3 (1).

Instead, the document reserves the right for the government's new British Transport Commission (BTC) to establish a special committee for no greater purpose than that of "co-ordinating the activities" of coastal shipping operators with the activities of the BTC.²⁷ In other words, coastal shipping was so far removed from the BTC's primary objectives that the BTC needed a special committee just for interfacing with the maritime transport mode. Regardless of the BTC's actions with respect to railways and coal, rail's domestic freight market share in Britain would soon dry up in comparison with road haulage and coastal shipping. In fact, by 1964, at the point of what I have established as British coastal shipping's initial conditions, the railways would be losing market share and run into debt. Thus in Britain's case as well as Japan's, the fortunes of the coastal shipping industry in the immediate postwar years were determined primarily by transport market forces rather than by government intervention.

Postwar Economic Growth and Departure from the Initial Conditions

Although the end of the Korean War brought a slowdown and recession to the Japanese economy, two strong economic growth periods between 1956-7 and 1959-61 ushered in Japan's "High (Economic) Growth Rate Period" ((Keizai) Kōdo Seichō-ki). Especially between 1952 and 1961, Japan's Ministry of International Trade and Industry (MITI, or Tsūshō Sangyō-shō in Japanese) shifted the nation's industrial focus from "light, labor-intensive industries to steel, ships and automobiles..."²⁸ Industry began to concentrate in the Pacific Belt Industrial Region, which ran along Japan's Pacific coastline and included the four largest urban industrial centers: Tokyo-Yokohama,

²⁷ Ibid., s. 70-71.

²⁸ Johnson, *MITI and the Japanese Miracle*, 240. At the time of writing of Johnson's book Japan was the "world's leading producer" of the latter three product lines.

Nagoya, Osaka-Kobe, and Kita-Kyushu. This followed more or less the pattern of the premodern Tokugawa era or that of the modern Meiji era, although after WWII the industrial heart was no longer confined to the Tōkaidō. As in the earlier eras, waterside locations of these post-WWII industrial centers drove greater demand for coastal shipping, which was already handling much of the nation's coal and steel output. Although railway reconstruction proceeded rapidly after the war, by 1960 coastal shipping became the dominant domestic freight carrier.²⁹ From the 1960s coastal shipping's domestic transport market share would remain relatively constant up to the present day, while rail rapidly lost share to road transport especially from the 1960s on.³⁰ Coastal shipping's traffic increased steadily up to its peak ton-km share of 51% in 1973,³¹ whereas the railways went into debt from 1964 on³² and begin a slide in freight market share from which they have yet to recover.

While coastal shipping was gaining traffic and market share through the 1950s and 1960s, the industry saw problems on the horizon. Not only had shipowners used the Korean-War boom to acquire new hulls, but also the huge demand for tonnage supply during the boom had convinced the government to redeploy fifty-seven WWII-era ships originally slated for scrapping.³³ As Japan's shipping industry had experienced all too graphically in its ebb-flow cycles between the Sino-Japanese War of 1895 and WWI (See Chapter II), oversupply of tonnage raised the specter of fierce competition amongst

²⁹ Un'yushō, *Un'yu hakusho*, 2000 Dai 1-bu Dai 1-shō Dai 1-setsu no 1.(1).(1).

³⁰ Appendix A Chart 1.

³¹ Yamamoto, *Transportation in Japan*, 254.

³² Un'yushō, *Un'yu hakusho*, 2000 Dai 1-bu Dai 1-shō Dai 1-setsu no 1.(1).(1).

³³ Chida and Davies, *Japanese Shipping*, 78-79.

operators for available traffic, which could lead to big rate cuts and low profitability. The postwar entry of a plethora of new small operators into the industry made competition that much stronger.³⁴ By the mid-1960s the Japanese government felt it had to act to guard against ruinous competition. The government's main priority for transport in the High Growth Rate Period was to provide stable, reliable "mass-volume" service³⁵ so that the economy, based primarily on chemical and heavy industries such as steel,³⁶ could continue to grow at phenomenal rates. Given this priority the government could not allow the coastal-shipping industry, relied upon for large bulk shipments of the heavy industrial materials needed for high economic growth, to again suffer ebb-flow cycles similar to those encountered between 1895 and WWI. Thus from 1964 on the government ushered in a new major wave of intervention into the coastal shipping industry designed to "stabilize," or circumscribe, tonnage supply. The two main laws concerning coastal shipping were amended to allow the government to: 1) control the tonnage supply active in the marketplace at any given time; 2) group all owners and operators into five industry associations for greater "cooperation;" and 3) establish rate cooperation amongst operators, that is, agreement among all operators to charge customers the same rates.³⁷ The centerpiece was the new Scrap and Build Program (Senpuku Chōsei Seido). According to the Program, when a ship owner wished to dispose of a vessel it would receive from the government the right (*hikiate ken* or *hikiate*

³⁴ Yamamoto, *Transportation in Japan*, 254.

³⁵ Un'yushō, *Un'yu hakusho*, 2000 Dai 1-bu Dai 1-shō Dai 1-setsu no 2.(1).

³⁶ Nakamura, *Postwar Japanese Economy*, 229-30.

³⁷ Un'yushō, *Un'yu hakusho*, 1964 Kakuron II.(I) Dai 2-shō Dai 1-setsu no 5, 1965 Kakuron II (I) Dai 2-shō Dai 1-setsu.

shikaku) to purchase a new replacement ship. Owners could then either hold on to the rights, which became valuable commodities like shipyard “store credits,” or others wishing to enter the business or to increase the size of their existing fleet could purchase, with government approval, a *hikiate ken* from an owner who was not interested in more tonnage.³⁸ Through these means the government effectively cartelized the coastal-shipping industry, severely restricting competition through an actively-controlled supply of ships in the marketplace as well as standard rate schedules for each of the five industry groups represented by an association.³⁹

Meanwhile, Britain was largely ignoring its coastal shipping industry. Post-WWII government transport white papers barely mentioned either international or domestic maritime transport. A 1966 white paper simply stated that “The Government sees no reason at present for suggesting any change in the general arrangements under which coastal shipping operates,” with no further explanation.⁴⁰ The first post-WWII government report devoted to shipping, published in 1970 by a committee appointed to the task by the President of the Board of Trade, found that postwar government policy vis-à-vis shipping was “essentially [one of] non-interference in commercial matters...”⁴¹ This non-interference carried over to the committee itself, as shown by its statement early in the report that “[m]ost of the [shipping] industry’s business is concerned with international trade...”⁴² While the ostensible meaning of this statement was that the

³⁸ *Mainichi Shinbun*, “Haisen hikiate-ken...”

³⁹ Un’yushō, *Un’yu hakusho*, 1971 Kakuron II (I) Dai 3-shō Dai 1-setsu.

⁴⁰ Ministry of Transport, *Transport Policy*, at para. 82.

⁴¹ Committee of Inquiry into Shipping, *Report*, at para. 1424.

⁴² *Ibid.*, at para. 3.

Board of Trade was most interested in Britain's import/export income earned through international shipping, the outcome was that coastal shipping received short shrift in the report. The little coverage it did receive included a few statistics, a bit of history, and the conclusion that the transport mode "should operate in fair competition with inland transport systems and without special assistance."⁴³ This report pointed out that the paucity of information was due in part to the fact that coastal-trade statistics were hard to come by,⁴⁴ a situation for which the cause was implied to be a "history of individualism" of the industry and its closed nature towards outsiders.⁴⁵ In other words, the British government admitted its distance from the coastal shipping industry, but blamed that fact on the industry itself.

Coastal shipping's share would reach its postwar peak in Japan in the 1970s at just over 50% of all domestic freight in ton-km, and then decline slowly over the next few decades but normally remain over the 40% level. While coastal-shipping-specific data is not available for 1970s Britain, the share of domestic water transport overall saw a dip of a few percentage points in the 1970s versus 1965.⁴⁶ Responding to the maintenance of Japan's much higher market share from the late 1960s on, one could argue that the government's efforts, centered around the Scrap and Build Program, succeeded in

⁴³ Ibid., at para. 284.

⁴⁴ Ibid.. 143.

⁴⁵ Ibid., at paras. 9-17, 1201. The reader will note, in my use of statistical data in this chapter, that postwar coastal-shipping statistics are much more numerous and readily available for Japan than for Britain.

⁴⁶ Official UK government freight statistics by transport mode for the postwar period give a simple "water" figure which includes coastal shipping, inland water transport, and – for 1972 on – one-port freight carriage by ships into and out of the UK. While coastal-shipping-specific ton-km data exists for 1973 to 1979 in other sources, it is for Great Britain only, not including Northern Ireland, so it cannot be compared with total UK freight-carriage numbers to get coastal-shipping market shares.

stabilizing the industry, letting it “get on with its job” without excessive competition amongst operators. If we define “stabilization” as control of competition through control of supply, then the Scrap and Build Program may very well have stabilized the industry. However, by aiming at industry stabilization rather than growth, it may be argued that it held back the economy from a level of expansion it may otherwise have achieved. Japan’s peak coastal-shipping market share in 1973 coincides with the tail end of Japan’s High Growth Rate Period – usually accepted as running from 1955 through 1974 or so – and post-1973 share figures show year-on-year decreases reflecting recession in Japan’s economy following the 1973 Arab oil shock. Clearly coastal shipping’s domestic freight market share rose and fell with the state of the economy even after the introduction of the Scrap and Build Program, and was already near its peak before the Program’s introduction. As Japan’s economy grew, demand for coastal shipping would grow as well, and vice-versa when the economy shrank. Japan’s postwar economic growth was absolutely phenomenal – its real GNP growth rate for the 1956-73 period was 10.2%, versus 5.5% for France, the next closest G7 country.⁴⁷ In the decade between 1965 and 1974 Japan surpassed Germany to become the #2 country by GDP in the liberalized world,⁴⁸ despite the fact that the majority of the country, including virtually all major cities save Kyoto, had been razed to the ground by WWII Allied bombing runs including two atomic blasts. That kind of rebuilding and industrial growth, focused on heavy large-scale industry, translates to strong demand for the carrying power afforded by coastal shipping. Britain, on the other hand, while the strongest Western-European economy

⁴⁷ Ishi, “The role of government,” 72.

⁴⁸ Un’yushō, *Un’yu hakusho*, 2000 Dai 1-bu Dai 1-shō Dai 1-setsu no 1.(1).(ウ).

right after WWII in terms of per-capita GDP, was also the weakest in terms of growth rate of that same GDP in the decade between 1950 and 1960.⁴⁹ Britain's real GNP growth rate averaged only 3.2% for the 1956-73 period.⁵⁰ While slightly behind Britain in 1955 in total domestic freight transport volume in ton-km, by 1960 Japan had already surpassed Britain and in the 1970s Japan's volumes would grow to about 2.5 times those of Britain.⁵¹ As compared with Britain, Japan's main industries had higher demand for the domestic shipping of raw, heavy materials, so it is natural that Japan's coastal-shipping freight share would be so far above that of Britain as these types of materials usually move on coastal vessels. Britain's coastal-shipping traffic in the 1970s was overwhelmingly oil and coal⁵² – fuels for energy production – whereas Japan's coastal-shipping freight mix between 1963 and 1967 included about 40% coal and petroleum products and the remainder materials for construction and manufacturing.⁵³

In fact, there are two possible arguments regarding the effects of the Japanese government's Scrap and Build Program in this time period. The first argument, as given above, would say that circumscription of tonnage supply as effectuated by Scrap and Build reduced competition amongst operators and thus allowed them to remain relatively healthy (profitable). This, in turn, helped to guarantee a steady supply of coastal-shipping tonnage supply, enabling the maintenance of Japan's overall economic growth without transport bottlenecks that might have held it back. Since this is the scenario that

⁴⁹ Eichengreen, *European Economy*, 91.

⁵⁰ Ishi, "The role of government," 72.

⁵¹ Appendix A Chart 4.

⁵² Appendix A Chart 5.

⁵³ Appendix A Chart 6.

the Japanese government chose to follow, it appears that the government's priority was to achieve a stable volume of coastal shipping tonnage supply. The other argument, however, would be that since Scrap and Build effectively constrained coastal shipping supply within certain limits, the program may have actually prevented the coastal shipping industry from reaching its full potential. If tonnage supply had been allowed to grow or shrink "freely" in concert with demand from shipping customers, the industry as a whole may well have transported a higher share of domestic freight than it did. In other words, in its attempts to guarantee a sufficient supply of coastal-shipping tonnage, the government may have caused the opposite, i.e. a level of supply insufficient to meet actual customer demand. Of course the answer to this counterfactual exercise will never be known, but these arguments cut to the heart of the broader economic debate of *laissez-faire* versus government regulation. Proponents of a *laissez-faire* economic system would have to admit that such a system includes the possibility of ruinous competition amongst service providers, but would counter that it offers those same providers the ability to respond quickly to customer demand, as well as the motivation to provide the best service possible in order to win the competition. This means that the Japanese government, through Scrap and Build, may have been "asking" shipping customers to sacrifice some quality of service in order to ensure that a certain level of freight was always moving in the economy. Overall economic growth was in any case presumably more important for Japanese officials than the fortunes of individual sectors such as that of coastal shipping owners and operators.

The 1970s and 1980s – Slowdown for Japan, Boom Period for Britain

The mid-1970s saw a big inflection point in the world economy, first with the dissolution of the Bretton Woods accord removing the dollar from the gold standard, and then the first Arab oil shock of 1973. Total domestic freight movements for Japan⁵⁴ reflect a slowdown in economic growth in the first half of the 1970s under the nation's biggest long-term recession since WWII.⁵⁵ The year 1974 actually saw negative economic growth for the first time since the war. From 1975 Japan entered a decade now commonly called the "Era of Stable Growth" (Antei Seichō-ki) where the nation, especially after the second oil shock of 1979, began a society-wide shift from intensive heavy industrialization to the production of smaller-scale, higher-value products.⁵⁶ In part this was out of necessity: Japan's economy up to the mid-1970s focused on the chemical and heavy industries, especially petrochemicals and steel. Both industries required huge amounts of energy, supplied mainly through imports of crude oil. During the 1960s crude prices remained low, but rose alarmingly after the oil shocks of the 1970s.⁵⁷ Between 1973 and 1983 "customs cleared" crude prices in Japan increased by a factor of ten. Higher oil prices forced the shutdown and dismantling of petrochemical plant and equipment, as it also did for shipbuilding yards, heavily reliant on steel. These developments helped to usher in more specialized industries such as electronics and

⁵⁴ Appendix A Chart 4.

⁵⁵ Un'yushō, *Un'yu hakusho*, 1972 Dai 2-bu, 1981 Dai 2-bu Dai 2-shō, 2000 Dai 1-bu Dai 1-shō Dai 1-setsu no 1.(1).(㉮).

⁵⁶ *Ibid.*, 1991 Dai 1-shō Dai 1-setsu no 2.(1).(㉿).

⁵⁷ Nakamura, *Postwar Japanese Economy*, 229-30.

machinery, as well as service industries. As a result total industrial energy consumption in Japan dropped almost 25 percent in the same 1973-83 period.⁵⁸

For the first time since 1955 total domestic freight volumes leveled off, and actually dropped slightly, during the five-year period of 1980-85. The country saw a strong move in the direction of high-frequency, small-consignment (“just-in-time”) transport as well as new services such as express home freight delivery. As in premodern Britain these higher-value, shorter-distance freight deliveries tended to be the forte of rapid overland transport, in this case trucks,⁵⁹ rather than coastal shipping. After 1980, while rail’s domestic freight share stayed roughly constant, coastal shipping’s share began to drop little by little while road’s share rose in inverse proportion, as if the latter two were exchanging shares directly.⁶⁰ This reflects the shift towards an economy where the relative strength of road hauling in servicing short-distance transport and distribution increased the demand for this type of transport. Appendix A Chart 7 shows coastal shipping’s product mix for the years 1981-90 in Japan – there is clearly a greater diversity of products than in the five-year period of 1963-67. Yet even in the later years the mix consisted primarily of raw, heavy, bulk materials. This is what coastal shipping carries so economically so that is the business the market gives it. A slow decline in coastal shipping’s freight share was occurring despite the fact that the government’s Scrap-and-Build program was alive and well. In other words, market forces were guiding

⁵⁸ Ibid., 226, 241.

⁵⁹ Airlines also handled relatively tiny, but growing, amounts of high-value freight after WWII. In Appendix A Chart 1 “Air” shows as a category but is not visible in the chart bars, because while not zero the data for air is miniscule compared with that of other transport modes.

⁶⁰ Appendix A Chart 1.

demand for coastal shipping despite the government's continued intervention in the supply side.

One may look at the slow descent of Japanese coastal shipping's freight share after 1975 and wonder how significant this national shift in industry really was. However, Appendix A Chart 9 should quell any doubts. Even as Japan turned to a truck-based just-in-time distribution model focusing on smaller, higher-value freight, long-distance ferry services had been growing rapidly since their debut in 1968.⁶¹ By 1971 almost 50% of all coastal tonnage supply consisted of ferries.⁶² While the quantity of "standard"⁶³ domestic freight trucks on the market exploded, more and more of them were making at least part of their journeys on ferries. Thus, coastal shipping as an industry was able to substitute some of the mixed freight in trucks on ferries, for bulk-material traffic it was losing. Of course, coastal shipping's domestic freight share continued to drop despite the increased ferry traffic. Apparently all the new freight on trucks could not compensate completely for losses in freight volume on other types of coastal vessels such as oil carriers.

Britain faced quite a different situation from Japan in the 1970s and '80s. Using new techniques invented in 1963 in the U.S., Britain began to drill deep-sea oil wells in the nearby North Sea, discovering oil and natural gas in 1964. After the oil crisis of 1973 it was financially viable for British companies to explore further in the North Sea using these deep-sea methods. Britain began to produce oil on its continental shelf in 1975, and

⁶¹ Un'yushō, *Un'yu hakusho*, 1976 Kakuron II (I) Dai 2-shō Dai 2-setsu no 3.

⁶² *Ibid.*, 1971 Kakuron II (I) Dai 3-shō Dai 2-setsu no 1.

⁶³ "Standard truck" is a more-or-less direct translation of the Japanese term *futsū torakku*, indicating a two-axle truck with at least five tons of carrying capacity.

another surge in worldwide prices in 1979, after the second Arab oil shock, kept the UK offshore oil (and natural gas) industry booming until the mid-1980s. Then worldwide prices began to fall again, cutting into profitability. Unlike Japan, which was almost completely dependent on imports for its oil requirements,⁶⁴ during its oil boom Britain went from an energy importer to a net exporter. Between 1973 and 1983 the country was the #2 natural gas producer in the world, and in 1983 it was the #5 oil producer worldwide. The number of ships in the offshore supply industry went from 97 in 1973 to 292 in 1986.⁶⁵

Appendix A Chart 8 shows that in 1980 the total ton-km of British domestic freight carried by water was well over double the 1965 figure. For the first (and last) time since WWII, the coastal shipping industry's share of total domestic freight broke the 20% barrier for much of the 1980s, and peaked at over 25%.⁶⁶ This was despite that fact that production of coal, still a major cargo for coastal shipping at the end of the 1960s, declined as major coal consumers such as The North Thames and South Eastern Gas Boards switched over completely to North Sea gas by 1971.⁶⁷ At the same time road transport's share of freight dropped a whole 10% between 1975 and 1980,⁶⁸ even though the actual ton-km carried stayed even during the same period.⁶⁹ This newfound product, oil, was being added directly to coastal shipping's freight volumes while other modes'

⁶⁴ Un'yushō, *Un'yu hakusho*, 1979 Dai 2-bu Dai 1-shō Dai 1-setsu no 2. In 1978 oil provided 72.7% of Japan's total energy needs, as opposed to 46.7% for the US and a bit lower for the UK, in the same year; in 1977 99.8% of Japan's oil was imported, compared with 43.7% for the US in the same year.

⁶⁵ Hope, *New History of British Shipping*, 448.

⁶⁶ Appendix A Chart 3.

⁶⁷ Hope, *New History of British Shipping*, 441.

⁶⁸ Appendix A Chart 2.

⁶⁹ Appendix A Chart 8.

volumes stayed relatively constant, not surprising as heavy bulk products like oil are tailor-made for water transport.

Transport developments of the 1980s in both Britain and Japan serve as an excellent illustration of the main thesis of this chapter: that coastal shipping's freight volumes and share of the transport market rise and fall in line with the state of the economy, regardless of government intervention or lack of it. During this decade coastal shipping's freight shares dropped in Japan despite the continuance of the Scrap and Build Program, as the economy shifted towards a distribution model more in tune with overland motor-vehicle transport. Scrap and Build may have succeeded in stabilizing coastal shipping's tonnage supply on the market, but it could not keep coasters' domestic freight market share from rising and falling in line with customer demand as determined by the state of the economy. In the same decade Britain saw its highest coastal-shipping freight shares of the postwar period, significantly higher than for any other period between WWII and today. Was this due to government intervention? No – it was due to a massive influx of previously-unavailable heavy bulk product (oil) into the U.K. economy, most of which was carried by the “best” freight mode available for it: coastal shipping. Britain's government nonetheless continued to ignore coastal shipping in the 1980s. A “great debate” began in Parliament in July 1982 shortly after the Falklands War, that “centred on the tendency of successive Governments to avoid both specific financial or fiscal assistance to the shipping industry and the type of protectionist measures... favoured by

many other developed countries.”⁷⁰ Yet there was virtually nothing in the debate concerning coastal shipping.⁷¹

The Era of Modal Shift

Japan’s Era of Stable Growth and the resulting changes in the nation’s economy led the government to envision a different role for coastal shipping. It felt – “hoped” is probably a more accurate term – that in the future shipping customers would look to coastal shipping to provide more diverse services. Government forecasts predicted that mixed freight would take up growing amounts of coastal shipping’s tonnage capacity. At the same time, the government’s Economic Plan for the second half of the 1970s (Shōwa Gojūnen-dai Zenki Keizai Keikaku), along with its Third Nationwide Comprehensive Development Plan (Dai san-ji Zenkoku Sōgō Kaihatsu Keikaku), reflected a society-wide reassessment of priorities. Strains created by the High-Rate Growth Period had become clearly evident, including environmental pollution, delays in the development of social infrastructure, a rise in traffic accidents, overcrowding of land, and progressive population flight from rural to urban areas. According to the new priorities, transport in the future was to take into consideration protection of the environment, energy efficiency, as well as the efficient usage of labor.⁷² Coastal shipping was known to be advantageous in all these respects – its emissions of substances harmful to the environment, per-freight-unit energy usage, and ratio of labor to freight quantities are all much lower than for the

⁷⁰ Butcher, *Shipping*, 5.

⁷¹ Hope, *New History of British Shipping*, Epilogue.

⁷² Un’yushō *Un’yu hakusho*, 1976 / 1977 / 1978 Kakuron II (I) Dai 2-shō Dai 1-setsu no 4, 1979 Dai 2-bu Dai 2-shō Dai 2-setsu no 2, 2000 Dai 1-bu Dai 1-shō Dai 1-setsu no 1.(1).(ウ).

other major freight-carrying mode of modern times, road transport.⁷³ The two trends – 1) changing freight mixes and distribution patterns in transport; and 2) demands for more environmental accountability – dovetailed into “modal shift (*mōdaru shifuto*)”, the Ministry of Transport (MoT)’s biggest intervention movement for coastal shipping since the 1960s.

Modal shift was actually not a new idea; it just took a long time before the actual phrase “modal shift” was used by the Japanese government. As early as 1964 the MoT’s first annual white paper had discussed the transfer of mixed freight from land to sea. Back then the urgent issue was to relieve the overloading of freight railways, occurring under skyrocketing demand in the high-rate growth period, onto the excess of coaster tonnage available. MoT’s main proposals at the time were a “correction” of rail’s freight rates to help coasters compete in mixed-freight carriage, as well as attempts to make coastal shipping more competitive in speed with rail (and trucks) through the streamlining of freight loading and unloading at special “domestic-trade” facilities in ports.⁷⁴ MoT proposals from the mid-1970s on were remarkably consistent, continuing to focus on these improved port facilities. Container ships and long-distance ferries were also the subject of much discussion, as they appeared to be excellent solutions for lowering the time required to move goods from one transport mode to another during trips.⁷⁵ As we saw above, long-distance ferry services began to multiply quickly after their launch in 1968, and in the 1970s and 1980s the ferries took on increasing

⁷³ Statements to this effect show up again and again in Japan’s Un’yushō white papers. One example can be found at: Un’yushō, *Un’yu hakusho*, 1980 Kakuron II (I) Dai 2-shō Dai 1-setsu no 6.

⁷⁴ Un’yushō, *Un’yu hakusho*, 1964 Kakuron II (I) Dai 2-shō Dai 1-setsu no 5.

⁷⁵ *Ibid.*, 1976 / 1977 / 1978 Kakuron II (I) Dai 2-shō Dai 1-setsu no 4, 1976 / 1978 Kakuron II (I) Dai 2-shō Dai 2-setsu no 3, 1979 Dai 2-bu Dai 2-shō Dai 2-setsu no 2.

commercial truck traffic, allowing coastal shipping to partially offset the loss of bulk, heavy-industry freight it suffered as Japan's economy made the transition in the 1970s from its High-Growth-Rate Period to the Era of Stable Growth. While this increase in truck travel on ferries is a valid example of modal shift, even with such a boost coastal shipping's domestic freight market share went into steady (though slow) decline in the 1980s and so the MoT looked for other avenues for realizing modal shift.

The Plaza Accord of September 1985 prompted the yen to appreciate rapidly, which led to a recession. Recession-fighting measures designed to expand domestic demand gave a wake-up call to corporate Japan, who then took the lead in engendering a strong economic expansion over the next several years. This period from 1985 on, known as the "Bubble Economy," saw chaotic speculative demand. Japanese companies and individuals ran around the world acquiring large collections of prime real estate and other valuable items. However, a rise in Japanese interest rates in 1990, along with other changes in the country's financial environment, led to rapid deflation in speculative demand, in one stroke destroying the balance between asset supply and demand and bursting the bubble.⁷⁶ Right before the burst, at the tail end of the bubble economy, the Ministry of Transport began to push modal shift under that name. The MoT had estimated a huge shortfall of truck drivers by the year 2000 and saw modal shift as a convenient solution for the manpower issue in conjunction with the other goals of the movement.⁷⁷ Finally in 1990 concrete plans arose for the development of "internal-trade

⁷⁶ Ibid., 2000 Dai 1-bu Dai 1-shō Dai 1-setsu no 1.(2).(イ).

⁷⁷ The English phrase was transliterated directly into Japanese alphabet: *mōdaru shifuto* モーダルシフト. See *Nihon Shokuryō Shinbun*, "Ryūsū zaiko..."

unit-load terminals” (*naibō yūnitto rōdo tāmīnaru*) at nine ports around the country.⁷⁸ By the next year ten ports nationwide had these systems installed,⁷⁹ the number growing to twelve in 1992 along with efforts to improve parking areas and access roads into fifteen key ports.⁸⁰

Despite these and other modal-shift efforts, coastal shipping’s freight share continued to drop between 1990 and 1995. The idealization touted by the MoT did not equal the reality in the Japanese economy; apparently infrastructure improvements were not the only concern hindering the effectiveness of modal shift. Industry stakeholders such as Mōri Chikai, head of coastal-shipping company Kawasaki Kinkai Kisen, and Takamatsu Shōsabrō, head of the operations committee of the Japan Long-Distance Ferry Association (*Nihon Chō-kyori Ferī Kyōkai*), complained about the plethora of regulations on ocean freight carriage effectively rendering modal shift impossible. They also bemoaned that the Scrap and Build Program was preventing ship owners and operators from expanding their operations through larger fleets.⁸¹ Yes – experts from the coastal-shipping industry actually said that Scrap and Build was BAD for the industry. Appendix A Chart 9 seems to confirm this pessimism by illustrating how the number of standard commercial trucks carried on ferries peaked in 1996 and then began to decline.

Actually, as early as 1992 the MoT had begun looking for ways to reduce regulations on coastal shipping in order to allow the industry to respond more rapidly to modal-shift

⁷⁸ Un’yushō, *Un’yu hakusho*, 1990 Dai 1-bu Dai 1 shō Dai 2-setsu no 2.(2).(ア).(b)

⁷⁹ Ibid., 1991 Dai 2-bu Dai 7-shō Dai 8-setsu no 2.(1).(ア).(c)

⁸⁰ Ibid., 1992, Dai 2-bu Dai 8-shō Dai 1-setsu no 2.(2).

⁸¹ Ibid., 1990 Dai 2-bu Dai 5-shō Dai 1-setsu no 1; *Yomiuri Shinbun*, “(Kuruma Shin Jidai);” *Nikkan Kōgyō Shinbun*, “Shin Shachō Tōjō.” Remember that long-distance ferries were one of the MoT’s early big hopes for modal shift.

measures. The MoT's first idea was to relax the rules of the Scrap and Build Program to allow more modal-shift-friendly vessels to be built in less time – container ships, long-distance ferries, or RORO (roll-on, roll-off) ships.⁸² The MoT's line of thinking in this respect reflected a wave of deregulation and privatization that arrived in Japan during the Bubble Era, key examples of which were the breakup and privatization of Japan National Railways in 1987 and public-private joint funding of the new Kansai International Airport opened in 1994.⁸³ According to this “new wave” thinking the Scrap and Build Program was a dinosaur legacy of Japan's protectionist cartel days. Between 1995 and 1998 the government eliminated the Program in the name of “free, competitive operations.”⁸⁴ However, many previous ship owners were holding on to *hikiate ken* new-ship construction credits, which were rendered essentially worthless by the dissolution of the Scrap and Build Program. In response the government instituted a compensation, or “soft-landing,” (*sofuto randingu*) program called the Coastal Shipping Temporary Measures Scheme (Naikō Kaiun Zantei Sochi Jigyō).⁸⁵ When a ship owner wanted to scrap an old ship, he would receive a payment from the scheme, with the option of putting that capital back into a new ship. Others could also put up the capital for a new ship to be built. To industry observers this was basically Scrap and Build under a new name, i.e. a continuation of cartelization. Not only did the new scheme effectively

⁸² Un'yushō, *Un'yu hakusho*, 1992 Dai 2-bu Dai 7-shō Dai 1-setsu no 3.(1), 1993 Dai 2-bu Dai 3-shō Dai 2-setsu no 3.(2); RORO = ROLL-on, ROLL-off = a type of ferry where the truck rolls onto the ship, detaches the cab from the container and drives away, and then another truck picks up the container at the other end of the sea journey; this method allows shipping operators to save the costs of paying drivers to stare at the ocean for hours at a time (!!)

⁸³ *Ibid.*, 1987 Dai 2-shō, 1985 Dai 1-shō Dai 2-setsu no 1.(3).

⁸⁴ *Ibid.*, 1999 Dai 2-bu Dai 7-shō no 1.

⁸⁵ Kokudo Kōtsū-shō, *Kokudo Kōtsū hakusho*, 2002 Dai II-bu Dai 5-shō Dai 6-setsu no 1.(6).2; *Kagaku Kōgyō Nippō*, “Tateishi Nobuyoshi-shi ni kiku;” *Mainichi Shinbun*, “Haisen hikiate-ken...”

regulate tonnage supply just as before, but potential new operators were still often shut out of the industry because they might be refused approval for new-ship construction even if they had sufficient funds available.⁸⁶ The MoT's objective of faster production of modal-shift-friendly vessels would certainly not be met through this Temporary Measures Scheme. Apparently the MoT was having trouble changing its ways after decades of tight regulatory intervention.

Britain's modal-shift history also had early inklings: a 1966 transport policy white paper from the Labour government expressed the "paradox" of the benefits of motor vehicles and their "severe discomforts" such as exhaust fumes and environmental effects.⁸⁷ However, Conservatives spent much of the next thirty years in office after that white paper was released, carrying on a "romance" with "free-enterprise road hauliers."⁸⁸ According to a 1989 road-construction white paper authored by Conservatives, the answer to road congestion was... more roads. Modal shift (from road to rail in this example) was supposedly not practicable because road and rail served different markets and thus one could not "readily be substituted for the other."⁸⁹ To be fair, Labour did not seem much more enamored of modal shift. In one of their transport policy white papers back in 1977 they had presented an earlier, somewhat more balanced version of the Conservatives' 1989 argument: "Little of the traffic at present carried on the roads is suitable for transfer to water," even though coastal shipping could be expected "to

⁸⁶ *Ryūtsū Sābisu Shinbun*, "Kyōsō sokushin..."

⁸⁷ Ministry of Transport, Transport Policy, at para. 1.

⁸⁸ *Lloyd's List International*, "Short Stories."

⁸⁹ Department of Transport, Roads for Prosperity, at para. 12.

continue to carry a substantial traffic in bulk freight.”⁹⁰ The same thesis received academic support in 1991 when consultants presenting research results at a Department of Transport (DoT) seminar estimated that only 3.5% of ‘internal [i.e. domestic British] road traffic’ had the potential for being converted to water through modal shift.⁹¹ As a 1993 newspaper editorial stated: “The shipping industry has come to expect few favours from this British government, which seems to be unaware of... its [shipping’s] major contribution as an environmentally friendly transporter of vast tonnages of goods.”⁹² In other words, the British government continued to ignore its own country’s coastal shipping industry, although this time in a slightly new light.

Coastal shipping’s freight share in Britain had declined to 15.8% by 1994. Around 1997 – only twenty years later than Japan! – the government finally began to discuss modal shift as a way to help with environmental issues seen so often in the news. As with Japan, the British government was no doubt spurred on by the Kyoto Protocol, not to mention the inclusion of environmental language in the Maastricht Treaty of 1992 attracting the attention of EU member states such as Britain.⁹³ A year later the Labour government issued its first white paper in the postwar era devoted to shipping, and the first shipping-focused paper from any government since the 1970 Committee of Inquiry into Shipping report.⁹⁴ The new Minister of Transport, John Prescott, was a former merchant navy sailor and thus appeared to have strong interest in the fate of the shipping

⁹⁰ Department of Transport, Transport Policy, at para. 190.

⁹¹ Grey, “Little Chance to Be All At Sea.”

⁹² *Lloyd’s List International*, “Bitter Blow.”

⁹³ Commission of the European Communities, Revitalizing the Community’s Railways, at para. 8.

⁹⁴ Committee of Inquiry into Shipping, Report.

industry. Perhaps the best news coming from the shipping white paper was a promise that Freight Facilities Grants (FFGs) would be extended to include coastal shipping. This scheme had been supplying funds to operators who could produce for the government concrete modal-shift plans to move road freight traffic onto Britain's extensive waterways. The scheme had yet to be applied to coastal shipping.⁹⁵ By 2001 the government carried through with its promise concerning the FFGs.⁹⁶

Meanwhile, coastal shipping's market share continued to drop, down to 14.3% in 2000.⁹⁷ Many complained that the level of government support for shipping in Britain was still not enough. The opposition Conservative party had "broadly supported the [1998 Shipping White] Paper" after its release, but four years later the Earl of Caithness, a Conservative Peer, commented that the paper had "'produced little that is new," showing how "blinkered the Government [was] by old-fashioned institutional thinking."⁹⁸ A newspaper article from the same year lamented: "The facts are unmistakable; in mainland Europe, as in the UK; the roads are congested, the railways find the combination of freight and passengers difficult to timetable, while the seas are empty."⁹⁹ For this writer the issue was not the availability of coastal service – plenty of operators were ready to implement modal shift. Rather, the difficulty lay in convincing shippers to try water instead of sticking with their old habits. Commercial trucking companies were known to cut rates in order to hold on to business. Despite the fact that coastal shipping

⁹⁵ Department for the Environment, Transport and the Regions (DETR), *British Shipping*, para. 136.

⁹⁶ Kerr, "Plans kept afloat."

⁹⁷ Appendix A Chart 3.

⁹⁸ Butcher, *Shipping*, 15-16.

⁹⁹ *Lloyd's List International*, "Precision Pays."

had improved technologically over the years, “It [would] be a struggle to wrest back trade from the road haulage industry, with the whole national distribution system predicated on enormous logistics centres at motorway junctions.”¹⁰⁰ As in Japan, Britain by this time had moved to a truck-based distribution model for the economy. As early as the 1950s and ‘60s road transport had been altering the nation’s distribution system, as in the field of whitefish delivery, where traditional rail-based distribution to local fishmongers had given way to a network of specially-equipped freezer trucks delivering directly to supermarkets.¹⁰¹ To make water transport attractive to shippers, that is, to support modal-shifting operators who might lose money at first in order to offer rates competitive with road transport, the newspaper article’s author asserted that the government would have to intervene with the establishment of a UK “Coastal Shipping Bureau” backed up by support from ports and other stakeholders.¹⁰²

The government also appeared somewhat less than sincere in the financial aid it was already promising, that is, through the FFG scheme. Out of £34.3 million of government funds allocated for coastal shipping and inland water transport from 2001 on, £19 million was still unspent as of mid-2006 because an insufficient number of “viable” modal-shift projects had been proposed. In the whole year of 2006 only one project was funded, and no FFG money whatsoever paid out in 2007. Industry experts claimed that the government’s FFG application process was too complex and placed too many restrictions

¹⁰⁰ Grey, “Wynn’s winning freight formula.”

¹⁰¹ Wilcox, “Railways, roads...,” 741-2.

¹⁰² *Lloyd’s List International*, “Precision Pays.” The inference is that the new Coastal Shipping Bureau would “intervene” with financial subsidies.

on what schemes would qualify as viable.¹⁰³ Others were less kind, calling the FFGs “bureaucratic nightmares” for which operators did not even bother applying.¹⁰⁴

Clearly there was a disconnect between the reality of the domestic transport marketplace and the well-meaning ideas of government. How could government involvement actually make a difference in the real, everyday economy if the two were incompatible? In 2004 the government set up a semi-autonomous organization, Sea and Water, “to promote the newly fashionable notion of ships as congestion-beaters,” but simple economics and infrastructure holes stood in the way. Ports strove to make whatever money they could off of visiting ships through the application of various port usage fees, while roads remained free of charge for the use of truck drivers. Some claimed there were plenty of coasters available for service, but that they were not trading around Britain (i.e. they were off in short-sea hops to other parts of Europe) because they simply could not compete with Britain’s “heavily subsidised roads.”¹⁰⁵ The possibilities for “environmentally sound” distribution were diminishing as the network of 115 ports around the British coastline shrank, reducing the number of locations reachable by sea. Smaller ports were closing, as small-ship owner/operators, the only ones who could physically reach them (some of which were actually a bit upstream on waterways away from the coastline), were bowing out of the industry because they could not cover their costs and still make a profit. New ships tended to be built to take advantage of economies of scale, rendering them too big for all but the largest ports.¹⁰⁶ The resulting

¹⁰³ Sandle, “Water freight projects.”

¹⁰⁴ Osler, “Turning the tide.”

¹⁰⁵ Lowry, letter to the editor.

¹⁰⁶ Grey, “Why water?”

process of port consolidation was leading to more and longer overland transit legs – usually by truck – between ports and inland locations, substituting for coastal segments that were no longer possible.¹⁰⁷

Apparently, then, British and Japanese government efforts to promote modal shift were largely ineffective in their early heyday years of the 1990s. The coastal-shipping industry and its customers decided that modal shift was not worth the cost. Japan’s coastal-shipping association umbrella organization ran modal-shift trials and found the results disappointing. For example, on a maritime test route one leg from Tokyo/Yokohama to Ise Bay cost about 10,000 yen (about US \$100) more per truck on water (ferry) than on road, and water took longer as well.¹⁰⁸ The MoT itself spent years researching and pushing into production a new Techno Super Liner (TSL), as a low-emission high-speed (modal-shift-friendly) solution for coastal shipping.¹⁰⁹ The TSL, to be launched around 2002, would have been especially relevant after the 1997 Kyoto Protocol and the strict CO₂ emission guidelines Japan set subsequently for the nation as a whole. However, construction and fuel costs on the TSL turned out to be relatively expensive, so the idea never took off to the degree hoped for.¹¹⁰

According to some, the coastal shipping industry in Japan has not responded quickly enough to overcome the mode’s speed limitations, or to improve either the frequency and small-consignment-carrying ability of its routes, or its ability to be part of door-to-door service. Such critics are implying, then, that coastal shipping must adapt itself to play a

¹⁰⁷ Hoare, “British Ports,” 32.

¹⁰⁸ *Kagaku Kōgyō Nippō*, “Naikō Sōren, mōdaru shifuto...”

¹⁰⁹ *Nihon Shokuryō Shinbun*, “Ryūtsū zaiko...”

¹¹⁰ *Nihon Kōgyō Shinbun*, “Mitsui Zōsen...”

role in the country's current (truck-based) distribution system. However, as compared with essentially free roads available to trucks, the infrastructure required for effective modal shift to coastal shipping seems expensive and complicated. The MoT's vision of modal shift requires unit-load systems, based on container or other easy-to-load-and-unload ships, integrated into ports with special loading/unloading systems, all of which actively use Information Technology.¹¹¹ Tonnage supply allowed to the industry is still effectively circumscribed – since 1998 by the Temporary Measures Scheme instead of Scrap and Build – and manpower shortages have been cropping up since at least 1989, when the MoT itself began complaining in its white papers about insufficient manpower as a result of Japanese society's plummeting birth rates, as well as a bad public image of the industry's employment practices.¹¹² A consultant for Japan Seven Eleven complained in 1997 that there were neither enough boats nor enough shipworkers in the industry for modal shift to be practicable.¹¹³

Kawame Toshio, Vice President of the Operations Department of Nippon Tsūun, perhaps Japan's largest shipping operator, was brutally honest when interviewed for an October 2002 newspaper article. Even if the national government and/or the coastal industry gave the order [for modal-shift], he said, “what transport mode(s) shippers choose to use is left up to market forces.” In the same article Ōmori Kōichi, head of Nippon Tsūun's Environmental-Measures Office, asserted that “[t]ruck rates [were] just too cheap” at the time, and that shipping customers, not to mention the trucking industry,

¹¹¹ *Kagaku Kōgyō Nippō*, “Naikō kaiun bijon...”

¹¹² Un'yushō, *Un'yu hakusho*, 1989 Dai 1-bu Dai 2-shō Dai 3-setsu no 2, 1990 Dai 1-bu Dai 2-shō Dai 1-setsu no 2.(3).

¹¹³ *Nihon Shokuryō Shinbun*, “Ryūtsū zaiko...”

would not necessarily accept attempts to switch their freight onto intermodal routes including the ocean.¹¹⁴ The trucking industry is made up of a plethora of small or “micro” operators who, when faced with Japan’s continually-lagging economy, might resort to extraordinary measures to attract customers even if such measures are temporarily uneconomical for them. Strong competition amongst truck operators themselves was even contributing to “reverse modal-shift.” Spurred on by the “societal mission” represented by the Kyoto Accords of the previous year, and by Japan’s national carbon-emission goals set in response,¹¹⁵ the MoT in 1998 set a goal to raise the share of all long-distance mixed-freight transport on rail or on the seas – at 40% in 1998 – up to 50% by 2010.¹¹⁶ However, in the two years of 2001 and 2002 the actual share dropped by 3% rather than going up.¹¹⁷

Then in 2003 Japanese coastal shipping’s domestic freight market share went below 40% for the first time since (at least) 1950. It would stay below that threshold until 2010.¹¹⁸ During this period, in the midst of continuing recession since the bursting of the bubble in the early 1990s and the ongoing shift of distribution to truck-centered just-in-time delivery networks, Japan’s coastal shipping industry faced yet another issue: rising fuel costs. A constant decline in freight rates further aggravated the situation facing the industry. Many of the industry’s largest customers, such as petroleum and chemical companies, had undergone industry consolidation and operations streamlining in the post-

¹¹⁴ *Nihon Kōgyō Shinbun*. “Nyūsu sukuranberu...”

¹¹⁵ *Yomiuri Shinbun*, “(Kuruma Shin Jidai);” Tajima et al., “Mōdaru Shifuto ni miru...” 87.

¹¹⁶ *Nihon Kōgyō Shinbun*. “Nyūsu sukuranberu...”

¹¹⁷ Un’yushō, *Un’yu hakusho*, 1998 Dai 1-bu Dai 2-shō Dai 3-setsu no 3.(2), 1999 Dai 2-bu Dai 4-shō no 4.

¹¹⁸ Appendix A Charts 1 & 3.

bubble era to cut down on costs. After 1998, when the government eliminated rate cooperation in the coastal-shipping industry at the same time as Scrap and Build, these large customers suddenly found themselves with the power to coerce small- and medium-sized coastal-shipping operators, who make up the vast majority of the industry (99.6% by some accounts ¹¹⁹), into accepting lower rates. ¹²⁰ The fact that operators had difficulties after the elimination of rate cooperation appears to go against a primary thesis of this chapter, namely that coastal shipping's market share varies more with the state of the economy and customer demand than it does in response to government intervention. However, an attempted refutation of the thesis of this sort does not account for the fact that coastal shipping's market share declined continuously since its peak in 1973, while rate cooperation was still in effect. Conversely, one could argue that the government's "imposition" of rate cooperation in the 1960s, did less to help the industry, and may even have done it some harm, by allowing industry members to become complacent in the face of government-controlled constraint of competition and thus leaving them ill-equipped to deal with the advent of open-market pricing if such ever came to pass (which it did in 1998). In any case, apparently the industry learned to adapt to *laissez-faire* competition: coastal-shipping-association talks with similar customer-industry associations began to bear fruit by 2008, as the two sides came to understandings on "suitable" coastal-shipping rates. ¹²¹ These were private-industry negotiations, not government-led initiatives. By 2010 coastal shipping's market share was back up in the 40% range, despite a nationwide

¹¹⁹ *Kagaku Kōgyō Nippō*, "Naikō kaiun shien de sōdan madoguchi."

¹²⁰ *Kagaku Kōgyō Nippō*, "Sakyū na taiō-saku..."

¹²¹ There are a great number of Japanese journal articles in the mid- to late 2000s on this topic. See, for example, *Kagaku Kōgyō Nippō*, "Hirooka Kenji Kaichō ni kiku" and "Naikō kaiun he no fukyō eikyō..."

recession caused by ripple effects from the U.S. subprime mortgage crisis (or “Lehman Shock” (*riiman shokku*) in Japanese). A survey of the coastal shipping industry, carried out between July and September 2012, showed that while major customers continued to put pressure on industry owners and operators to accept lower rates, coastal shipping market share rose even more, up to 43.4% in 2012.¹²² The industry’s actions show that in the end market forces and their effects on transport demand have been the most important factor in determining the health of coastal shipping in Japan.

Britain’s government continued to offer its FFGs, while its coastal-shipping market share had dropped to 13.5% in 2010. Japan has been working on similar programs to aid operators who come forward with concrete modal-shift plans. The Japanese government has set fiscal 2016 as a target for the cessation of ship-scrapping payments under the Temporary Measures Scheme.¹²³ Since the other half of the scheme, payments made for new ship construction, is not scheduled for the same termination date, one can only wonder how all the small- to micro-sized coastal shipping firms will be able to replace their aging fleets once they can no longer receive capital by turning in the old boats.¹²⁴ This will prove to be an especially vexing problem, as Japanese law essentially forbids operators from using ships that have been in service for more than fourteen years.¹²⁵ The government may very well continue its old habits of intervening in the industry through some kind of financing for new ship construction. Whatever their actions may entail,

¹²² *Resuponsu*, “Senpaku / Kigyō dōkō.”

¹²³ *Keizaikai*, “Tokushū / Tatakau butsureyū.”

¹²⁴ Kokudo Kōtsū-shō Kaiji-kyoku, *Kaiji repōto*, 2014 Dai 2-bu Dai 1-shō no 3.(2).

¹²⁵ *Kagaku Kōgyō Nippō*, “Hihei suru naikō kaiun...”

however, the success or failure of coastal shipping in Japan will continue to be driven mostly by transport demand determining the mode's place in the Japanese economy.

Conclusion

This chapter has attempted to show that in the post-WWII era, the demand for an island nation's various freight transport modes, and those modes' resulting success or decline, vary in response to changes in the nation's economy, not in response to actions by its government. While in Japan postwar governments acted to circumscribe the supply available in certain transport modes, such as coastal shipping, demand was linked to the state of the economy. In the same time period, British governments ignored coastal shipping for the most part, so both supply and demand were determined by market forces, themselves reflecting the current state of the economy. Geography would seem to favor the use of coastal shipping in both Britain and Japan; however, shipping customers will use the transport mode(s) they desire. Customers send heavy bulk freight by coastal vessels because of the relative price advantage as compared with other transport modes. Mixed freight and high-value products, however, have tended to move in an overland distribution system based on road transport with trucks, at least in the last few decades. Just because British and Japanese governments have desired that transport operators and their shipping customers try modal shift for mixed and high-value freight does not mean that the operators or customers will necessarily comply. Likewise, if customers see no need to pay more and/or change their current shipping habits, it is unlikely that transport operators will induce them to do so. Operators are businesses needing customers to survive, and if their cost structure is not competitive those customers will go elsewhere.

Since the dominance of road freight transport appears to be here to stay for the foreseeable future, one direction likely to be more effective for initiatives on the part of Britain's and Japan's governments would be the search for cleaner and more efficient motor-vehicle technologies. A 2009 white paper on "low-carbon transport" revealed a British government strategy to "ensure that by 2022, the vehicles on [UK] roads will be vastly more energy-efficient," specifically through efforts towards more efficient internal combustion engines and "new ultra-low emission vehicles" that "will be available on the mass-market."¹²⁶ In a strong case of *déjà vu* the paper argued that Heavy Goods Vehicles (large freight trucks) and van technology must be improved for lower emissions because "68 per cent of all road freight movements... are within the same region and have no viable mode shift option."¹²⁷ The Government's efforts in this direction appear to have been sincere: £400M was allocated "to encourage development and uptake of ultra-low carbon vehicles." A Technology Strategy Board, allocated £140M of that government purse, was engaging strategies for encouraging research into such vehicles, and was initiating plans for various government agencies to procure fleets of such vehicles for use on the job.¹²⁸ A 2013 white paper pledged over £500M more investment by 2020 in the same directions.¹²⁹

Japanese efforts in this area have a longer history. The MoT's 1997 transport white paper discussed stricter laws and regulations aimed at reduction of exhaust gases including mono-nitrogen oxides, as well as various environmentally-friendly motor

¹²⁶ Department for Transport, Low Carbon Transport, at chap. 3 para. 3 (page 35 box).

¹²⁷ *Ibid.*, at chap. 3 para. 34.

¹²⁸ *Ibid.*, at chap. 3 para. 20.

¹²⁹ *Ibid.*, at chap. 3 para. 18.

technologies in development – methanol, hybrid, compressed natural gas (CNG), and electric.¹³⁰ The 2007 white paper showed that between 2000 and 2006 Japan had seen a big increase of hybrid cars, from about 50,000 to almost 350,000 units, while during the same period CNG vehicles had gone from about 6,000 over 21,000 units. Unfortunately electric and methanol vehicles, never very numerous to begin with, had actually dropped in numbers.¹³¹ Let us hope that in this endeavor the two countries' governments are more successful than in the realm of modal shift.

¹³⁰ Un'yushō, *Un'yu hakusho*, 1998 Dai 2-bu Dai 6-shō Dai 1-setsu no 2.(1).(イ～カ).

¹³¹ Kokudo Kōtsū-shō, *Kokudo kōtsū hakusho*, 2007 Dai 1-bu Dai 2-shō Dai 1-setsu no I.1.(2) Zuhyō I-2-1-7.

CHAPTER IV

COASTAL PASSENGER TRANSPORT

Introduction

Coastal shipping achieved a significant share of domestic freight transport in both Britain and Japan in the post-WWII era. This share was determined by the economic advantages the transport mode offered for certain types of cargo, and by shipping customers' choice to send traffic on coastal vessels. In other words, coastal shipping found its place in Britain's and Japan's domestic transport sectors through the effects of market forces. Government intervention was not a deciding factor in the fortunes of the (nominally) private coastal shipping industry, whether in Britain, where the government largely neglected the industry and its operators, or in Japan, where the government intervened heavily in the industry's affairs from early postwar days.

Here coastal passenger transport is addressed for the same period. While almost negligible in terms of passenger volumes in comparison with rail or road, coastal passenger transport would remain important in postwar years because it would assume a role perhaps unique to, or at least particularly important for, island nations: transit to and from the myriad offshore islands, or *ritō*, dotting their coastlines. Even with the postwar spread of affordable air transport, ferry service between each country's mainland and the offshore islands would serve as a lifeline for island residents. In this transport sector a situation would arise that is largely opposite to that of domestic freight examined in Chapter III. Whereas freight goes on coastal vessels because of efficiencies and economies of scale not obtainable on land, offshore-island ferry service is a losing proposition by all economic measures, and survives or perishes according to the level of

direct government assistance. Throughout most of the postwar period such assistance would be forthcoming in both countries, to the point that the ferry operators become dependent on it. Only through constant subsidization and/or actual government ownership would the ferry companies be able to continue to operate. With a few rare exceptions, the services have no way of being profitable without third-party financial assistance. The islands simply do not support large enough populations to allow private ferry operators to turn a profit based only on ridership revenues.

Since government intervention in the offshore-island ferry services is heavy in both Britain and Japan, this chapter will also provide the opportunity for a comparison between the two island nations' systems of government as they are reflected in the governments' respective approaches to this "socially necessary"¹ transport sector. The comparison will show that in Britain the provision of these services has generated strong political and ideological debate. However, in the end virtually all political parties and their representatives have supported government assistance, and even ownership, in the sector. Japan's case will also show strong continuing support for the ferry services; unlike in Britain, however, government documents and even newspaper coverage in Japan will show a virtually complete lack of political discussion or debate on the issue, even after the concepts of deregulation and privatization became fashionable in the Japanese economy during the Bubble Era of the 1980s.² This lack of discussion will be explained as the product of a country where the same political party has ruled almost

¹ This is the standard catchphrase used in British government publications to denote services that are expected to operate at a financial loss but which are maintained nonetheless, through subsidy, because of their special importance to those who benefit from them – often disadvantaged members of society or those who have limited choices.

² See Chapter III for a discussion of this development.

continuously from 1955 to the present, and where government policy is mostly the domain of career civil servants who are neither elected by the Japanese populace nor appointed by those who are elected and who thus operate largely independent of Japan's political arena.

Coastal Passenger Transport Fades Away

As shown in Chapter II passenger traffic on water declined rapidly in both Britain and Japan after railways appeared in the nineteenth century. Like freight transport, transporting people over water was easier, more convenient, and had superior carrying capacity in comparison with primitive overland methods. Once a quick, large-capacity overland transport mode such as the railway was available, the advantages of traveling on water faded away for passengers. Railways, moreover, had a sizeable speed advantage over sailcraft and were less vulnerable to bad weather. Sailboats were at the mercy of the winds and could be stuck in port indefinitely when big storms reared their ugly heads. Steamboats, with their increased speed and independence from wind power, gave coastal passenger transport a second lease on life, but the relentless spread of railways eventually relegated even coastal steamships to a "pleasure cruise" niche frequented by those more interested in the journey over the seas than in reaching the destination in a timely manner.

Coastal liners³ provided the last coastal passenger traffic in prewar Britain. After the large-scale destruction of coastal liners in WWII, most owners gave up on resuming service after the war, resulting in the near demise of coastal passenger transport⁴ except

³ In shipping terminology a "liner" is a vessel that keeps a regularly-scheduled route similar to public transport modes with timetables. This is in contrast to a coastal "tramp," which is hired out on demand and its schedule and route decided by the customer(s).

⁴ Robins, *Coastal Passenger Liners*, 119.

for a handful of companies which eked out “mini-cruises” targeted largely at the vacation market up until the early 1970s.⁵ By 1950 coastal passenger transport in Japan had fallen to only 2.2% of all domestic passenger transport, and this share would drop below 1% for most of the postwar period.⁶ Other than *ritō* ferries this low level of traffic was found mostly on pleasure boats or, from 1968 on, long-distance ferries.⁷ Passengers of both countries had a huge range of transport choices in the postwar period – railways, road transport in the form of either public or private buses or private automobiles, as well as airlines for longer distances. The number of buses in Britain, at 50,000 before WWII, jumped to almost 63,000 already by 1948.⁸ In Japan motor vehicle ridership quadrupled in passenger-km, from 610 million in 1949 to 2.41 billion in 1954.⁹ The number of passengers carried by British airlines grew from 217,000 in 1938 to an incredible 6.9 million by 1961.¹⁰ Between 1955 and 1965 Japanese domestic air travel grew from 360,000 to 5.2 million passengers, a more than fourteen-fold increase.¹¹

The Exception: Offshore-Island Ferry Services

The large range of choice of speedy, go-anywhere transportation options available to postwar Britons and Japanese relegated water transport primarily to the aforementioned “pleasure cruise” niche role except, of course, in the case of offshore-island residents.

⁵ Ibid., 125-27.

⁶ Appendix A Chart 10.

⁷ Un'yushō, *Un'yu hakusho*, 1976 Kakuron II (I) Dai 2-shō Dai 2-setsu no 3.

⁸ Temple, “A difficult and peculiar section,” 217.

⁹ Yamamoto, *Transportation in Japan*, 208-09.

¹⁰ Dyos and Aldcroft, *British Transport*, 399.

¹¹ Kokudō Kōtsū-shō, *Kōtsū kanren tōkei*, I.I-1, spreadsheet 23000000x011.xls.

For them ferries have been a lifeline, the only means of contact between their homes and the outside world for islands without air service or road connection by bridge. Yet by the postwar era offshore-island populations dwindled to such a point that private operators could no longer run the ferry routes without government subsidy. As of 1965 there were 461 populated *ritō* in Japan whose residents, all totaled, represented only 2% of the nation's population.¹² In 1967 companies running ferries to these islands had an average income as percent of expenditures of 76%, dropping to 67% the next year.¹³ Service declined, boats aged, and some of the routes were covered as infrequently as twice a month.¹⁴ By 1952 the government was already subsidizing 26.5% of operator losses, and by 1970 that number had jumped to 75.5%.¹⁵ In Britain the vast majority of the offshore islands lie off the west and north coasts of Scotland. As of 2004 a total of 96 inhabited Scottish islands had an average population density of about 0.08 people per hectare, as compared with 33 people per hectare in Glasgow.¹⁶ In stark contrast with British Government's overall neglect of coastal shipping (especially for freight) virtually all of Scotland's ferry services in the postwar period came to be operated by government-owned companies or via heavy public subsidies to private firms. When the Labour government nationalized all public transport in 1947, it inherited several shipping concerns owned by railways that had been formerly in private hands. Two of these operating between Scotland's West coast and offshore islands – 1) the Caledonian Steam

¹² Un'yushō, *Un'yu hakusho*, 1965 Kakuron II (I) Dai 2-shō Dai 2-setsu no 5.

¹³ Ibid., 1969 Kakuron II (I) Dai 2-shō Dai 2-setsu no 4.

¹⁴ Ibid., 1965 Kakuron II (I) Dai 2-shō Dai 2-setsu no 5.

¹⁵ Ibid., 1970 Kakuron II (I) Dai 3-shō Dai 2-setsu no 3.

¹⁶ Scottish Executive, *Scotland's Transport Future*, 10.

Packet Company and 2) David MacBrayne Limited (50% stake owned by the government) – were handed down through various incarnations of Britain’s nationalized transport body until 1969. In that year the government purchased the remaining 50% of David MacBrayne Limited and merged it with Caledonian Steam Packet Company to form Caledonian MacBrayne Limited (usually “CalMac” for short) as of 1 January 1973.¹⁷ The government at first tried to draw a line between money-making and money-losing routes by leaving eight ships with a separate unit under the name of David MacBrayne Limited, but by 1980 it recognized that none of the routes could run without subsidy and thus David MacBrayne’s assets were brought completely into the CalMac fold.¹⁸ By 1980, therefore, a fully-government-owned company had a virtual monopoly over Scotland’s West Isles ferry routes. At the same time North Sea islands off Scotland’s north shore were being served by the private company P&O Scottish Ferries under a contract rich in government subsidies.¹⁹

Government and Politics Reflected in Offshore-Island Ferry Services

Japan

Despite heavy government assistance, offshore-island ferry services in Japan are largely free from the effects, or even the attention, of Japanese politics. In reading through the Ministry of Transport’s (MoT) annual White Papers (*un’yu hakusho*) from 1964 to the present, one hardly sees any language critical of politicians, much less indicative of debate between parties. In terms of policy directed at offshore-island

¹⁷ Robins and Meek, *The Kingdom of MacBrayne*, 189.

¹⁸ *Ibid.*, 200.

¹⁹ Ross and Simpson, “P&O loses ferry service;” *Lloyd’s List International*, “Gourock/Dunoon ferry service;” Howarth and Howarth, *The Story of P&O*, 193-94.

transportation, the MoT white papers reflect a principle of long-term, sustained support for ferry routes not able to stay profitable through fare income alone. Specific government support programs come and go under various names, but the main purpose behind all of them is to fund the ferry operators, the construction and maintenance of ships, and associated infrastructure such as island ports. Likewise, support of offshore-island airports and money-losing air routes is also provided as needed.

This lack of political debate is understandable, given Japan's virtually unbroken record of one-party politics since 1955 under the LDP. Similarly, the continuity of policy is also understandable, given that it emanates mostly from the unelected, career civil servants of the state bureaucracy.²⁰

Britain

As noted above it was originally Labour's 1947 nationalization of British transport that brought some offshore-island ferry services under government control. As socialists, members of the Labour Party saw "[p]ublic ownership... as a means towards achieving the ultimate ideals of socialism."²¹ Conservatives, however, grounded their philosophy in tenets such as respect for tradition, preference for limited government, and defense of property rights,²² a surefire recipe for opposing nationalization and centralization of transport institutions. Back in power in 1951, Conservatives set about decentralizing the national transport apparatus, eventually in 1960 breaking up Labour's monolithic British

²⁰ See Chapter I for more information on these points

²¹ Labour Party, *Industry and Society*, 7.

²² Ingle, *British Party System*, 22-26.

Transport Commission formed in 1947.²³ Conservatives then acted on the recommendations of the Beeching Report they commissioned in 1963 by closing large numbers of “redundant” rail routes and stations to stem the huge financial losses of British Rail, which was succumbing to the transport battle with motor vehicles.²⁴ Labour fought back in 1968 through a Transport Act that largely regrouped government rail and road freight holdings as well as national bus and offshore-ferry services.²⁵ However, starting in 1979 Conservatives had an eighteen-year stretch in power, their longest run in postwar history. A 1980s wave of liberalization arriving from the U.S. pushed deregulation in many areas of British industry. This wave dovetailed with Conservative efforts to stem inflation through reductions in government spending, leading to a long string of privatization of government industries including those in the transport sector: the British Transport Docks Board in 1981, the NFC in 1982, the NBC and the British Airports Authority in 1986, British Airways in 1987, and finally British Rail in 1996.²⁶ When Labour regained power in 1997 the fight had gone out of them and they made no effort to undo the Conservatives’ work. In fact, they “abided by the previous government’s public expenditure targets while continuing the privatization and deregulation process.”²⁷

²³ Ministry of Transport, *Nationalised Transport Undertakings*, at paras. 9-33

²⁴ British Railways Board, *Reshaping of British Railways*, 3.

²⁵ Ministry of Transport, *Transport Act, 1968*, s. 1-2, 24-26.

²⁶ Gubbins, *Managing Transport Operations*, 14-15; Quinet and Vickerman, *Principles of Transport Economics*, 177, 289.

²⁷ Gubbins, *Managing Transport Operations*, 14.

Yet amidst all this frenzied privatization Conservatives appeared to maintain a soft spot for socially-necessary transport services. The 1960 Highlands and Islands Shipping Act, which allowed a more active public role in maritime transport in those regions of Scotland and which culminated in the formation of CalMac, was passed under Conservative watch. The Beeching Report of 1963 attempted to limit cuts off rail lines considered socially necessary, to those which already had redundant bus services.²⁸ Conservatives did make a few attempts towards privatization of CalMac, but reversed their decisions based on feedback from ferry customers and other stakeholders. First in 1981 the government planned to withdraw CalMac funding for one popular ferry route and apply the funds instead towards a privately-owned company. However a year later, under pressure from Conservative party colleagues, the Scottish Secretary George Younger withdrew the plan.²⁹ Then in the late 1980s Conservatives broke up and privatized the state-owned Scottish Transport Group, which subsumed CalMac. This action was met by a groundswell of protest from island residents and local authorities, joined by calls from Labour and Liberal Democrats stressing the greater importance of an integrated ferry network over Conservative ideology. The Conservative government had no choice but to maintain CalMac as a public company with its ferry route monopoly. Although CalMac's need for subsidies dropped as ridership increased over the next few years, in 1993 the Treasury began to pressure Scottish local government to again look at privatization of the CalMac network.³⁰ The Scottish authorities hired a consulting firm

²⁸ British Railways Board, *Reshaping of British Railways*, 19-20.

²⁹ *Lloyd's List International (LLI)*, "...Government's intention to de-nationalise...;" *LLI*, "House of Commons...;" *Guardian*, "Secretary of State...;" *LLI*, "Gourock/Dunoon ferry..."

³⁰ *Guardian*, "Revived Ferry Sale Fears..."

to look into the matter, which announced a year later that government would find little, if any, savings by privatizing CalMac. Thus Conservatives again conceded to majority opinion by leaving CalMac public.³¹

The return of Labour around the mid-1990s would mean the end of Conservative privatization attempts of CalMac and its network. Scotland's new Secretary of State as of 1995 was a Labour Party member. In 1997 the Labour Party took power again in the national UK government. And in 1999, through a devolution process approved at the national level, Scotland took a big step toward autonomy when its Parliament resumed operations for the first time since 1707. Suddenly in Scotland, the UK two-party debate was overshadowed by Scotland's own internal politics (at least in local newspapers).

Conservative MSPs (Members of Scottish Parliament) have always held a minority of seats behind Labour and the Scottish National Party (SNP) since the Parliament's revival in 1999 up to the present, and these Conservative, at least in public, have virtually always joined the majority in support of the state-owned CalMac network (as have the Liberal Democrats, the fourth major Scottish party often heard in the news). Thus after 1999 it would take a very different "villain" to threaten the hegemony of the West Scotland ferry network. What became this villain was the European Commission (EC). Starting in early 2000 the EC began asking the Scottish government for detailed information regarding CalMac and the roughly £15 million subsidy it received from the government each year towards operating expenses. The EC was concerned that this arrangement was violating European law, which required any state-subsidized ferry route to be put up for bid every five years as a way of ensuring that private operators had a fair chance to compete for the route. A long, drawn-out process ensued whereby the Scottish

³¹ *Independent*, "Ferries Set to Escape Privatisation."

government first objected to the bidding process, then tried to delay it as long as possible while asking the EC to allow the whole CalMac network to be put up for bid as one piece. The fear was that if the network were broken up private operators would “cherry-pick” the profitable routes and leave the state with the tab for the money-losing routes.³² At least with the network in one piece an operator could “cross-subsidize” money-losing routes using revenue from the profitable ones.

In November of 2011 the EC ruled that the route network could be put up for bid as one piece. An article in the *Aberdeen Press & Journal* dated November 15th is typical of the new “Scot first, politician second” attitude: the Labour transport minister and representatives of the other three big parties all praised the decision, one even mentioning how “MEPs [Minister of European Parliament] and MSPs of all parties worked together to secure this decision...”³³ Yet labor unions and politicians continued to fight against the bidding process, claiming that EC ministers would eventually allow CalMac to be an exception to the EC bidding law once the ministers understood the importance of the lifeline services to West Isles residents. In 2004 the Scottish Parliament voted to reject the bidding process.³⁴ Another Parliament vote the next year allowed bidding to go forward.³⁵ In the end CalMac was left as the only bidder after all other candidates dropped out. Politicians all pointed fingers at each other and the EC, and called the whole affair a colossal waste of time and money. Yet no one was (publicly) unhappy that the routes would remain as one network under CalMac control.

³² *Aberdeen Press & Journal*, “Argyll joins CalMac status battle.”

³³ Kerr, “Jubilation on West Coast...”

³⁴ *Evening Times*, “Euro talks over ferry vote blow.”

³⁵ Dalton, “CalMac ferry services finally up for grabs.”

Meanwhile, the same bidding process was being applied to ferry routes serving Scotland's North Isles (Orkney and Shetland), which had been run by private P&O Scottish Ferries since the early 1970s under a government contract rich in subsidies. Amazingly enough, while still the subject of possible break-up itself, CalMac joined up with the Royal Bank of Scotland as one of the bidders for the North Isles routes³⁶ and won, taking over the routes and the attached £11 million-plus annual subsidy from P&O in 2002.³⁷ Thus from 2002 virtually all Scotland ferry routes were state-owned, funded and operated until 2012, when CalMac lost its third North Sea bidding war to a private service company. Not surprisingly, the "private" successor continued the routes under heavy government subsidies.³⁸

Conclusion

Postwar Japan's true transport policy makers are largely non-elected career bureaucrats, who are able to ignore political infighting and exigencies in order to focus on long-term policy goals benefitting Japanese society as a whole. In terms of the coastal shipping industry that policy has entailed financial support and strategic "advice" given to companies which are nominally under private ownership and operation. Year after year in its White Papers the MoT has restated that offshore-island ferry routes were required for the islands' residents, and thus economically-unviable routes were to be subsidized. In postwar Britain, the frequent flip-flop between Labour and Conservative politics is usually a mitigating factor in the development of government transport policy and decisions. Yet both friends (Labour) and foes (Conservatives) of nationalized

³⁶ John Ross, "Bank joins CalMac in ferry bid;" Howarth and Howarth, *The Story of P&O*, 193-94, 219.

³⁷ Ross and Simpson, "P&O loses ferry service."

³⁸ Davidson, "Serco on crest of a wave..."

industry in Britain have shown support for public funding of socially-necessary transport services such as the CalMac ferry network. In both Japan and Britain the mantra of “social necessity” appears sacred.

To understand why government involvement in transport is not simply a given in both countries, one must understand the basis of the debate over public versus private transport. Supporters of the latter argue that only privately-funded operators and owners can be truly motivated to improve services and lower costs. After all, if they do not do so they will lose business to others. Even in the case of a private operator who has no direct competition, the operator will not be able to stay in business unless it at least breaks even financially, and will not bother to continue in business unless it turns a profit. Additionally, proponents of private transport argue that it is unfair for individual taxpayers to fund transport they may never use for the benefit of other members of society. Private operation and finance mean that only actual users, and not all of society, pay for services rendered. Proponents of public transportation, on the other hand, believe in the virtue of an integrated transport system, where all transport modes work in coordination to provide the greatest benefit to society as a whole. They argue that only the state is big enough and rich enough to fund and operate such an integrated system, whereas private concerns will choose to, or be forced to, cherry-pick profitable parts of the transport network to the detriment of unprofitable socially-necessary parts. Only the state has the wherewithal to fund socially-necessary money-losing transport services indefinitely.

If one applies the positions – support for private versus public transport – to the example of offshore ferry services, the majority opinion of Scotland vis-à-vis CalMac

becomes more understandable. Throughout the bidding processes, newspapers frequently documented the fears of stakeholders – island residents, businesspeople, and politicians alike – that private operators would prioritize profitable routes and let the others fade into oblivion. However, a standard government counterargument was that any private operator who won a bidding contract would be subject to the same standards of service (and safety) that had applied to the CalMac monopoly.³⁹ Something else must have been worrying the opponents of a CalMac breakup. We can find the answer by again looking at local newspapers. They were concerned about continued integration of services on the ferry network. CalMac was one of many voices claiming the necessity for a single operator running the whole network. Only a single operator controlling the whole network, the voices claimed, could optimize efficiency and service, including integration of route schedules, marketing of the whole network as one to maximize tourist draw, retasking vessels in the case of breakdowns or emergencies, and even cross-subsidizing money-losing routes with profitable ones.⁴⁰ Hence the desire of most stakeholders to keep the whole CalMac network together even if a private operator were to take over, becomes understandable.

Dissenting opinions have not appeared amongst politicians since George Younger's term as Scottish Secretary, but one finds such opinions in the general public, both in editorials and letters to local papers, as well as in those same papers' interviews of academic experts on Scottish shipping. These voices complain that monopoly has led CalMac to become complacent, to let the quality of service slip while costs and fares rise.

³⁹ See, for example: John Ross, "Boyack pledges action to save vital ferries" and MacDonell, "Private sector could confound..."

⁴⁰ See, for example: Hannah, "Shake-up of ferry services," and Pauling, "MSPs call for CalMac..."

⁴¹ Is there a way to combine the best features of both public and private transport, while leaving out the disadvantages? Perhaps not completely, but a promising alternative has appeared recently in the offshore-ferry networks of both Britain and Japan. This is the phenomenon of “Public ownership, Private operation” (*kōsetsu min’ei-ka*) which entails institutional separation of transport operations from the infrastructure (ports, wharves, vessels). Operators are then free to focus on operations. While private operators still run their businesses with a profit motive, the lack of high fixed costs associated with maintenance and improvement of the infrastructure would allow them more easily to make a profit even if their network includes some socially-necessary unprofitable routes (where cross-subsidization can help). In the “Public Ownership, Private operation” system infrastructure costs are funded by the “deepest pockets,” i.e. the state. Some taxpayers may never benefit from the infrastructure, but such a compromise is much easier to defend than complete public funding of the entire network structure including operations. Such a defense may involve an argument of the following type: public funding covers road development, so it should also cover infrastructure costs for other transport modes. In the case of ferry routes there is no “highway” to pay for, so the funds would default to whatever maritime infrastructure exists, namely ports, wharves, and the vessels. If taxpayers still insist on paying only for what they actually use and thus object to government funding of the ferry routes, the government could then insist that the objectors pay a share of road infrastructure costs, as more than likely they drive their own

⁴¹ See, for example: King, “Economist backs ferries tender,” *Scotsman*, “CalMac monopoly must go,” and Dalton, “Lifeline...or millstone for taxpayer.”

motor vehicles.⁴² But few objectors would consent to this, especially commercial motor vehicle operators who are currently able to keep operational costs low by riding the infrastructure for free.⁴³

The remaining component to tackle is the concept of an integrated network. But what constitutes an “integrated network”? In the case of passenger transit it equates to the ability for passengers to move quickly and easily between transport modes or between lines of the same mode. For example, having bus stops right along the outer perimeter of a train station greatly simplifies intermodal connections in one facility, where passengers switching between modes need not walk long distances nor take the risk of crossing busy roads or streets. The case of freight is more complicated because the traditional bottleneck in intermodal connections has been the transfer of freight from one vehicle to another, often a labor-intensive and time-consuming process that also risks damaging the cargo with each transfer. Intermodal containers are a common solution to this issue, helping to save time and safeguard the cargo by obviating the need for the cargo itself to be touched, but containers still require appropriate infrastructure for transferral between modes. Another popular solution is motor-vehicle ferries, where again time and money are saved because the freight need not be touched and even the transferral of a container

⁴² This, of course, is one of the ideas behind toll roads. The expressway (*kōsoku dōro*) network in Japan consists mostly of (very expensive!) toll roads, while various “road pricing” schemes are under debate in Britain.

⁴³ One of the reasons railways have had such trouble competing with road traffic in the postwar era is that railway owners have traditionally been monopoly operators and thus have been saddled with high fixed capital costs on their infrastructure. Technical limitations prevent multiple operators on a single rail line, but the *kōsetsu min'ei-ka* concept is now being applied to some railways to allow the monopoly operators to compete on a more level playing field with road transport, i.e. without infrastructure costs. The concept became the EU’s standard model for open-market railway transport as described in Council Directive 91/440 (see Council of the European Communities, “Council Directive...”) and Commission white paper COM(96)421 (see Commission of the European Communities, A Strategy...), and France is an example of a national railway that instituted this type of system in 1997 (see Douillet and Lehmkuhl, “Strengthening the Opposition,” 104-5.).

is not needed. The important point is that network integration, whether for passenger or freight traffic, is really an infrastructure issue and thus should be practicable in a *kōsetsu min'ei-ka* model. As concerns the non-infrastructure aspects of an integrated network, such as route scheduling, private operators who each run different segments of one network may on first glance not appear to have any motivation to coordinate their timetables with the rest of a transport network, but doing so actually stands to bring them more traffic, and in more regular flows to avoid vehicle overcrowding so the trip is more comfortable for passengers as well as allowing operators to save on fuel by running smaller-capacity vehicles.⁴⁴ Where operator competition exists over a single leg of the network, coordination of timetables with other parts of the network is part of providing customers with the best possible service in order to win the competition.

In Japan local public entities have sometimes resorted to purchasing needed ships when financially-strapped ferry-route operators were not able to afford them. These ships are then “lent” back to the ferry operators for free. Both parties benefit – the local public entities are able to fulfill their mission of improving the quality of life of residents in the region through improved ferry service, and the operators are able to stay financially afloat without the worries of heavy ship costs. In 2009 the Japanese national government set up a program specifically for providing funds to local institutions interested in such

⁴⁴ Transport infrastructure is ideally designed to handle peak traffic flows, e.g. a ferry route which has an average daily ridership density of ten riders but a peak density of fifty riders during rush hours should ideally be designed to handle fifty riders comfortably. But doing so would mean that for most of the day the vehicle is underutilized and “overdesigned” for the task at hand. Anyone who has ridden a crowded commuter train can testify to the fact that either infrastructure designers tend to underestimate peak ridership, or that compromises are made vis-à-vis capacity to reduce development costs. However, clearly most infrastructure projects aim for capacity above that required by daily average ridership. Any effort towards spreading out passenger traffic to make daily traffic peaks less intense, e.g. through intermodal or interroute timetable coordination to avoid buildup of waiting crowds, can translate to infrastructure design savings, a factor which, in my opinion, should be considered as part of any private operator’s bid to run transport routes.

arrangements. Funds allocated for the program from the government's 2009 fiscal-year budget were 8.8 billion yen (about US\$74 million).⁴⁵ In Britain's case, CalMac was actually split into two entities in anticipation of the West Isles route bidding process. A new David MacBrayne Ltd. took over the infrastructure while operations were left in the hands of another new entity, CalMac Ferries Ltd.⁴⁶ In the future this arrangement would allow CalMac Ferries to bid for the routes, and other firms interested in bidding would not need worry about the huge task of funding all of the West Isles ferry network infrastructure along with operating the routes. Scotland's case is not a perfect example of the *kōsetsu min'ei-ka* model, as the Scottish Government subsidizes even private operators who run the ferry routes, as illustrated above with P&O and its successors in the North Sea market. However, even in Scotland the separation of infrastructure ownership and management should allow ferry operator(s) to improve their fiscal discipline and customer service by focusing solely on ferry operations.

⁴⁵ *Nagasaki Shinbun*, "Nagasaki Insaïdo / Tokyo Shisha."

⁴⁶ David Ross, "CalMac splits into two."

CHAPTER V

WHAT HAPPENED TO THE WATERWAYS?

Introduction

Water transport was the preferred method for moving people and goods for most of Britain's and Japan's history. Only in the nineteenth century, with the debut of quick, efficient, high-capacity overland transport, did transportation on the water encounter true competition. Railways took much of the passenger traffic away from water in short order. For cargo handling coastal shipping remained significant – as it does to the present day – because it continued to be cheaper than railroads for moving large quantities of low-value bulk materials in island countries, where most inland locations are not far from the ocean. Inland water transport, however, did not fare so well. Its slow speed compounded by the complicated lock systems of the canals, as well as its relative susceptibility to adverse weather, made inland water transport (IWT) uncompetitive with rail for short distances. In Britain long-distance transport had always been the preserve of coastal shipping; IWT never developed into a long-distance mode because of the unintegrated, fractured nature of both the layout of the waterway network and ownership by a myriad of private concerns. Japan's artificial waterway networks were always focused on urban areas, leaving the interurban distances available to coastal shipping, and then to rail once it arrived. Railway lines could be built almost anywhere, and eventually these usurped the lion's share of IWT's cargo. In the twentieth century IWT faced even stronger competition from motor vehicles. Overland transport by rail and road was faster and more convenient than IWT for bringing freight to locales along the coasts, and therefore more shipping customers and transport operators preferred overland routes. The

government prioritized the upkeep of land-based infrastructure over that of canals and rivers. The condition of these waterways deteriorated as a result, making IWT grow even less competitive, the process continuing in a vicious circle. This decline accelerated in the post-WWII era. The performance and traffic levels of IWT reached their nadir with the explosion of expressways in both Japan and Britain starting in the late 1950s and early 1960s.

Thus, from early on in the postwar era it would become clear that IWT had a doubtful future as a commercial freight mover, leaving the Japanese and British governments with two options: to kill off the canals or to preserve them for another use. As this chapter will argue, governments chose the latter, actually stressing use of waterways for reasons other than commercial freight carriage. Growing grassroots support, starting from the very early postwar years, helped save canals and rivers for recreational use in Britain, which from the 1960s became the focus of government policy towards the network. More recently, since the 1990s modal-shift activities as described in Chapter III, promoting the “shift” of transport traffic from inefficient, polluting trucks to rail and water modes, have been behind attempts to find new and ingenious ways to use the waterways in both Britain and Japan. The difference is that modal shift in Japan has held a lower priority for the government than the restoration of rivers and canals for emergency use in times of natural disaster.

Historical Development of Waterways After World War II

Britain

When Britain’s post-war Labour government nationalized most of the nation’s transport under a British Transport Commission (BTC) on 1 January 1948, the railways

brought under the BTC's control came not only with some coastal vessels and routes, but also a network of some 2000 miles of waterways which eighteen of those railway companies had acquired.¹ The BTC now controlled a nationwide intermodal transport network, giving it some ability to steer freight traffic to the transport mode(s) of its choice. For coastal shipping this was a negative development; the industry suffered as the BTC shifted coal traffic away from coastal liners towards its "darling" railways. The BTC also put coal traffic on its canals, both for domestic use and for shipment from inland collieries out to coastal locations for export. Some of the coal was carried by the BTC's own 800-strong fleet of waterway craft. This new traffic, along with oil carriage, allowed IWT's share of total domestic freight transport to actually grow in the years between 1948 and 1952.² But Conservatives, who took power again from 1951 on, were less interested in IWT than they were in private enterprise and competition in transport, especially on roads. Over the next decade or so, while IWT freight tonnage dropped 8% for all waterways (13% in ton-miles) and 18% for the BTC's own part of the national network in the face of road and rail competition and declines in coal exports, Conservatives played with various classification schemes that would divide the canals based on their potential uses. The relatively small part of the network considered to have true commercial potential was maintained, while the remainder was either abandoned or left to local initiative for private pleasure boating. This latter activity was spearheaded by local authorities in concert with groups of enthusiasts such as the Inland Waterways

¹ Hadfield, *British Canals*, 304-6; Ministry of Transport, Transport Act, 1947, s. 12.

² Hadfield, *British Canals*, 304-6, 314-15.

Association (IWA), formed in 1946 by private initiative. This latter group had been fighting ever since to have the canals protected due to their heritage status.³

In 1962, under a Conservative breakup of the BTC, a British Waterways Board (BWB) was formed and tasked with figuring out the future of the waterways.⁴ But then in 1964 there was another changing of the guard, and the new Labour government had a similar desire for honest, thorough assessment and resolution of the BWB waterway network. To this end the BWB commissioned a series of reports to assess the true state of the network and its future potential. The reports' conclusions clearly saw commercial freight carriage as secondary. Primary concern was centered on having the canals in sufficiently good condition to support Britons' recreational uses. First, the reports concluded that little of the waterway network was able to accommodate IWT profitably. About four hundred of the two thousand miles controlled by the BWB carried 90% of freight traffic. These consisted of mostly larger rivers near tidal estuaries and sections of wider canals that were flat, that is, devoid of locks. And 90% of that 90% was carried by independent private carriers, not by the BWB's fleet itself. Between 1954 and 1962 the BTC had spent much more in canal upkeep than its earnings through transport operations, the deficit expanding from £153,000 in 1954 to £1,068,000 in 1962. In fact the entirety of British waterways, including many large rivers and canals such as the Thames and the Manchester Ship Canal not under BWB control, carried much less than 1% of all domestic freight ton-miles in 1965. Next, the commissioned reports concluded that another four hundred miles, carrying the majority of the remaining 10% of the BWB network's freight traffic, had "some transport significance, though not a major one" and

³ Wordsworth, "Broader horizons for Britain's narrowboats..."

⁴ Hadfield, *British Canals*, 316; British Waterways Board (BWB), *Future of the Waterways*, p. 1.

were not likely to make money from the tolls. That left twelve hundred miles, called “remainder waterways,” for which the BWB had to find a use or relegate to disposal.⁵

The BWB’s actions in response to the reports was clearly weighted in favor of goals other than commercial freight carriage on the waterways. First, the BWB made a conscious choice to maintain the remainder waterways in the interests of “amenity” for society as a whole. Instead of imposing an estimated £600,000 annual cost on the national government for elimination of the routes or their reduction to minimum water flow, the government considered a preferable investment spending about 50% more yearly – roughly £900,000 total – to keep the twelve hundred miles in satisfactory condition for pleasure boating.⁶ This would be made easier by what one of the reports termed the BWB’s “already quite extensive” bankside facilities for “cruising.”⁷ Next, while it was understood that maintenance would continue for the four hundred miles most suitable for commercial traffic, the BWB operated only about 10% of the traffic on these waterways and began to phase out even this portion at this time.⁸ A 1966 Ministry for Transport (MfT) White Paper gave Labour’s opinion that IWT’s share of domestic freight could “never [again] be significant on a national scale;” the government thus had no need to include the transport mode in its national freight plans.⁹ Concerning the other four hundred miles of waterways, the BWB judged that on an “overcrowded and highly

⁵ BWB, *Future...*, pp. 19-20, 22-23, 28; Ministry of Transport, *Transport Policy*, at paras. 120-21; Hadfield, *British Canals*, 319-20.

⁶ BWB, *Facts About the Waterways*, p. 39.

⁷ BWB, *Future...*, p. 37

⁸ *Ibid.*, pp. 22-23, 28

⁹ Ministry of Transport, *Transport Policy*, at para. 84.

industrialised island” nothing should be discounted if it had some transport potential.¹⁰ Although the commissioned reports identified these last four hundred miles as having “some transport significance,” the reports did not specify the type of transport to which this assessment applied. Given the BWB’s actions for the other sixteen hundred miles, it is logical to assume that the BWB uses other than commercial freight transport would be given most consideration.

A 1968 Transport Act inscribed into law the BWB’s decisions, providing government subsidies for canal restoration for leisure use and setting aside certain canal routes for cruising only to enable enthusiasts to avoid the danger of passing commercial vessels.¹¹ The result was a veritable wave of restoration fever emerging from the public. Local groups raised their own funds and volunteer “labor” became more and more available for the restoration work.¹² Although the 1968 Transport Act gave the government the power to upgrade the status of restored remainder waterways to allow cruising on them, at first government funding for the upgrades was not forthcoming. Private investors were loathe to sink significant sums into waterways until upgrades allowed them to be approved for transport. The BWB only sat by and watched them deteriorate. Finally in 1977 the government agreed to extra funding.¹³ As of 1990, after eleven years of national leadership under Conservatives, there were over one hundred waterway restoration projects underway, the BWB working in tandem with local councils and the IWA.¹⁴

¹⁰ BWB, *Future...*, pp. 22-23.

¹¹ Hadfield, *British Canals*, 319

¹² *Ibid.*, 320

¹³ *Ibid.*, 323-4

¹⁴ Wordsworth, “Broader horizons for Britain’s narrowboats...”

Commercial IWT freight traffic stayed constant during the Conservative watch, at 2.3-2.5 billion tonne-km¹⁵ per year. In other words, Conservatives appear to have carried on the non-commercial policy direction of Labour before them, allowing the BWB to continue its restoration activities. However, government financial support under Conservatives appears to have had limits – through 1990 restoration projects depended to some degree on money “raised through appeal,” and some of the many projects ongoing in 1990 were funded, at least in part, through grants from the European Community.¹⁶

Japan

The fate of Japan’s waterways has been, if anything, worse than Britain’s. Boat traffic on major canals and rivers was already significantly down before the start of WWII,¹⁷ and the widespread destruction of Allied bombing raids only exacerbated the situation. To add insult to injury, the postwar years saw the continuing disappearance of riverbanks, a trend which started with the growth of railways in the Meiji era and which accelerated with the spread of motorized road transport.¹⁸ Most of the country’s artificial waterways were concentrated in cities such as Tokyo (formerly Edo) and Osaka. While in interurban areas IWT was being driven to extinction, loading/unloading records for Osaka ports show that some of the city’s rivers continued to play a part in freight distribution after WWII. When bridge construction over these rivers began in 1961 as part of the construction of an Osaka ring-line railroad, fear that the bridges would have a

¹⁵ In Britain the spelling “tonne” is used today to denote the metric ton. “Ton” continues to denote the traditional British imperial unit equal to 2240 pounds (as opposed to the American (“short”) ton of 2000 pounds).

¹⁶ Wordsworth, “Broader horizons for Britain’s narrowboats...”

¹⁷ Ishiwatari, *Redevelopment of inland water transport*, 137-38.

¹⁸ Numajiri, “Shuto-ken ni okeru suiro,” 46-47.

harmful influence on boat traffic elicited widespread objection. Bridge designs accordingly took ship navigation into account, by means such as the use of spans with no support pillars extending down into the river water.¹⁹ However, postwar debris cleanup efforts led to yet-unheard-of desperate measures such as the “Unused Waterway Reclamation Plan” (Fuyō Kasen Umetate Jigyō Keikaku) of 1947 which, true to its name, involved the filling in of the majority of urban canals.²⁰ In 1950s / 1960s Osaka the resulting reclaimed land provided space for local roads and the Hanshin (Osaka – Kobe) Expressway.²¹ Even major waterways suffered ignominious fates: many of the anchorages and berths of one of Osaka’s major rivers, the Yodo, were filled in between 1963 and 1968.²² Tokyo’s Nihonbashi River had a highway built close above it, with pillars extending down into the riverbed. Japan’s High-Growth-Rate Period, between 1955 and 1975, saw many important water features of Tokyo fade into the background, some like the Sumida River were practically demoted to drainage ditches replete with foul-smelling water.²³

The 1990s Renaissance of Inland Water Transport

By the 1990s very little freight was carried on either country’s internal waterways. 1996 IWT transport shares for Japan were only about 0.04% of all domestic freight tonnage, which was miniscule in comparison with coastal shipping’s 8% share in the

¹⁹ Kitahara, “Kindai Ōsaka no toshi-nai suiun,” 61, 75.

²⁰ Ishihara, “Tōkyō no kasen ni kakawaru kanri taisei,” 174; Numajiri, “Shuto-ken ni okeru suiro,” 46.

²¹ Kitahara, “Kindai Ōsaka no toshi-nai suiun,” 75.

²² Kasamatsu, Kanai, and Nagao, “Fushimi-kō no seisei to suitai,” 236.

²³ Numajiri, “Shuto-ken ni okeru suiro,” 46-47.

same year.²⁴ Domestic freight transport statistics published by the MoT / MLIT (MLIT is the Ministry of Land, Infrastructure, Transport and Tourism, a newer version of the Department of Transport) give data from 1950 on for road, rail, air, and coastal shipping, but nothing for IWT. Between 1978 and 1986 IWT in Britain maintained a steady 1.3% share of domestic freight ton-miles, after which the share began to sink due in large part to dropping quantities of oil carried (see Chapter III for a discussion of mid-1980s oil transport activities in Britain). By the year 2000 the freight share in Britain was back down to 0.7%. The Thames, which carried six million tons of freight in 1979, only supported half that amount in 1996.²⁵ Yet both countries were about to see a waterway renaissance in the 1990s. For Britain this would entail a second wave of renewal. The 1970s had brought waterway leisure activities to center stage, but this time the big push would be for modal shift, propelled by enthusiasm for water transport's environmental friendliness spilling over from coastal shipping into IWT as well. In Japan, however, the main impetus for renewed interest in IWT was the Kansai Earthquake of 1995. Government officials looked back at the disaster to learn from it whatever lessons they could about emergency preparedness, including the usefulness of waterways as a means of transport in times of natural disaster.²⁶

Britain

Labour, back in power in Britain from 1997, immediately began to “encourage greater use of inland waterways” and promised to “re-examine the rules of the freight

²⁴ Ishiwatari, *Redevelopment of inland water transport*, 137, Kokudō Kōtsū-shō, *Kōtsū kanren tōkei*, I.I-1, spreadsheets 23000000x011.xls and 23000000x012.xls.

²⁵ Stares, “UK Labour Party Pledge...”

²⁶ Ishiwatari, *Redevelopment of inland water transport*, 139.

grant regime [FFG] with a view to encouraging more applications for inland waterways projects.”²⁷ This FFG scheme was actually applied first to waterways, and later introduced to coastal shipping around 1999. The government went as far as asserting that the waterways could “provide a catalyst for urban and rural regeneration.”²⁸ True to their word, Labour awarded £47 million in FFGs in 1999, for water and rail modal-shift schemes. The BWB was given its own FFG of £53.7 million for waterway restoration. Between 1998 and 1999 canal repairs fixed 418 locks and dredged 73 miles of the network.²⁹

While admitting that most IWT freight carriage took place in the tidal areas of the nation’s rivers – out of 49 million tons carried by IWT in 2000 only 3.5 million was on canals – the BWB was convinced that certain types of bulk, low-value, non-time-sensitive cargo such as coal or household trash was “appropriate” for this transport mode.³⁰ Clearly the four-mile-an-hour speed limits on canals were too slow to allow them to play a part in just-in-time distribution systems, but did trash need to travel quickly to dump sites? Already by the year 2000 “huge amounts” of waste were being carried from city centers out to landfill sites.³¹ Well-known British organizations began to jump on the modal-shift bandwagon. Also in the same year leading department store Marks and Spencer began running tests for sending 40% of its baled cardboard waste to a recycling

²⁷ Department for the Environment, Transport and the Regions (DETR), *A new deal for transport*, at chap. 3 s. 4 p. 66.

²⁸ *Ibid.*, at chap. 3 s. 4 pp. 66-67.

²⁹ Unsworth, “Splashing Out on the Waterways.”

³⁰ Buckingham, “British Parliament Looks to Revive...;” Department for Transport (DfT), *Transport Statistics Great Britain*, spreadsheet dwf0101.xls; DETR, *Transport Ten Year Plan 2000*, chap. 8 s. 8.6.

³¹ Buckingham, “British Parliament Looks to Revive...”

plant over 150 miles away in Birmingham, using waterways for transport. Under consideration was another scheme whereby 2400 tons of waste a week would move by barge, saving 45,000 truck trips per year.³² Sainsbury, a major British supermarket chain, began a study in 2006 comparing freight movements in IWT and trucks; surprisingly the results showed that in almost every test run goods arrived faster by IWT than on congested roads.³³ Perhaps the highest-profile initiative was British Waterways' £15 million project to build a new lock on the Prescott Channel, designed to open the way for 350-ton barges from the Thames up the Lea River to bring freight into, and rubbish out of, the new Queen Elizabeth Olympic Park being constructed for the 2012 games.³⁴ This was part of the drive of then London Mayor Ken Livingstone and the Olympic Delivery Authority (ODA) to make the 2012 Olympics the "greenest games in modern times."³⁵

Britain made efforts to bring back waterway transport for passengers as well. A 1997 transport White Paper announced a "Thames 2000" initiative to "establish new passenger services on the River Thames" in line with the yearlong 2000 Millennium Exhibition celebrating the arrival of the third millennium CE, as well as to "leave a lasting legacy of improved infrastructure and services."³⁶ In terms of the latter, Transport for London, the local government body whose purpose is to "implement the [London] Mayor's Transport Strategy,"³⁷ established a River Services branch in 1999. The "lasting legacy of

³² Nettleton, "MandS takes a slow boat..."

³³ Reed, "Waterways have the golden touch..."

³⁴ *Lloyd's List*, "Special Report – Thames and Medway."

³⁵ Adams, "Ringling the changes..."

³⁶ DETR, *A new deal for transport*, at chap. 3 s. 4 p. 67.

³⁷ Transport for London (TfL), "Our role."

improved infrastructure” stands currently at about a dozen river piers between which various private operators run river tours and a River Bus service.³⁸ All totaled, traffic for River Services, combined with charter boat services and a Woolwich Ferry about ten miles downstream from central London, equaled about 6.5 million passenger journeys in the 2011/12 fiscal year. According to his 2013 River Action Plan, London mayor Boris Johnson hoped to almost double that number, to 12 million, by 2020.³⁹

Despite all these modal shift endeavors, IWT’s share of domestic freight carriage in Britain has remained relatively constant, even declining a bit, since 2000.⁴⁰ In 2006 British Waterways shut down the remainder of its own IWT freight operations.⁴¹ At the same time the recreational aspects of the network have ballooned: the number of pleasure boats rose above 20,000 for the first time in the 1980s, and to over 35,000 in the first decade of the 21st century.⁴² Also in the 2000s came the addition of two hundred miles of new and restored waterways, marking the first growth of the national waterway network since the mid-19th century. Today close to 3.3 million people visit the waterways each fortnight.⁴³ As of 2 July 2012 the BWB was dissolved and all of its waterway network and properties in England and Wales were transferred to a new charity, the Canal and River Trust (C&RT). BWB operations in Scotland have remained under public ownership under the name Scottish Canals, but a visit to their Web site leaves no

³⁸ Ibid., “Stations, Stops & Piers.”

³⁹ Mayor of London, *River Action Plan*, 3-4, 6.

⁴⁰ DfT, *Transport Statistics Great Britain*, spreadsheet dwf0101.xls.

⁴¹ Russell, “City: no more route canal.”

⁴² Canal & River Trust, “Canals in the modern era.”

⁴³ Midgley, “Reinvention of the canal system brings prosperity...”

doubt that they, like the C&RT, are devoted to recreational uses of waterways over commercial freight carriage.⁴⁴

Any lingering doubts as to the BWB's primary plans for the 2000-mile waterway network can be put to rest by noting a final, interesting point. Along with the waterways the BTC, then BWB, inherited a sizeable portfolio of property related to the waterway network, consisting of canalside lots and buildings and locks. So large was the portfolio that by the 2000s the BWB had become the largest owner of listed buildings in Britain after the National Trust and the Church of England, with assets worth about £400 million.

⁴⁵ The BWB used income from these properties to fund some of the waterway maintenance costs, and also to cross-subsidize losses in its freight operations.⁴⁶ To maximize the revenue from these properties, the BWB actually administered its network to the possible detriment of freight carriage. Choice waterfront properties were sold or leased for new housing developments, leaving less room for commercial freight facilities. Sea and Water, an autonomous organization formed and funded by the national government in the 1990s with the express purpose of promoting modal shift to water transport, claimed in 2007 that the BWB had admitted it was not the right organization to champion freight carriage on the waterways but was rather a "leisure organisation." Sea and Water also asserted that the BWB's property management activities were working at

⁴⁴ The BWB Web site, at <http://www.britishwaterways.co.uk> (last accessed June 3, 2015), is no longer updated but contains an archive of publications and other BWB information. The Scottish Canals Web site, at <http://www.scottishcanals.co.uk> (last accessed June 3, 2015), is of course still kept up-to-date, as Scottish Canals has remained active, separate from the Canal & River Trust.

⁴⁵ Midgley, "Reinvention of the canal system brings prosperity...;" Russell, "City: no more route canal."

⁴⁶ BWB, *Future...*, p. 29.

cross-purposes to the Department for Transport and its FFGs.⁴⁷ A London-area waterway interest group even surmised that the real intent behind the Prescott Channel project for the Olympic Park was to turn the waterways in the area into a large body of stagnant water like a big pond which would form a peaceful backdrop for housing projects planned for the Olympic site after the games ended.⁴⁸

Japan

By 1996 Japanese government officials started to look back at the aftermath of the previous year's Kansai Earthquake, and saw a stark lesson staring them in the face: water transport (both IWT and coastal shipping) had played a critical part in rescue, cleanup, and support efforts. Much of the transport of rescue workers, relief goods, and emergency patients had been on water, as the earthquake had damaged or destroyed many roads and railway lines. Trains between Kobe and Osaka were not running again until a month after the fateful day, and even three months after the seismic horror, many roads still lay closed while commuters continued to invest twice as much time as before shuttling between Kobe and Osaka. In the next few years there began a push in government circles for a revitalization of IWT. River berths were to be restored for use in times of natural disasters, and for enabling regular maintenance of the rivers (especially their riverbanks).⁴⁹ Yet the same government circles soon came to see the possibilities of IWT in terms of modal shift and other advantages previously attributed to coastal shipping. While NPOs had been working since the 1980s to take advantage of an amended River Law giving local residents more say on waterway usage, a new wave of

⁴⁷ Russell, "City: no more route canal."

⁴⁸ Regents, *Are the Waterways of the Lower Lea Valley in Good Hands?*, 3, 18.

⁴⁹ Ishiwatari, *Redevelopment of inland water transport*, 139.

research in the second half of the 1990s sought answers to a host of questions that came up in official discussions. For instance, how could IWT be used to help reduce stress on the environment, to improve energy efficiency, to reduce traffic congestion, or even to aid in the development of local regions?⁵⁰ MLIT formed a committee in 1997 devoted to exploring the promotion of IWT. In the next year MLIT communicated to river maintenance organizations nationwide that they had decided on a new policy of promoting use of the river berths in “normal times” as well. Progress was very slow, however; ten years later it was clear that the berths were still little used. Berths on the Yodo River were being utilized for tourist boating, but those on Tokyo’s rivers were normally locked, so potential pleasure boaters could not gain access to the water. They could not even gain familiarity with the facilities in order to be prepared to use them in times of emergency. MLIT set a goal for 1998 of having measures ready to encourage further use, not only for recreational activity but for freight transport as well.⁵¹ In the meantime conference groups of riverside municipalities began their own PR activities for the promotion of IWT in hopes that it would help revitalize their local communities. The PR activities, funded in part by the national government but with control left in the hands of the local associations, included boat tours instructing local residents in the history and natural environment of their nearby river(s).⁵²

As in Britain, Japan’s waterway renaissance of the 1990s included measures for promoting modal shift as well. Japan’s MLIT completed three IWT test runs on Tokyo’s

⁵⁰ Numajiri, “Shuto-ken ni okeru suiro,” 46-47; Gotō et al, “Kasen funatsukiba no yūkō katsuyō...,” 145.

⁵¹ *Nikkan Kensetsu Kōgyō Shinbun*, “Kasen shūun sokushin he...”

⁵² *Nikkan Kensetsu Kōgyō Shinbun*, “Tonekawa shūun fukkatsu he...”

Arakawa River, moving various kinds of freight – sand and dirt, frozen foods, and cement – and gauging costs and CO₂ emissions in comparison with road traffic. All three tests showed significant advantages in both areas with the use of IWT.⁵³ IWT's freight share in 2000 was only 0.2% of all domestic freight traffic in ton-km on water, which in turn was 42.1% of total domestic freight traffic for all transport modes combined. While IWT's share is a very small number, IWT is finding new, original uses in Japan just as in Britain: in 2006 33% of the garbage produced by Tokyo's 23 wards was carried by boat.⁵⁴ In both countries IWT can hopefully play at least a small role in future modal shift for bulk loads which are not time-sensitive.

Conclusion

In postwar Britain and Japan both nations' governments have acknowledged that IWT's chances of carrying significant amounts of commercial cargo again one day seem slim. Unlike coastal shipping, the canal network is no longer economically viable as a commercial freight transport mode compared with the wide choice of efficient, convenient, high-speed overland (and air) modes. Moreover, given the difficulty experienced in both countries with modal shift efforts in the coastal shipping industry – as Chapter III has demonstrated – how much commercial activity can realistically be expected to “modal-shift” over to IWT?

Both nations' governments have instead supported their inland waterway networks with primarily non-commercial uses of the waterways in mind. Britain has had great success in establishing its waterways as a national resource for recreational purposes. Rivers are also being employed as means for everyday passenger transport, as on the

⁵³ *Nikkan Kensetsu Kōgyō Shinbun*, “Kasen shūun sokushin he...”

⁵⁴ Terakado et al, “Toshi ni okeru shūun...,” p. 2 of 2 [no page numbers given on the document].

Thames. Japan's progress has been much more limited; a regional September 2012 IWT symposium offered no evidence of any organized use of Japan's waterways, commercial or otherwise. Seventeen years after the Kansai Earthquake, the best news the meeting could produce was that the berths on Nagoya's Kiso River were now ready for general use and that local companies were hoping to soon start using them for tourism activities in line with regional revitalization efforts. This relative lack of progress in Japan seemed not to have taken account of the previous year's Great East Japan (Tohoku) Earthquake and associated tidal wave (known together in Japanese as Higashi Nihon Dai Shinsai), perhaps the strongest earthquake in Japan's recorded history. In the aftermath of that event IWT again received attention for its utility during natural disasters.⁵⁵

Of primary importance is the fact that, as this chapter has shown, much of the waterway networks of Britain and Japan can only survive with government or other third-party assistance. There is no way that the networks can any longer be self-sustaining, earning money through tolls to cover maintenance and upkeep costs, as they were before the arrival of railways. For now, both nations' governments have decided to provide the necessary support, envisioning the waterways as an important (non-commercial) resource for their countrymen. Conservatives gave the C&RT a lavish sendoff upon its launch in 2012: not only was the BWB property portfolio transferred to the C&RT basically intact, but was accompanied by an extra line of government grants to equal up to one billion pounds over a period of fifteen years.⁵⁶ In one sense the portfolio transfer could be seen

⁵⁵ *Tokyo Shinbun*, "Kasen Shūun – Seiji Kyoka wo."

⁵⁶ *M2 Presswire*, "Over 1 billion investment secures future...;" *Boating Cornwall*, "Government grants £1 billion..."

as a way of “de-nationalizing” another commercial asset,⁵⁷ a typical Conservative move. The generous grant funding, however, is reminiscent of Conservatives’ failed attempts to privatize the CalMac network in the 1980s and 1990s;⁵⁸ perhaps again the party has deferred to majority public opinion. Whatever Conservatives’ true intentions in this most recent matter, Britain’s two political parties appear to have been united, if not in intent then at least in deed, for much of the post-WWII period with respect to the country’s waterways. Their actions in this respect have reflected overwhelmingly the public good, rather than commercial gain.

⁵⁷ Rabkin, “Canals flow to waterways trust.”

⁵⁸ See Chapter IV.

CHAPTER VI

CONCLUSION

In the Post-WWII era three major transport modes have vied for commercial freight traffic in Britain and Japan: road, rail, and water. This thesis has examined the water mode as if it were a group of three “sub-modes:” coastal shipping, offshore-island ferry service, and inland water transport (IWT). The postwar development of each of these sub-modes received a whole chapter of historical narrative and analysis. Two key themes which arose in those three chapters were: 1) the degree of governmental intervention in the sub-mode, as compared with private industry’s role; and 2) the effects on the sub-mode of stability in government policy and party politics, such as in Japan’s political continuity and locus of true legislative activity in the nation’s non-elected, career civil service, versus Britain’s flip-flop between Conservative and Labour parties and their largely differing visions towards transport policy.

Chapter III showed that the Japanese government had a strong degree of intervention into the coastal shipping industry from the immediate postwar years. Before the late 1990s postwar British governments virtually ignored coastal shipping, after which time their interest grew but was matched by little action, especially any that served to improve the domestic freight market share of the transport mode. In both countries coastal shipping’s “performance,” its traffic levels and success as a private commercial transport sector, was determined in large part by the transport needs of industrial development and commercial distribution, and more specifically by the private transport service providers and customers within those economic sectors. Japanese government intervention had some effect on coastal shipping’s supply of tonnage capacity, as it was intended to, but,

as in Britain, in the end the level of demand for the freight transport mode varied in line with the strength or weakness of the national economy, rather than as a function of government intervention. In Chapter IV a clearly economically non-viable sub-mode of water transport, offshore-island ferry services, would arguably not have survived were it not for heavy government support and/or ownership in both countries. This support, and ownership in Britain's case, was carried out because the transport sub-mode was considered "socially necessary." In Chapter V another water sub-mode, IWT, was acknowledged as economically viable in the postwar era only to a limited degree. For the most part British governments left commercial IWT to fend for itself under private operation, instead, like Japan, focusing their own efforts on non-commercial aspects of IWT they believed would serve the public good.

Two general conclusions can be reached in terms of the "government vs. private industry" debate for the postwar-era island nations that have been here the subject of study. The first conclusion is that government intervention in commercially-viable domestic water transport had limited effect, and met with rather limited success, where it was practiced. In Britain there was no intervention up until the late 1990s, and even after that time actual government action was restricted to "arm's-length" promotion of modal shift activities, which were not very successful. In Japan intervention was heavy throughout much of the postwar period. In 1964 the government began actively controlling the aggregate tonnage supply in its nation's coastal shipping industry. Yet demand for the water transport mode was not a function of government action. Rather, demand remained primarily a function of the transport marketplace itself, namely the aspects of customer demand and the service provided in response by private ship owners

and operators. One could even argue that the government, in its efforts to keep tonnage capacity within a certain volume range, may have actually hurt the economic performance of the industry. If coastal shipping's tonnage supply had been free to vary at the behest of the industry's private ship owners and operators, it is possible that the industry may have responded even quicker and more effectively to customer demand. As in Britain, Japan's government then intervened again starting in the late 1990s, in an attempt to "sell" modal shift to the nation's shipping customers. While the Japanese government's efforts in regard to modal shift were much more active than those of the British government, Japanese success rates cannot be said to have been much higher than in Britain. Japan saw significant modal shift with the sharp increase of trucks traveling on long-distance ferries, but this effect started in the 1970s, decades before the "height" of modal shift that came with the Kyoto Accords in the mid-1990s. Even this uptick in ferry traffic was not enough to keep the overall domestic freight market share of coastal shipping from dropping or staying flat during the central years of modal shift activity.

When used for commercial purposes water transport will thrive (as coastal shipping has done) or wither (like IWT) largely due to its inherent technical and economic advantages, or lack thereof, over other transport modes. Any government intervention may even serve to hurt commercial water transport's performance. This latter point is clearly supported by Japan's continuance of cartelization beyond 1998 with the Temporary Measures Scheme, which, according to shipping operators themselves, actually hindered their efforts to expand their operations to respond to variations in customer demand.

The second conclusion in the government vs. private debate is that water transport has many important, or even necessary, non-commercial roles to play in island nations. If an island-nation society chooses to employ water transport in these roles, then the transport must be supported by government to some degree, as its costs will outweigh the revenue that can be gained from operations alone. Offshore-island ferry services, and IWT on canals for recreational purposes, are two clear examples in support of this conclusion.

In terms of the second debate, that is, how island-nation water transport was affected by the degree of stability in government transport policy and in party politics, there is one broad conclusion: the degree of stability is irrelevant. Commercially-viable water transport works best without any government intervention, regardless of the type of policy or politics. In Britain both Labour and Conservatives were equally “complicit” in ignoring coastal shipping for most of the postwar era. Neither Labour nor Conservatives have had much success in recent decades with modal-shift measures in coastal shipping or in IWT. Rule by both parties saw flat growth in the two water submodes through the 1970s and from the 1990s on. Britain’s big “boom” period for coastal shipping came from oil in the 1980s, during Conservative rule. Yet traffic fell off again in the early 1990s as the oil became less profitable, even though Conservatives were still in power. Most recently, absolute traffic quantities have fallen off significantly since 2010 under Conservatives – from 30 billion tonne-km in 2010 down to 19.4 billion in 2013.¹ If one were to claim that coastal shipping’s boom period were attributable to stability during Conservatives’ longest post-war reign, such a claim is contradicted by the very flat market-share performance of coastal shipping under the long Labour leadership of 1997-2010. In other words, growth or decline in coastal shipping in Britain tracks economic

¹ Department for Transport, *Transport Statistics Great Britain*, spreadsheet dwf0101.xls.

rises and falls, regardless of how many times political parties came and went. In Japan coastal shipping saw ups and downs in the postwar era, based primarily on economic developments rather than government policy or intervention. Japan's relative stability in government transport policy and in party politics thus cannot be linked with a similar long-term stability of performance in the coastal shipping industry.

As stressed above, government support is necessary for the survival of water transport services which are not commercially viable. All postwar governments in both Britain and Japan have been united in support of such services. Offshore-island ferry transport has received a strong continuity of policy in postwar Britain, receiving largely the same treatment from both Labour and Conservative governments as they swapped power back and forth, so again there is no pattern to be drawn from the level of political stability. These services received sustained high support in Japan as well in the postwar era, a policy of continued aid similar to that of Britain even though the two countries' politics are so different in their levels of stability and the length of their cycles of change. Britain showed much more concern for its canal network in the postwar years than did Japan, and the continuity and longevity of that concern belied the frequent shifts in Britain's national leadership. IWT for recreational purposes received support from both Labour and Conservative governments; grassroots support of the waterway network by the British public gave both political parties little political choice but to help in those efforts. In Japan IWT was largely invisible until the second half of the 1990s, and not because stable government policy, one-party politics, or career bureaucrats wished it to be so. Government was generally uninvolved until after the 1995 Hanshin Earthquake,

after which it began to support uses for IWT that, it believed, would be to the public benefit.

APPENDIX A

DATA CHARTS

Chart 1

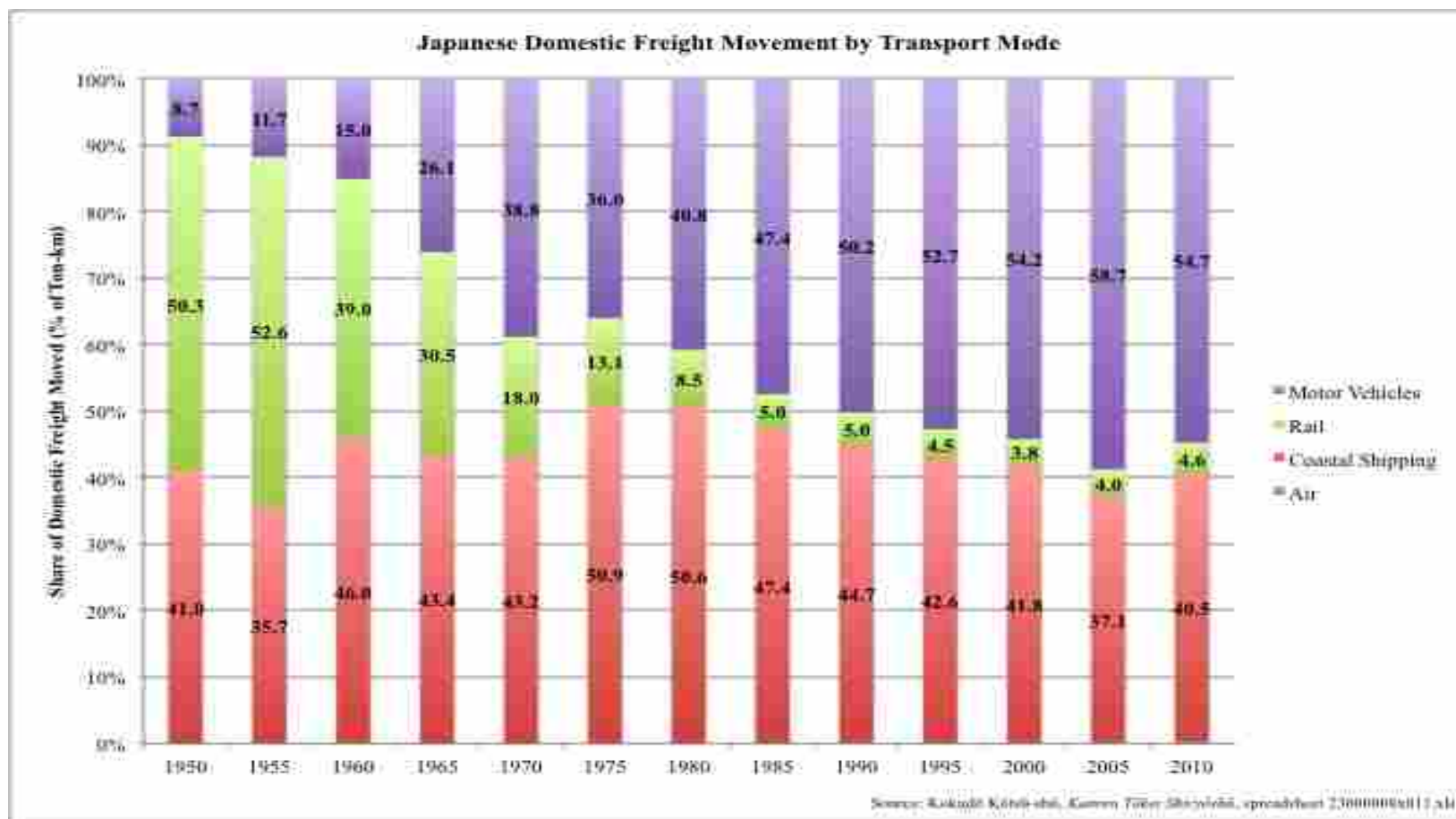


Chart 2

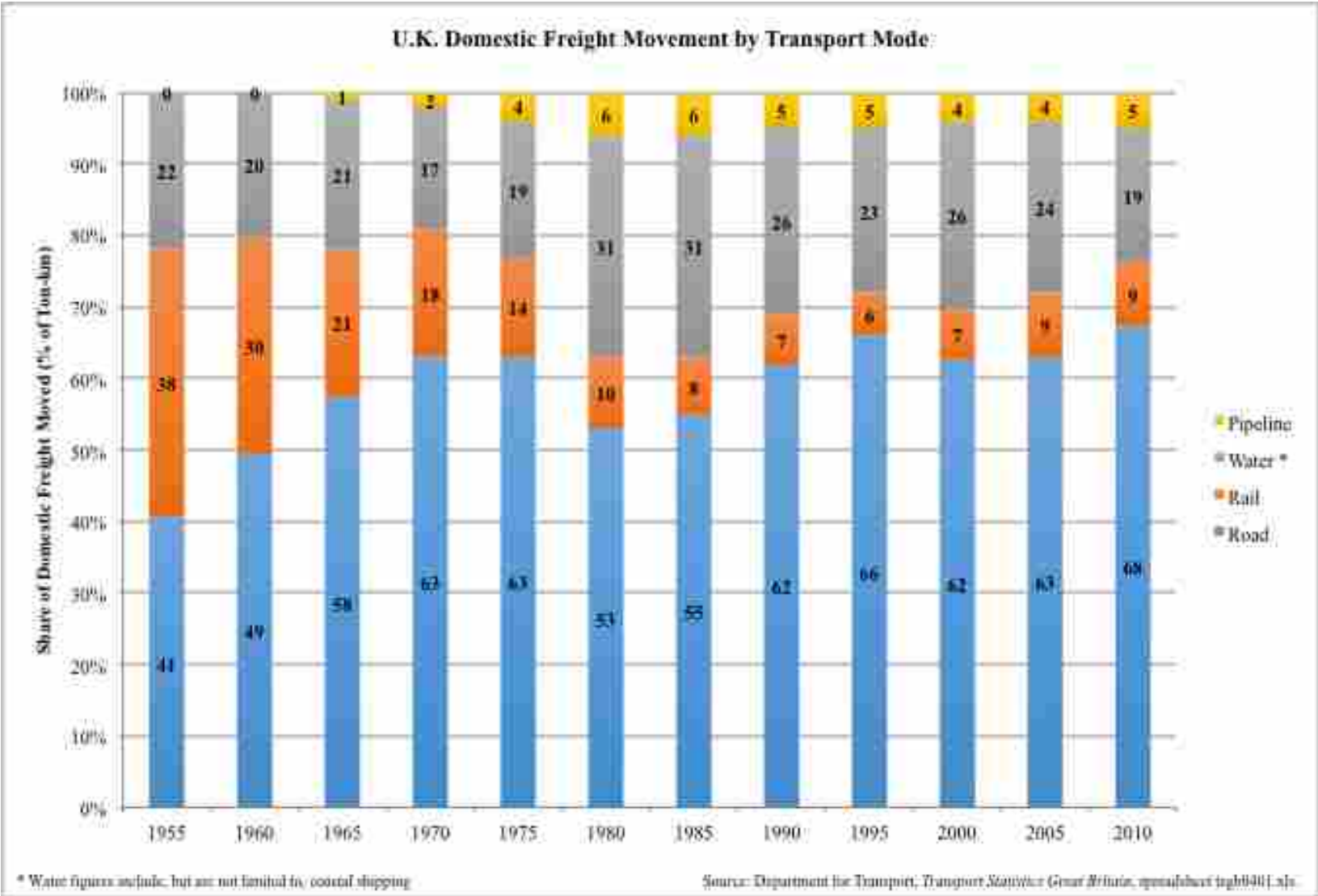


Chart 3

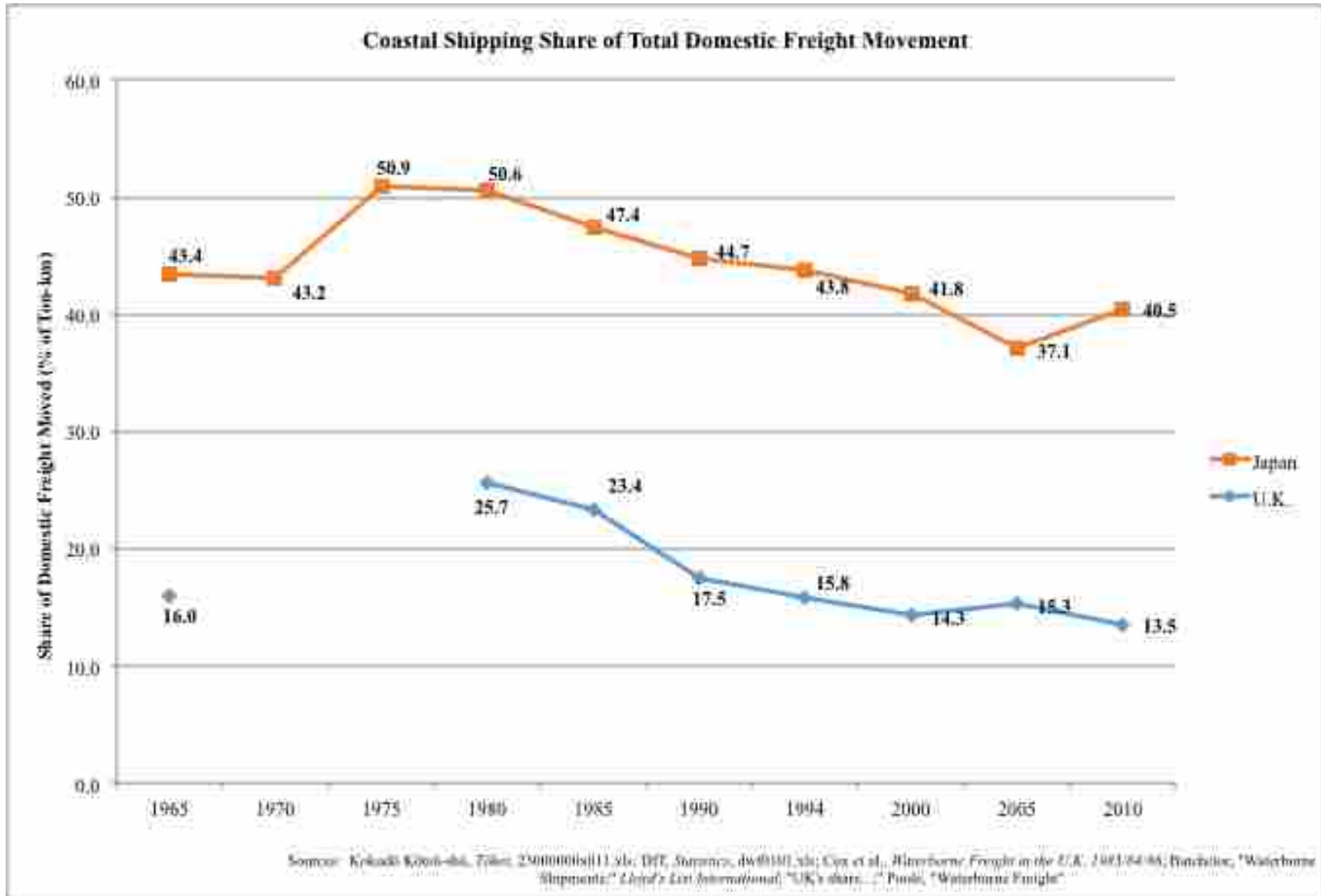


Chart 4

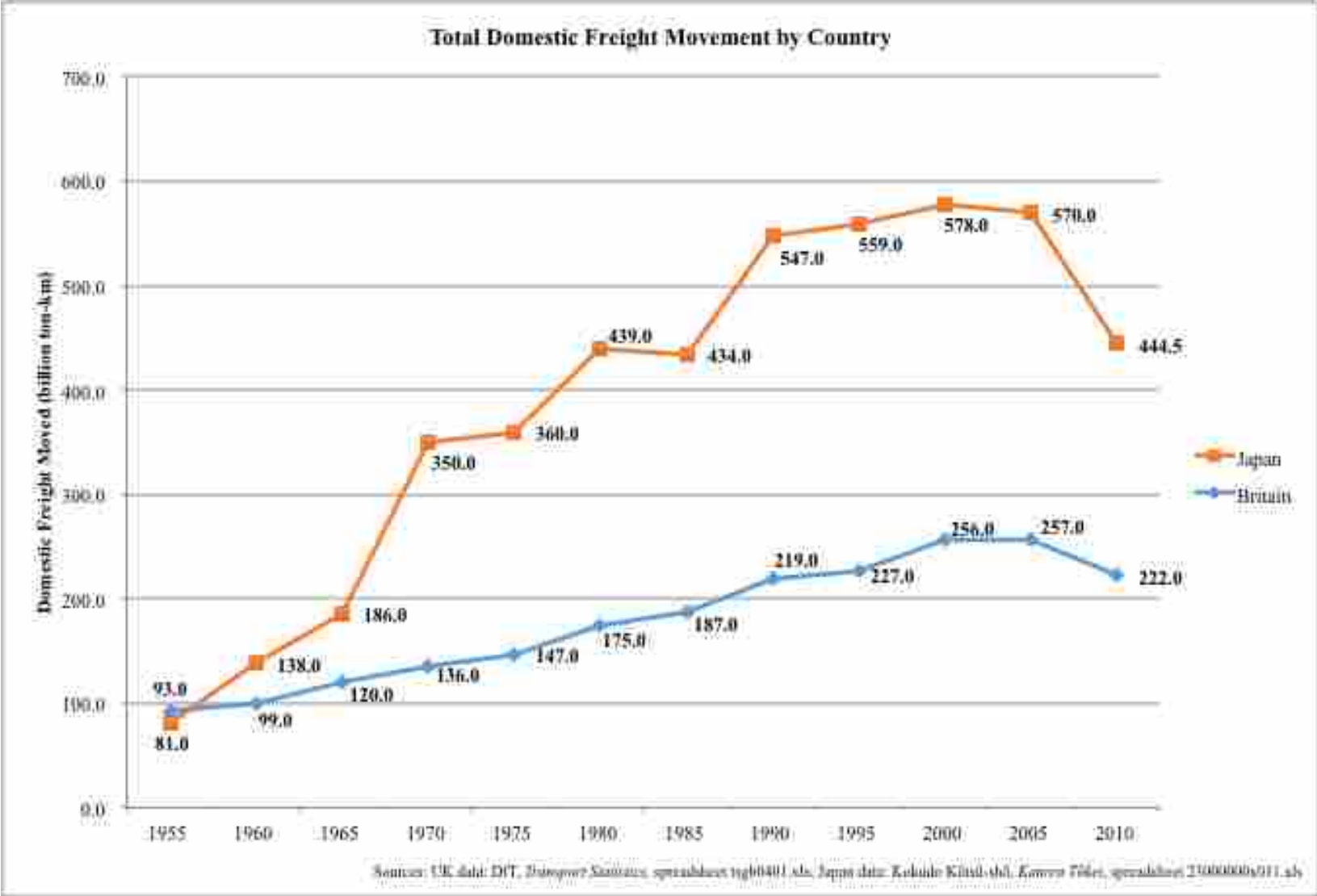


Chart 5

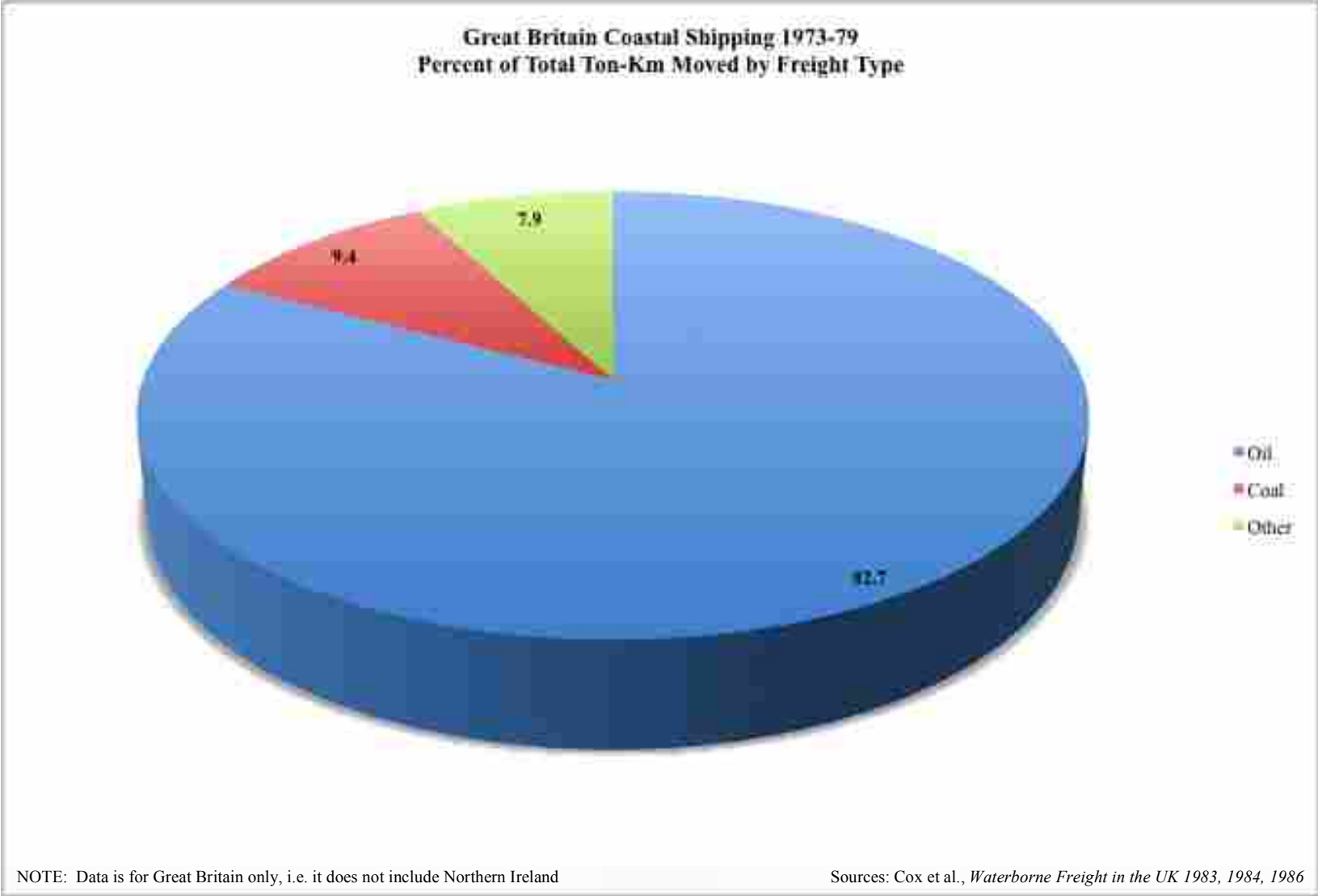


Chart 6

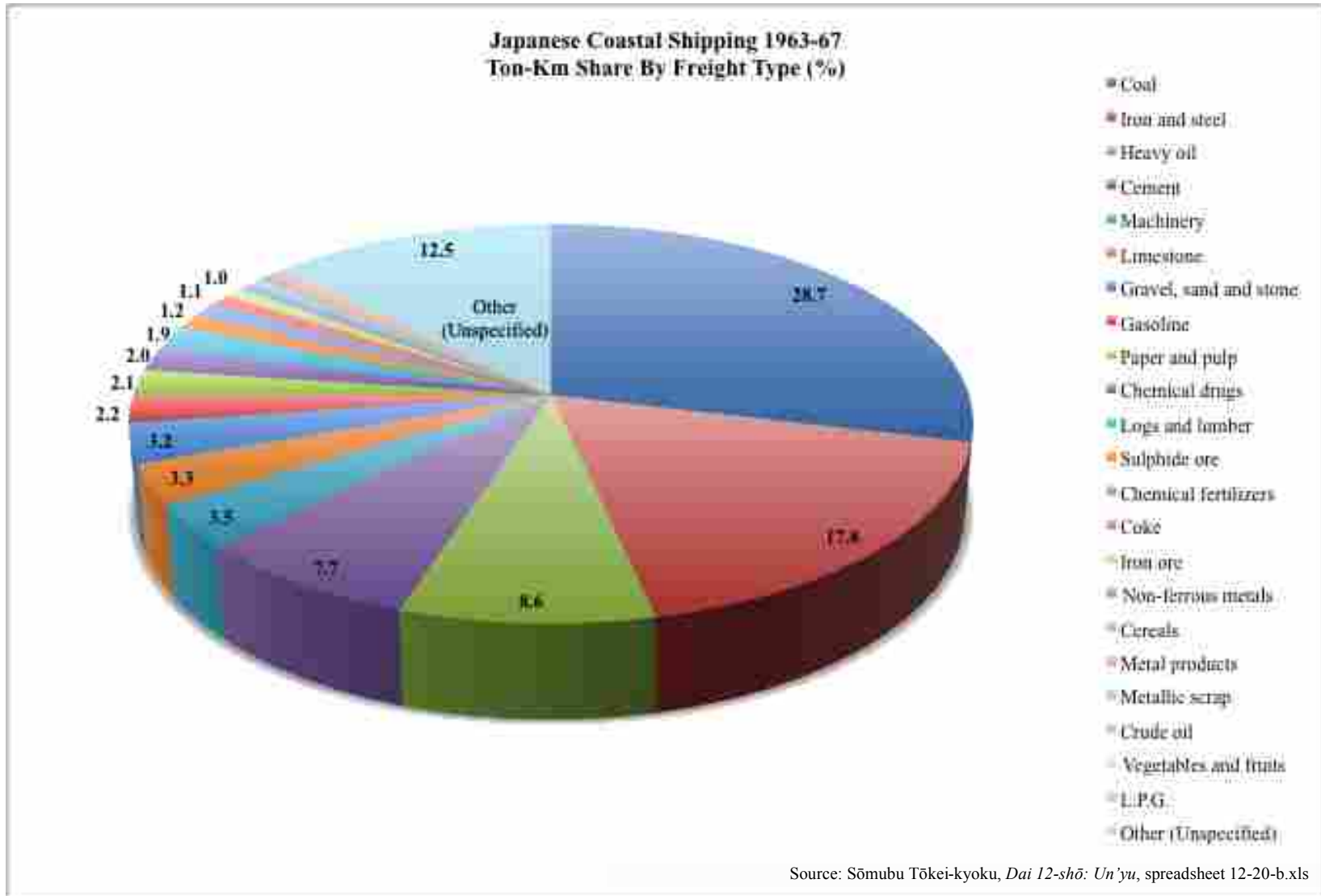


Chart 7

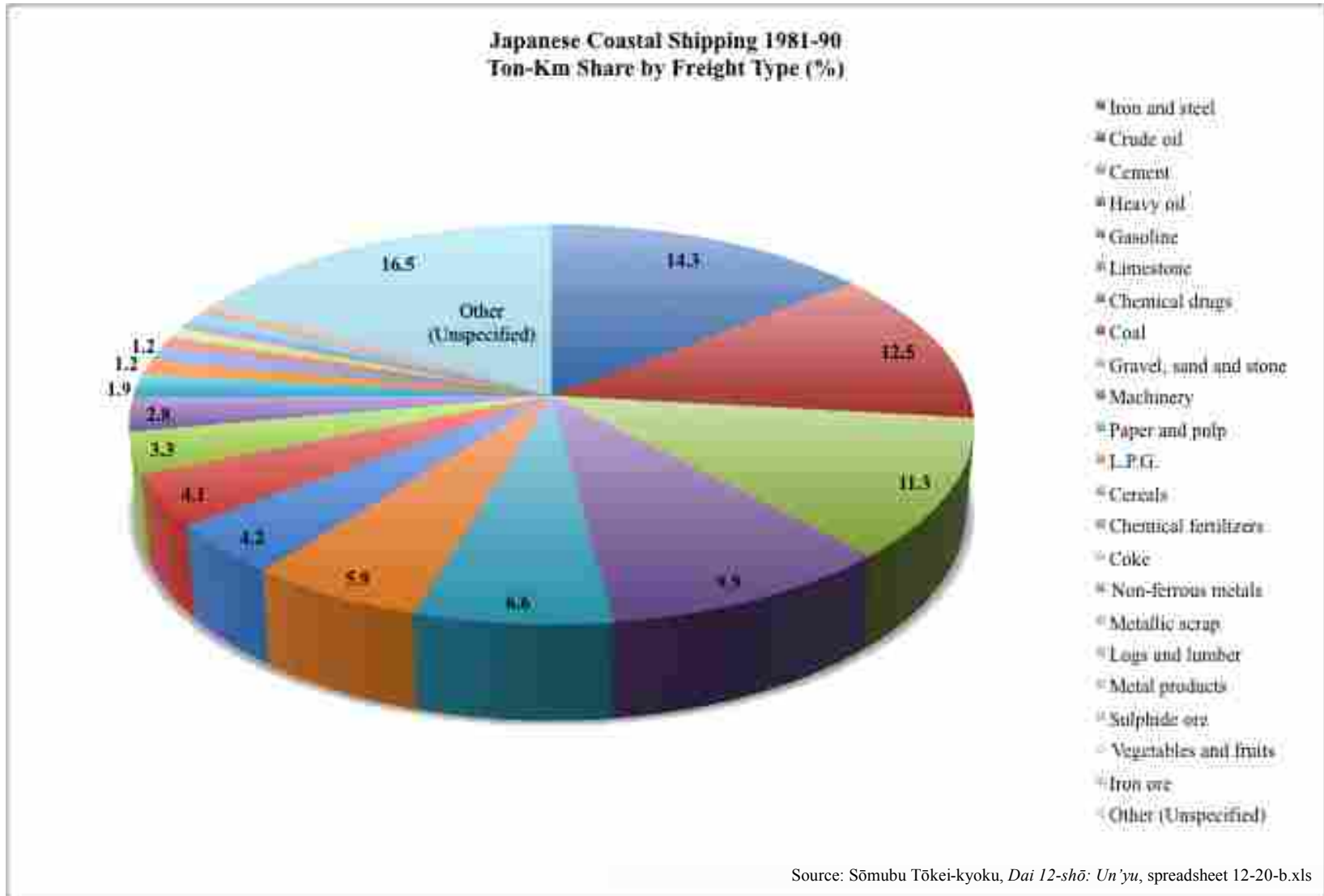


Chart 8

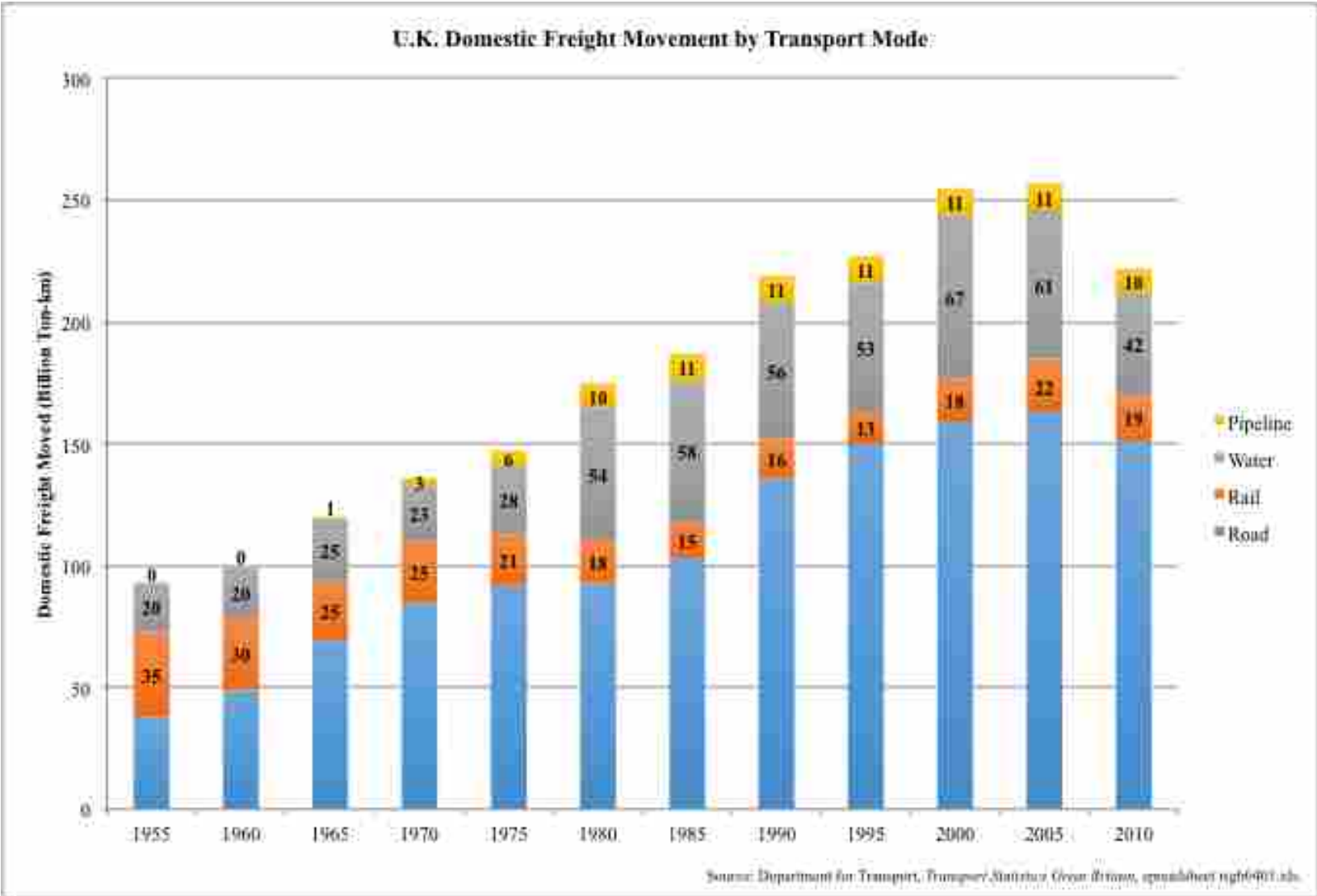


Chart 9

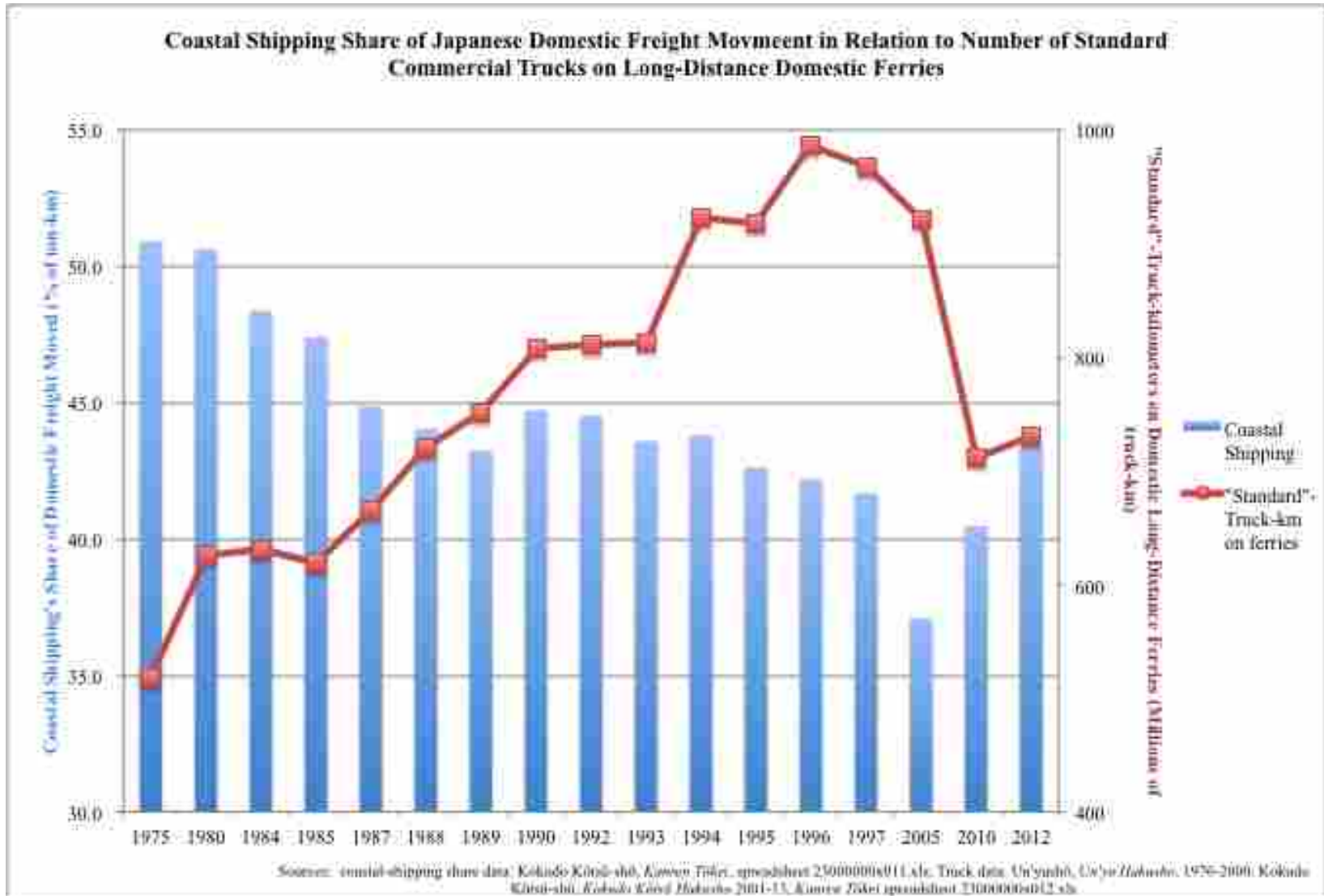
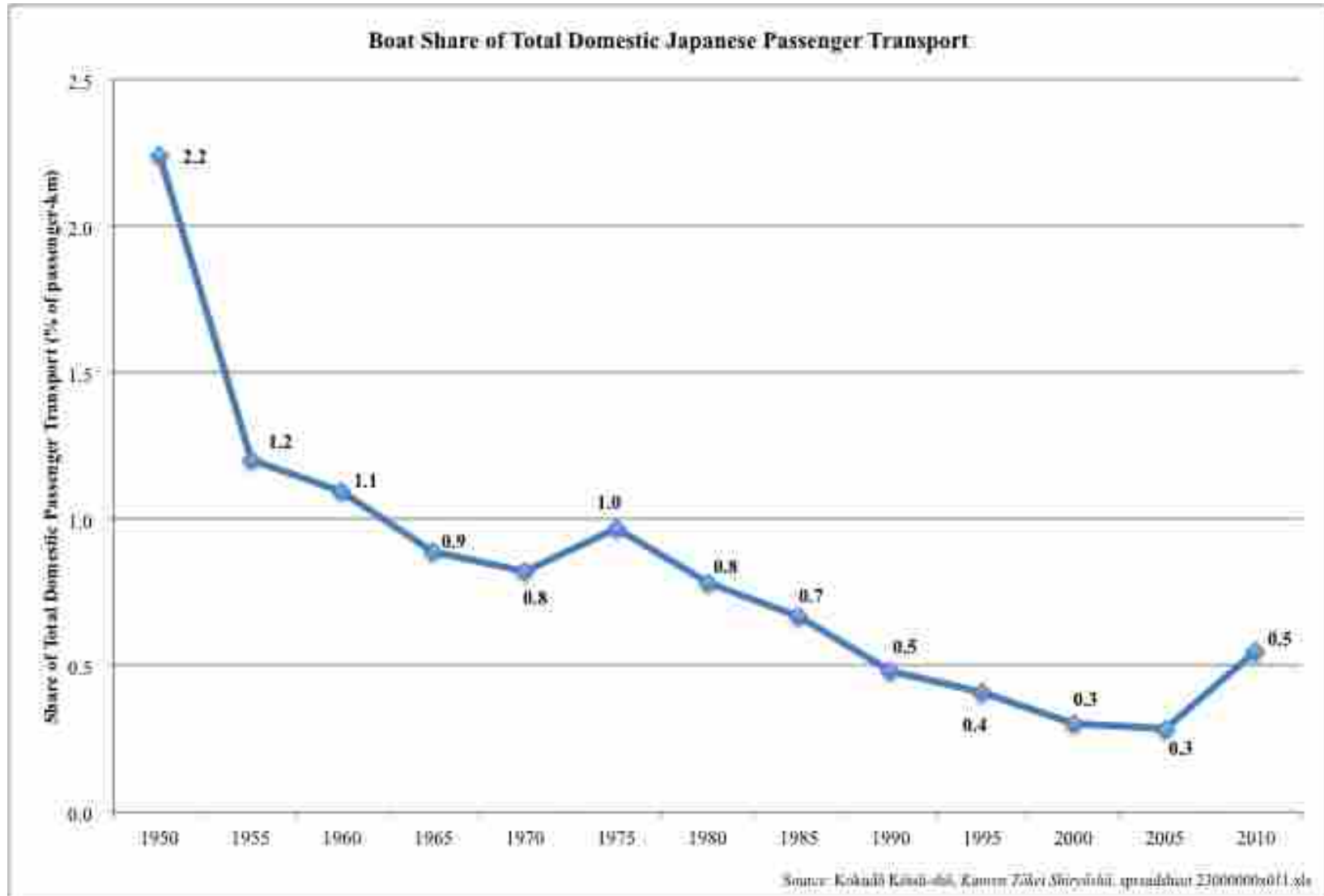


Chart 10



APPENDIX B

DECODING CITATIONS TO JAPANESE WHITE PAPERS

Post-WWII Japanese white papers, at least those consulted for this thesis, are all published online. As a result they have no page numbers, but rather use a Japanese system of hierarchical locators to organize their content, much like the “Section / Article / Paragraph” system used in English for laws. The tables below is designed to be a “decoder tool” for the white papers’ locator hierarchy.

Hierarchy Level	Locator (Romanization)	Locator (Japanese)
1	Sōron / Kakuron	総論 / 各論
2	bu	部
3	shō	章
4	setsu	節
5	(Arabic numeral)	
6	(Arabic numeral in parentheses)	
7	(Japanese Katakana alphabet)	イ、ロ、ハ、ニ …
?	Zuhyō (= “Figure” or “Diagram”)	図表

In converting all my footnotes that cite white papers into a form legible for those who do not read Japanese, I have decided not to *translate* the locators into English, because any such attempt would be arbitrary as far as what English terms I assigned to each Japanese locator. Instead, all I have done is directly Romanize the original Japanese citations. To do this I searched the Chicago Style Manual (CSM) in vain for a comparable example, and then developed a system based on the CSM’s rules for English laws and other official legal documents: capitalized but not in italics, e.g. “Section 3 Paragraph 5.” Putting a long set of locators in italics runs the danger of making it look like a Japanese title.

The character *Dai* 第, when used right before a sequence of a numeral and a locator, is an ordinal prefix. For each ordinal group I have capitalized the “Dai” but put the romanized locator, which follows the numeral, in lower case with a hyphen between them to show they go together. I have also left numerals in their Arabic form so non-Japanese speakers will not have to decode Romanized Japanese numbers as well.

Often the word “no” の will be used between the last Japanese (Kanji) numbering level and the non-Kanji levels. For example, “Dai 2 Shō Dai 3 Setsu no 1” would be “Shō Number 2 Setsu Number 3 (Subsection) 1.” The “no” has no particular meaning in this context (although “no” is used commonly as a possessive particle). Rather it is, I believe, simply a Japanese numbering convention. The same convention is used when saying aloud Japanese addresses and phone numbers.

For example, a typical white-paper footnote citation would be:

第1部 第1章 第1節 の 1 (1) (ア)

After my Romanization this would be:

Dai 1-bu Dai 1-shō Dai 1-setsu no 1.(1).(ア)

Japanese text normally has no spaces between characters at all in a sentence. I have broken up the example above to show the constituent parts, and also because in the white papers each ordinal group in the documents’ numbering systems will be separate anyway.

The white papers vary somewhat in numbering layout depending on the year they were produced, but generally they follow the locator hierarchy given above. The titles *Sōron* and *Kakuron* are roughly equivalent to “Global Topics” and “Specific Topics,” respectively. In some years the top level or two of locators are dispensed with. The white papers of 1989 – 1996 were not cohesive documents but rather unnumbered lists of various topics.

Note that the *Kaiji repōto* 海事レポート, also published by the same government body that has produced the white papers since 2001, the Japanese Ministry of Land, Infrastructure, Transport and Tourism (MLIT), generally uses the same hierarchy of locator numbering. These papers are like the white papers but only cover maritime matters in transport.

Dates for the white papers are written in the Japanese calendar, which is based on imperial reigns. Here is a conversion table for 1964 to the present. Putting *do* (度) on the end of the date changes the meaning from “calendar year” to “fiscal year.”

<i>Romanization</i>	<i>Kanji</i>	<i>Gregorian</i>	<i>Romanization</i>	<i>Kanji</i>	<i>Gregorian</i>
Shōwa 39-nendo	昭和 39 年度	1964	Heisei Gan-nendo	平成元年度	1989
Shōwa 40-nendo	昭和 40 年度	1965	Heisei 2-nendo	平成 2 年度	1990
Shōwa 41-nendo	昭和 41 年度	1966	Heisei 3-nendo	平成 3 年度	1991
Shōwa 42-nendo	昭和 42 年度	1967	Heisei 4-nendo	平成 4 年度	1992
Shōwa 43-nendo	昭和 43 年度	1968	Heisei 5-nendo	平成 5 年度	1993

<i>Romanization</i>	<i>Kanji</i>	<i>Gregorian</i>	<i>Romanization</i>	<i>Kanji</i>	<i>Gregorian</i>
Shōwa 44-nendo	昭和 44 年度	1969	Heisei 6-nendo	平成 6 年度	1994
Shōwa 45-nendo	昭和 45 年度	1970	Heisei 7-nendo	平成 7 年度	1995
Shōwa 46-nendo	昭和 46 年度	1971	Heisei 8-nendo	平成 8 年度	1996
Shōwa 47-nendo	昭和 47 年度	1972	Heisei 9-nendo	平成 9 年度	1997
Shōwa 48-nendo	昭和 48 年度	1973	Heisei 10-nendo	平成 10 年度	1998
Shōwa 49-nendo	昭和 49 年度	1974	Heisei 11-nendo	平成 11 年度	1999
Shōwa 50-nendo	昭和 50 年度	1975	Heisei 12-nendo	平成 12 年度	2000
Shōwa 51-nendo	昭和 51 年度	1976	Heisei 13-nendo	平成 13 年度	2001
Shōwa 52-nendo	昭和 52 年度	1977	Heisei 14-nendo	平成 14 年度	2002
Shōwa 53-nendo	昭和 53 年度	1978	Heisei 15-nendo	平成 15 年度	2003
Shōwa 54-nendo	昭和 54 年度	1979	Heisei 16-nendo	平成 16 年度	2004
Shōwa 55-nendo	昭和 55 年度	1980	Heisei 17-nendo	平成 17 年度	2005
Shōwa 56-nendo	昭和 56 年度	1981	Heisei 18-nendo	平成 18 年度	2006
Shōwa 57-nendo	昭和 57 年度	1982	Heisei 19-nendo	平成 19 年度	2007
Shōwa 58-nendo	昭和 58 年度	1983	Heisei 20-nendo	平成 20 年度	2008
Shōwa 59-nendo	昭和 59 年度	1984	Heisei 21-nendo	平成 21 年度	2009
Shōwa 60-nendo	昭和 60 年度	1985	Heisei 22-nendo	平成 22 年度	2010
Shōwa 61-nendo	昭和 61 年度	1986	Heisei 23-nendo	平成 23 年度	2011
Shōwa 62-nendo	昭和 62 年度	1987	Heisei 24-nendo	平成 24 年度	2012
Shōwa 63-nendo	昭和 63 年度	1988	Heisei 25-nendo	平成 25 年度	2013

If we repeat the above example, but this time with a date and source title, it would be:

平成 12 年度 運輸白書 第 1 部 第 1 章 第 1 節 の 1 (1) (ア)

which my system would translate to:

Un'yu hakusho, 2000 Dai 1-bu Dai 1-shō Dai 1-setsu no 1.(1).(ア).

where *Un'yu hakusho* 運輸白書 means “Transport White Paper.”

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