

Statistics of Tokugawa Coastal Trade and Bakumatsu and Early Meiji Foreign Trade

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Evaluation of archival sources on Japanese trade in the Tokugawa period and the first fifteen years of the Meiji period is the primary purpose of this two-part essay, of which Part 1 appears on the following pages and Part 2 will appear in *Japan Review*, Number 22. Surviving Japanese statistics of coastal trade (or “inland” trade, as opposed to foreign trade) are remarkable. In Europe, comparable figures were not compiled. For Osaka, some count appears to have been kept of a variable number of import items, and probably also of six sensitive “exports,” that is, items shipped from Osaka to Edo. Counting in 1714, 1736, and 1766 yielded aggregate figures of the total trade of the port—rare statistics today, for other totals have not been passed down to us. For Edo, a consumption center, figures for outward shipping were never compiled. The only known coastal trade statistics for Edo are for the years 1723–1730, during which eleven items were recorded in Osaka (outwards) and in Edo (inwards), and 1856, for which a massive return survives. As for foreign trade, after the opening of the ports in 1859, statistics were directly compiled by bakufu officials from traders’ invoices. Previously the officials had relied on data furnished by *tonya* and guilds for coastal trade.

Keywords: ARCHIVES, BAKUFU, BRITISH PARLIAMENTARY PAPERS, *BUGYŌ*, COASTAL TRADE, EDO, FOREIGN TRADE, KŌDA SHIGETOMO, OSAKA, PORTS, STATISTICS

PART 1. COASTAL TRADE IN TOKUGAWA TIMES

1. Trade Statistics

Japanese trade is unusual in terms of its statistical documentation. In a mineral-rich country, balance of trade considerations in the European mercantilist sense did not arise. Some record of foreign trade was maintained only because of the fear that without control foreign demand would carry away the precious metals required for the domestic currency. But this was more a process than a rigorous general quantitative counting, and the surviving details reveal that there was little if any creation of general aggregates. Those details often exist

only in Dutch records.¹ What survives of the work of the *Nagasaki kaisho* 長崎会所, a bakufu office in Nagasaki for trade matters that in 1715 was expanded and given the added function of buying and selling commodities, consists of business accounts rather than a quantitative count of trade itself.² In Europe, if statistics were prompted in part by an urge to measure the balance of trade (in which a deficit would have to be settled by precious metals from abroad), what made possible the remarkably detailed record of trade was the fiscal system. In contrast to Japan, indirect taxation (customs and excise) was highly developed in Europe, and hence revenue collecting generated detailed information,³ which could easily be harnessed to provide statistics of trade. Statistics began to make an appearance from the outset of the seventeenth century; after 1700 they had become full-blown trade ones.

If Japanese figures for the limited foreign trade that was possible under *sakoku* were inferior, the record of coastal trade, on the other hand, though only part of it has survived, was virtually unique. The figures of coastal trade are all the more striking as they had lacked fiscal impetus. They reflect three circumstances: the central trading importance of Osaka, the rising consumer market of Edo, and the scale of trade in sensitive commodities between these two dominant ports. The coastal trade was probably the largest in the world. In a shadowy way the *bugyō* 奉行 or magistrate of Osaka was a central figure, acting on prompting from Edo. The thin surviving documentation, though richer for Osaka than for Edo, however provides no conclusive evidence of the reasons for these statistical exercises or how some of the detail survived.

The relative scale of coastal and foreign trade differed between Europe and Japan. In the West the foreign traffic greatly exceeded coastal traffic, more particularly in value. In Japan the coastal traffic (“inland” trade in the technical parlance of English) exceeded foreign trade both in volume and value, and with the contraction of foreign trade after 1685, became ever more the dominant force. By contrast in Europe there is little record of coastal trade despite the fact it was closely watched to prevent its becoming a vehicle for illegal transfer of taxed goods.

At its peak around 1661 the foreign trade of Nagasaki was worth about 50,000 kan of silver; it halved to about 22,000 kan in 1685. It continued to decline thereafter, and was perhaps a mere 5,000 kan in the early nineteenth century.⁴ By the late 1840s, as few as four or five Chinese vessels a year entered Nagasaki; only three came in 1859.⁵ There was after 1791 a single Dutch vessel per year from Batavia. The trade through the Ryukyus increased the volume of trade somewhat, but did not greatly alter the picture. Converted into sterling, an export trade of 10,000 kan in the late seventeenth century was worth about £233,000 sterling. Compared with the exports of Ireland at the time, which at 800,000 Irish pounds were relatively high for a small island economy, at first sight this might suggest a large turnover for the business of a single port.⁶ However the number and tonnage of shipping was small. It was a high-value exchange of silver, gold, and copper for silk and a small number of others goods. In other words, the Nagasaki trade was inherently an unstable one, dependent on high mining output in Japan and on a uniquely large trade in expensive silk from China, triggered by Japan’s high prosperity and rapid expansion. In time Japanese mining output would fall, and the growth of a large market for silk would prompt expansion in indigenous production. Decline was inevitable, that is to say, and with it a fall in the population of Nagasaki which had grown in the expansive seventeenth century. Nagasaki became progressively a commercial

backwater. Even in the open Japan of 1859, these drawbacks could not be overcome: recovery in the early 1860s did not give the port a new momentum. Within the decade the thrust of growth shifted decisively to Yokohama and Osaka, and Nagasaki's relative place receded further.

The monitoring of Osaka's trade for 1714 and 1766 affords a measure of the vast scale of its coastal trade. Its combined exports and imports were estimated in greatly inflated prices at 382,361 kan in 1714; at lower, more realistic prices, a total of 271,145 kan for 1766 suggests that Osaka held or more than held its own. The sheer volume of the trade can be conveyed in comparative terms: it was about half the size of the export and re-export trade of England. It is hardly surprising in these circumstances that the fleet which carried the coastal trade of Japan was probably almost as large as the entire fleet engaged in both the coastal and foreign trade of England and Wales.⁷ This was the case, moreover, despite the huge tonnage of coal carried from Newcastle to London. An intense use in multiple voyages of this hardy and efficient fleet meant a relatively small fleet in proportion to the huge and growing tonnage of coal. As a result Japanese shipping, much less economically employed, was not much short of the total English tonnage. As coal was low-priced, the comparison of the two coastal trades in value would have remained overwhelmingly to Japan's advantage.

Edo and Osaka alike were approached by shallow channels drawing as little as two feet at low water. Goods were enumerated in both Edo and Osaka at the wharves, but counts of vessels were more complex. For Edo some goods were transferred to smaller craft at Uraga; for Osaka some goods were transshipped at Sakai. We cannot be sure that it is possible to compare like with like. The number of vessels entering Edo was inflated by transfer of goods from ocean-going vessels to smaller craft at Uraga. There was rivalry between Edo and Uraga guilds in the dispatch of goods for Edo bay.⁸ In Osaka enumeration, in the anchorage outside the bar in the Yodogawa 淀川, vessels below 200 koku, which could sail at high tide to enter the Kizugawa 木津川 and Ajigawa 安治川 channels without offloading their cargoes into lighters, were not counted. The number of such vessels was added to by small craft sailing from Sakai, which, with much better anchorage facilities, served as an outpost to Osaka for large vessels, especially from the Hokuriku.

In a crude comparison, the number of ships was much higher in Edo than in Osaka: it was 7424 in 1726, and 7741 in 1871. The figures usually given for Osaka are doubtful. Counts of 2,000–3,000 ships are far too low (rice alone would have required 1000 to 2000 vessels).⁹ Perhaps 4000 to 5000 ships passed through the offshore anchorage of Osaka.¹⁰ There is no doubt however that, as Edo's population climbed to a million people in the course of the first half of the eighteenth century, the total of shipping at Edo, especially if rice is included, greatly exceeded Osaka's total. Crude counts of shipping of course do not of themselves measure precisely the commercial vitality of ports. While in Edo, primarily a center of consumption, vessels arrived with cargoes, they mostly departed in ballast. Osaka on the other hand received goods, sent outwards the product of its hinterland, and especially redistributed towards the south goods received from Ezo, and dispatched northwards goods received from Nagasaki. If the rice trade of Edo reached the high figure of 3,000,000 koku suggested for 1856, it would have accounted for more than 3,000 of the 7,000-plus vessels that arrived each year.¹¹

A decline in the population of Osaka from a peak in the mid-eighteenth century may

suggest that the volume of trade in Osaka became relatively static. The trend is not however clear. The city's rice trade rose in the prosperous Bunka and Bunsei period. Special pleading in some sources also made an exaggerated case for decline. Yamagata Bantō 山片蕃桃 (1748–1821), an advisor to many of the business houses maintained in Osaka by han, made the case for their being losers (though his argument was not presented in a statistical terms). *Bugyō* Abe Shōzō 阿部正蔵, in pleading the case of the Osaka guilds in 1842, did make a statistical case for decline. Seeking to defend the city's guilds, which had long been accused by han interests of monopolizing tendencies and which were disbanded in the same year, he maintained that the guilds had themselves been victimized for decades by commodities being withheld by outside interests from Osaka market. However, whatever the trends, which for want of statistical evidence remain obscure, any problems in trade were more than compensated for by the enhancing of the financial business of Osaka. Even Tōhoku domains banked there, and their borrowings were collateralized by their growing rice trade to Edo.

With its multiple ties and warehouses maintained by more than 100 han, Osaka has in effect served in modern studies as a surrogate for the study of the coast trade of Japan. Even though usually little rice went from Osaka to Edo (but with some change in Bunka/Bunsei times), the fact that Osaka drew rice both from the West and much further afield from the Hokuriku made it the recognized barometer of the national rice market. Osaka also either produced or supplied goods, notably sake, oil, finished cotton cloth or the intermediate product of ginned cotton, and redistributed silk, sugar and goods from Nagasaki. Osaka for itself and its hinterland was a heavy importer of oil and rice, and from the eighteenth century also of goods, from Ezo. Osaka or Sakai channeled copper, the vital support which alone kept the Dutch and Chinese trade in existence, to Nagasaki. Pharmaceuticals were another commodity of consequence. Though details of quantities imported in Nagasaki in 1735–1820 are lacking, information on the wide range of items, prices and the redistributive role of Osaka is abundant.¹² The histories of Osaka, the first *Ōsaka-shi shi* 大阪市史, the *Ōsaka-fu shi* 大阪府史, and the *Shinshū Ōsaka-shi shi* 新修大阪市史, provide a good framework of information on its trading history. Monographs by Ōishi, Wakita, and Miyamoto explore some of its main dimensions. Wakita and McClain have an extremely useful book on the trade of Osaka, containing in particular an article by McClain on the trade of the port.¹³ In English there are also very useful articles on the trade of Edo, on Osaka, and on the shipping along the Japan Sea coast of Japan (including Kaga).¹⁴

From Edo and Osaka, routes reached out to other ports. In particular Kaga and Echigo in the Hokuriku, both with fertile hinterlands, had a major rice trade to Osaka. They were, after Edo and Osaka, the most important single centers of coastal trade. By Genroku times (1688–1704) Kaga was providing 250,000 koku—roughly 20–25 per cent of Osaka's intake of rice.¹⁵ In 1870, according to information from a British consul, 3586 vessels entered Niigata, the main port in Echigo.¹⁶ The most obscure sector of the trade is that to the coasts to the north of Edo. In some respects this is because detail, quantitative or otherwise, is so sparse for Edo, in contrast to Osaka. As the intake of rice is rather poorly documented at the Edo end, records of the han to the north are essential to providing some idea of the trade. Hayashi Reiko has shown that Edo itself had some redistributive role in sending goods arriving from the south to the north. For the coastal trade at large, there is no general study.¹⁷ However the difficult terrain of the Japanese interior meant that goods went by sea to a much greater

extent than in countries of Europe or of Asia. A problem for such a study is that information is discontinuous, heterogeneous, and scattered, and it does not lead to an easy composite picture. It is also rarely quantitative. While conflicts of interest between han managers and buyers of their wares in Osaka were endemic,¹⁸ as can be seen from Mark Ravina's account of Tokushima trade, the sources for these conflicts lack a statistical content. Prefectural and city histories are none the less useful. A source of particular value is the journal *Kaijishi kenkyū* 海事研究 (Studies in Maritime History), which has had articles over many years on both trade and shipping.

The extraordinary role of Osaka as a nerve center of much trade and of financial support to the shogunate explains the importance of the *bugyōsho* 奉行所 of Osaka, and also why the *bugyō* was either consulted or on occasion directed by the Edo *machi bugyō* 町奉行 acting for the shogunate. Edo officials seem to have been passive in documenting the inflow of goods to Edo, and were often content to rely on detail from Nagasaki (for foreign trade) or Osaka, where the *bugyōsho* acted as a powerful agency of the shogunate. The nexus between shogunate and Osaka *bugyōsho* is rather obscure today, given the shortage of documentary proof. For the few cases where real statistical information survives concerning the trade of Edo, the role of Edo officials in instituting the record keeping can be either identified or inferred. The major example of this, important in the context of shogun Yoshimune's policy of protecting income of shogunate and samurai alike by either raising the price of rice, or by taking action against forestalling in the hopes that falling prices of other commodities would increase real incomes, can be seen in the unique exercise of recording trade in Osaka and Edo in eleven key commodities in 1724–1730, for which the central figure was the Edo *machi bugyō* Ōoka Tadasuke 大岡忠相(1677–1751). The list of goods imported to Edo for 1856 reflects concern at a later date. However such an extraordinarily detailed exercise in 1856 would seem to imply that ready information in Edo itself on the city's trade did not at the time exist, and hence an exercise conducted on a grand scale and in secrecy was called for.

All ports, big or small, had their own hinterlands. With Japan's mountainous spine and only short routes from the interior to ports, road carriage between ports and inland centers played a vital role. While the existence of these links is well known, for instance the so-called salt roads,¹⁹ it is rarely possible to document them in quantitative terms. However an estimate exists for Ida in the southern Japanese Alps, where in the course of a dispute over carriage rights a detailed count of movement of goods on packhorses over the year 1763 was made and has survived.²⁰

The recording of trade depended on the functioning of bureaucracy. Administration was divided between the *rōjū* 老中 (in effect a cabinet), the *kanjōsho* 勘定所 (Finance Office, mainly concerned with management of the shogun's estates, but also handling economic issues), and the *machi bugyō* (magistrates or intendants of towns). The *bugyō* can be distinguished as *kanjō bugyō* 勘定奉行 (senior officials in the Finance Office) and the *machi bugyō* (urban magistrates). *Bugyō*, though occasionally already holding the rank of *kanjō bugyō*, were more typically men promoted from the ranks of the versatile and experienced *metsuke* 目付 (inspectors), and *machi bugyō* were usually promoted at the end of a period of office to the grade of *kanjō bugyō*. Coastal trade was primarily a concern of the *machi bugyōsho*, and we rarely have evidence of circumstances in which *kanjōsho*, *rōjū*, or shogun intervened directly. Under *bugyō*, the workhorses were the *machidoshiyori* 町年寄 who collected trade data from

the wholesalers (*tonya* [or *toiya*] 問屋) or guilds which represented them. As far as trade was concerned only a small number of officials was necessary. This is in contrast with Europe where trade required a vast and decentralized bureaucracy, next to the army in size and importance as an arm of the state. The trade bureaucracy functioned to collect taxes, compile statistics, survey all trade, coastal and foreign alike, and to crush evasion. In Japan, on the other hand, the groundwork for statistical information had not even to be done by the *bugyō*'s officials. The information was provided by the *tonya* or, less often, by the guilds.²¹ Certified by *machidoshiyori*, the details went to *machi bugyō*. Did they go further? They did in 1724–1730 when a run of low rice prices—the lowest in a century—threatened the solvency of shogun and samurai alike. The remarkable statistical exercise of 1724–1730 revolved around Ōoka, appointed in 1717 by Yoshimune as the *machi bugyō* of Edo. Given his long career (twenty years) in that post and the central role he played in implementing the bakufu's rice policy,²² it seems certain that these statistics came to the personal attention of Yoshimune, who on other evidence was also Japan's only statistically minded shogun.²³

However, no specialized sub-grouping which had a statistical competence was ever created. The task seems to have depended on *kanjō bugyō*, whose own duties changed in a monthly rota, and *machi bugyō* whose role was often short-lived as in the short term they worked under a form of *sankin kōtai* 参勤交代, and in the longer term were usually replaced at fairly regular intervals by new officers. Such a pattern itself was likely to leave regular record keeping at risk. Statistical material was prized only in the context of a current problem. As a result, as far as can be judged, antecedent or historical information was hard to get. Under Arai Hakuseki 新井白石 (1657–1725) during the reign of shogun Ienobu 家宣 (1709–1712), when longterm currency trends were a preoccupation, details of trade do not seem to have been readily available in Edo and had to be acquired from the *bugyō* in Nagasaki.²⁴ Many years later, when Hayashi Fukusai 林復齋 (also known by his posthumous name Hayashi Akira 林樺, 1800/1–1859) and his team put together the *Tsūkō ichiran* 通行一覽, they drew on heterogeneous sources and on a random corpus of books or *nikki* 日記 in Edo, much of it the fruit of private copying. The Osaka *bugyō* did have access to statistical information, as the Abe report of 1842 and later contact in 1867 of a *bugyō* with a British official show. However, this information was not retained in any systematic fashion, and *bugyō* at times seem to have sought information with limited success. Thus, in a document drawn up in 1796 for the *bugyō* by the *nengyōji* 年行司 of an Osaka guild for ginned cotton, the information covered some but not all months of 1766 and 1788, and even for the year immediately preceding compilation, 1796, some months were lacking.

Edo is much more poorly documented than Osaka. Whether this is a random consequence of survival or a result of a more active role by Osaka *bugyō* (whose own records have had a poor survival history) is an unanswerable question. Post-1868, Katsu Kaishū 勝海舟 appears, on the evidence of his compilations, to have been able to gather little information on trade, inland or foreign, when at official instigation he compiled his collection of Tokugawa records, despite the fact that he had been a prominent official both before and after 1868. Independently of Katsu's labors, officials in the finance ministry prompted the start of an effort to compile documents in a more rigorously academic fashion. The *Nihon keizai taiten* 日本經濟大典, in its origins a byproduct of this record-compilation exercise, has a single document with population figures (defective and imprecisely dated), and virtually no

trade figures of consequence. The finance ministry, central though its role was to early Meiji trade statistics, at first repeated the casual practice of shogunal times. The first decade of its existence left what was regarded even at the time as a very scanty and confused amount of statistical information on trade.

The documentation of the coastal trade raises questions about both the nature of record keeping and survival of records. The purpose of this paper is not to study trade; it is to examine the statistical and archival questions of its documentation. It is salutary at this stage to remember that the figures for Osaka trade in 1714 rest on three later copies of a 1903 copy (itself no longer in existence) which had been transcribed from earlier and now unknown records. For trade in 1766, we have only the vestige of the basic record, the mere aggregates of imports and exports, and we lack the detail which made the grand totals themselves possible.

What there is, is a rather random survival of information in private more than public copies, probably a mere tip of an iceberg of data imperfectly accessible to any collector, even to a Meiji figure like Katsu. Trade presents a contrast with the population figures, which had formally to be reported to the *rōjū*, a process that increased the amount of copying and diffusion, with the result that at least part of the record became accessible to copyists, some of whom were serious, some, mere dilettantes. For coastal trade, focussed narrowly on an inner circle of officials in the *machi bugyōsho* of Edo and Osaka, paper circulated less and copying was narrower and less colorful. Sadly a dilettante interest in coastal trade had little opportunity to come into existence. Whether returns existed for other years but have not survived is a tantalizing question, but it is ultimately unanswerable from the meager record left to us today.

Japan is remarkable in having had statistics of coastal trade, quite apart from their uneven quality and limited survival. The first section of this paper is an examination of the obscure process of collecting such statistics from 1714 to 1868. As for the emergence of modern-style statistics of foreign trade in 1859–1882, the concern of the second section, the statistics, although different from figures of coastal trade, were compiled first in ports that with the exception of Nagasaki had no experience in foreign trade; at the outset the figures were collected by existing *bugyōsho* officials. For the first time in the history of Japanese statistics, the *tonya* had no role, and the bureaucrats had a new task, even if at first they themselves were unchanged. It also included entirely novel circumstance of collecting the customs revenue on foreign trade authorized by the treaties. Nagasaki itself fared poorly in the new circumstances. The port and its great office were mere shadows of their former selves, and Nagasaki was the slowest of Japan's ports to adjust to the new demands in the first years. The process of creating statistical returns in those years illustrates both the limitations and the adaptability of Japanese officials. Insofar as it is a success story, which on balance one has to judge it, it also shows that the bureaucracy remained vigorous. Japanese bureaucrats continued to compile demographic statistics in the 1850s, and, despite having no real base of past training, created a successful run of trade statistics during the difficult years of the 1860s. This conclusion would also tend to support the argument that in a bureaucratic sense, at least, the shogunal administration was not near collapse in bakumatsu times.

2. Surviving Records and Their Use by Historians

For Edo, the very heart of Tokugawa power and its largest consumption center, remarkably little statistics survive of the trade of its port. There are good details for imports for two years only, 1726 and 1856, plus data for rice in one year, 1727. Otherwise just a few isolated figures remain available to us. Osaka, on the other hand, fared relatively better. Regrettably many documents that were still available c. 1900 no longer seem to exist, but two remarkable editorial projects in the first years of the new century ensured that some detail could survive. The first was the work from 1901 of the Ōsaka-shi Shi Hensan Gakari 大阪市史編纂係, the history editorial section created by the Osaka city council and precursor of the future Osaka City Historiographical Center (Ōsaka-shi Shi Hensanjo 大阪市史編纂所). Borrowing documents to copy (the originals were returned to their owners), the staff of this editorial body provided the sources for the *Ōsaka-shi shi*, which appeared in five volumes of text (eight tomes) between 1911 and 1915. This is a key work in more senses than one: it was the first history of a major Japanese city and was based exclusively on documentary sources.

The second archival project, dating from 1899, with no obvious direct interaction with the first, was launched by the Osaka Chamber of Commerce and Industry (Ōsaka Shōkō Kaigisho 大阪商工会議所, hereafter OCCI). It collected a vast amount of archival material within a short span of years, the duration of which we now do not precisely know. Once stored in the offices of the OCCI, except in a few very exceptional circumstances, the documents became totally inaccessible to historians.²⁵ This inaccessibility provided the motive for a project for publication, in a massive thirty-five volumes (*Ōsaka shōgyō shi shiryō* 大阪商業史資料, Sources for the History of Osaka Commerce and Industry, hereafter abbreviated to OSSS) that appeared mostly in 1964, with the last few volumes appearing in 1966.²⁶ A supplement (*Bekkan kaisetsuben sōmokuji* 別巻解説編総目次, hereafter referred to as OSSS Supplement 1966) with a series of editorial analyses and general list of contents was among the volumes released in 1966.

The editorial work on the OSSS was carried out by a team of at least four historians who wrote the series of analyses within the volume of the contents of the series at large.²⁷ Documents seem to have been copied out afresh (some five or six individual hands are readily identifiable, and the handwriting all appears to be postwar), then photocopied and published in sequence in thematic volumes. The individual documents were not numbered, however, and hence it is not always clear where the text of one document ends and another begins. The volumes also lack any indication of the source of individual documents, whether they are originals or just copies, or whether the copies archived in the chamber contain any marginal annotations that might suggest their origins.²⁸

Three individuals played an especially important role in the study of the statistics of trade. Foremost was Kōda Shigetomo 幸田成友 (1873–1954), a graduate of Tokyo University who had studied under Ludwig Reiss (1861–1928), a German professor who was one of the father figures of modern Japanese historiography. Twenty-eight years old at his arrival in 1901 in Osaka,²⁹ Kōda headed the project until finalization of the manuscript in his hand in 1909. The next year he returned to Tokyo to begin a career of teaching and research at Keio University and Hitotsubashi University. The second was Yasuoka Shigeaki 安岡重明 (1928–), a member of the editorial team working for the OCCI in preparing the

OSSS. Yasuoka's first contribution to the study of trade (published in 1960, well before the appearance of the supplement of 1966 on which he worked) included what purported to be a comparative table of imports for 1736, 1804–1830, and 1840. Many years later, in 1990, he published for the first time hitherto neglected aggregates of Osaka trade in 1766, drawn from the OSSS. The third figure is Ōishi Shinzaburō 大石慎三郎 (1923–2004), whose contribution is twofold: a close analysis of figures for 1714, which though vaguely known had hitherto been obscure (these figures became readily accessible only in 1964, when OSSS, vol. 13, appeared), and a penetrating study of eleven commodities exchanged in Osaka-Edo trade in 1724–1730.³⁰ One should add a further name, that of Miyamoto Matao 宮本又郎 (1943–), for his magisterial study of the rice trade of Osaka, which explored the rice trade as far as the original sources permitted.³¹

Table 1. Major Statistical Information on the Trade of Osaka and Edo*

	<u>Port</u>	<u>Coverage (quantities recorded)</u>	<u>Additional information</u>
1714	Osaka	exports and imports	values and aggregate totals
1724–1730	Osaka	11 export items to Edo	
1726	Edo	11 import items from all Japan	
1736	Osaka	imports	values given but not aggregated
1766	Osaka	no detail	aggregated values only survive
1804–1840	Osaka	16 import items	for rounded or isolated dates only
1856	Edo	imports	
1856–58	Osaka	imports from Ezo	
1858–64	Osaka	6 export items to Edo	
1866	Osaka	20 import items	

* Excluding *kura* rice (except for Edo 1726, 1856)

Apart from the run of eleven selected exports from Osaka for 1724–30, there are returns for the years 1714, 1736, and for 1766. Totals in Osaka of exports or imports or of both in 1714, 1736, and 1766 seem unprecedented among surviving data in that they clearly attempted to be comprehensive: commodities were both enumerated and valued, and gross totals were derived (at least for 1714 and 1766; arguably they were calculated for 1736 as well, but only a truncated document containing aggregate totals survived). Figures for the year 1714 may reflect the concern which led the bakufu to revalue the currency in 1715. Possibly they were intended to be a measure of the solvency of the Osaka business community, and hence of its ability to support daimyo and shogunal finances. There is of course a problem in that while official concern was with rice—the low price of which was depressing the income of state, daimyo, and samurai alike—the 1714 returns were by design not informative on the total rice trade. They included trade rice (*nayamai* 納屋米) only, and omitted the much larger business in daimyo rice, or *kura* rice (*kuramai* 蔵米, also described as *bukemai* 武家米, sometimes called han rice).³² *Kuramai* was seen in different terms from trade rice, and was a relatively known quantity. A trawl of han sources affords further information at local level on rice shipments. Rice was doubly important: it engaged a large amount of shipping and in

value was worth a half or more of the total for other imports in Osaka. Trade rice, although the quantity of it was relatively small compared with *kura* rice, was in value the single largest item in tables of imports. Sold commercially within han (and sometimes described as peasant rice, though it could originate in sales from daimyo stores in the han to local shippers), this rice was purchased by merchants and shipped on their own account to Osaka. It was mostly from the west of Japan and from the Hokuriku.

What utility the precedent of the table for 1714 and the large amount of work which its preparation involved had for subsequent years is merely conjectural. Figures for 1736 could conceivably have reflected the perception of the economy that prompted Yoshimune's currency debasement that year; the statistical compilation thus may be an exercise consciously modeled on the 1714 one. The figure for 1766 is even more obscure, and lacks an immediate obvious reason. All these documents were little known, as the meager paper trail for 1714, 1736, and more strikingly for 1766 suggests. They also totally lack accompanying evidence and are not supported by other sources setting out the reasons for attempting these ambitious compilations. It is likely that the exercise was a rarefied one confined to senior officials, lacking a sense of an ongoing permanent administrative purpose and hence not widely known outside such circles. That, however, was manifestly not the case with the data for 1724–1730. Copies of the figures for those years survive in both Osaka and Edo, and the surviving documentation is informative on the purpose and on the conduct of the operation. The return of imports to Edo in 1856 is of similar character in that its remarkable detail bears out the delicate official purpose suggested by its title.

For years other than those covered by Table 1, apart from the special case of rice, there is only scattered information for individual items, usually for isolated years. A comprehensive listing of the dates and sources for them for Edo and Osaka is set out in the Appendix. While oil may have ranked next to rice in importance, as Kōda observed, figures in both Osaka and Edo for the trade are few. Likewise for *kuriwata* 繰綿 (ginned cotton), a major item in both exports and imports, outside the years set out in Table 1 above, figures for exports exist for only a few months of the years 1761, 1788, and 1796. Despite this paucity of surviving data, it seems to me likely that a count was regularly made of some or much of Osaka's trade. In a report written in 1867, a British consular official who received details of imports of twenty items in 1866 from the magistrate of Osaka clarified the background:

I found it impossible to ascertain even approximately the quantity of goods brought into Osaka by land and sea. Large quantities are, however, brought by sea, and of them some kind of statistical record seems to be kept, as will be seen from the following table, which was furnished by the governor, with the qualifying remark that the figures are, some of them, only approximate, and that of a few articles, including the somewhat important ones of silk goods, earthenware, sake, and miso, he had been unable, so far, to obtain returns.³³

The existence of counts are hinted at also in the long report prepared by Osaka *bugyō* Abe and dated 9 April 1842, which cited some data for Osaka trade in the preceding four decades.³⁴ For the years 1800–1840, Abe made statistical observations on the import at one time or another of sixteen commodities, either for specific dates or rounded periods. He was making a case at the behest of the city's guilds for restraining competition in the hinterland

of Osaka. The guilds had just been abolished, but their members, alleging that rural traders had reduced consignments to the city to their great detriment and seeking their own re-establishment, had convinced Abe to make a case for them. He did so by documenting what he claimed was a fall in trade from higher levels in earlier decades. The statistical argument, somewhat loose or imprecise, varied from one commodity to another. Some of the commodities to which he referred were of minor importance, and his figures are sometimes vague. He provided no data for the important commodity sake.

In general Abe made a distinction between a higher level in the period ending 1817 (Bunka 14) and a lower level in the years immediately preceding his report of 1842. He compared data for 1840 or 1841 (and sometimes for runs of prior years) with earlier years that he identified as either 1817 or previous to 1817.³⁵ In the case of cotton cloth, what he stated in 1842 was simply that in the ten years ended 1841 the annual import of cotton cloth did not exceed 3 million *tan* 端 (or 反), as compared with figures of 8 million *tan* prior to that.³⁶ Except for rice, the *bugyō*'s assertions are unverifiable from other evidence. The *bugyō* suggested that rice imports had fallen from 1,500,000 koku (and it is clear that he was referring to the level for years running up to 1817) to 1,085,000 koku for 1840, but other evidence contradicts a process of sustained contraction. The amount of rice recorded by the Dōjima Rice Exchange (Ōsaka Dōjima Beikoku Torihikijo 大阪堂島米穀取引所)—and these are not figures of trade, but of stockage—reached a peak in the 1820s.³⁷ The total fell only in the 1830s, during the harvest failures of the Tenpō era. In this way the *bugyō*'s assertion on the long-term trend in rice was far less well founded than at first sight his words might suggest. There may indeed have been no decline before the 1830s.

Export trade was not a subject of discussion between the British official and the magistrate in 1867, and the consular report provides no information on exports. However, some surviving returns for six items in 1858–1864 suggest that figures may have been noted regularly. Five of these were the major exports from Osaka to Edo; for the sixth—rice—quantities from Osaka for Edo were either small or non-existent, and may suggest that if the practice of recording exports of eleven commodities from Osaka had not been continued in the structured form of 1724–1730, it did survive in vestigial form in the counting of a least five major Osaka commodities. The evidence lies in two sources, one an identified source, the “Ōsaka machiburegaki” 大坂町触書, the other reproduced without indication of the source in both the modern OSSS and *Ōsaka hennen shi*. The two sources are incomplete, and the fact that their coverage differed suggests independent origins. Monthly returns for each commodity certified the number of vessels and the total quantity, over the signature of three *machidoshiyori*, prepared in the immediately following month. The commodities were sake, two categories of oil (with slight difference of nomenclature between the two sources), and ginned and woven cotton. Evidence in a document of 1797 for exports from Osaka in some months of the years 1761, 1788, and 1796 for one of these five commodities—ginned cotton (*kuriwata*)—might seem like an isolated trace of these statistics in a long intermittent period for which we have no other data.

The recording of the number of vessels merits note. Recording seems to have been made of the number of ships arriving, their tonnage, and the han from which they came. The magistrate of Osaka in 1867 gave an “exact return of number and size of vessels and provenances for 1866” to a British diplomat.³⁸ The list is identical in concept and layout

to a few returns for the eighteenth century that have been published in modern times. The origin of such returns seems to lie in an order of 1727, and one may assume that the counts were made regularly every year—although some degree of uncertainty remains, as there are so few data for intervening years. While the image of a forest of ships' masts is a dominant feature in contemporary pictorial representation, it is doubtful whether Consul J. F. Lowder, reporting on Hyōgo (Osaka) for 1868, was correct in observing “from a reliable source that the arrivals and departures of native junks average 300 daily.”³⁹ As a count of both arrivals and departures, arrivals may logically be estimated to be half of that number. As the bar at the mouth of the port prevented fully laden vessels from entering, the figure is also more a count of lighters than of ocean-going vessels. It would however also include vessels of less than 200 koku, which had no occasion to unload their cargo into lighters in the anchorage and hence could proceed directly to the wharves. It is likely that any counts of goods on board were made at the port, the only effective way of taking account of the variety of craft involved: vessels with a capacity greater than 200 koku, which were lightened at the anchorage; lighters carrying goods from the anchorage; and craft carrying less than 200 koku, which were subject to no inspection at the anchorage. The question also arises of how or whether officials verified or amplified quantities, as opposed to the customary practice of reliance on returns from *tonya*. For rice, an intermittent contrast between precise numerical counts for trade rice and rounded totals for han trade might suggest that the *tonya* provided precise counts for trade rice only, and that han rice amounts were only roughly estimated. For those few years when there are precise numerical counts that seem to include both trade and han rice, a detailed count of the content of each vessel must have been either made directly or provided by the *tonya*. For the years 1724–1730, detailed counts were made in both Osaka and Edo—for rice and ten other commodities leaving Osaka for Edo, and for the same eleven items arriving from all parts to Edo.⁴⁰

The *tonya*, wholesalers and by implication members of a guild, feature in most returns. The obtaining of information through *tonya* is not itself surprising: the *bugyō* got their data on wages, for instance, through the guilds.⁴¹ It is less likely that monthly returns were compiled from direct filings by masters of vessels reporting on individual sailings, than that each *tonya* provided reports on his sailings in or out of the port. Almost certainly processing beyond a monthly level, if it occurred, was executed exclusively by *bugyōsho* officials. There is some modest clarification of this in the report by a British official in June 1867. Entertained in 1867 by all ten members of the guild handling foreign goods (i.e., goods from Nagasaki, as Osaka was not yet a open port), he noted that while the guilds (which he said were 200 in number) were registered and under the supervision of the magistrate, “they carry on all their trading operations with little or no reference to him or his officers.” The guilds as collective entities, as opposed to their individual members, played a limited role in the statistical process, in the understanding of this British official:

I endeavored to learn what were the amounts of their imports during the last eight years, but they assured me that they had no common books of the guild to which they could refer for such statistics, which could only be obtained by examining the private books of the members of the guild.⁴²

The trade returns for Edo in 1726 and 1856 include all rice (both trade rice and *kura* or

daimyo rice) arriving in the city by water. For Osaka returns of the import trade include trade rice but exclude daimyo rice. Table 2 below presents all rice import figures known today from trade returns and other documents.

Table 2. Osaka Rice Imports

<u>Year</u>	<u>Kura</u>	<u>Trade</u>	<u>Total</u>	<u>Sources</u>
c. 1700	118–141			“Odaimyō ohatamotoshū goyōkiki” no kō ^a
1714	112	28	140	OSSS ^b
c. 1716	83–91			Mitsui archives ^c
1736		22		<i>Ōsaka-shi shi</i> 1913
c. 1747	90–118			Odaimyōshū okurayashiki tsuki rusui yakunin. . . . ^d
1766			141	OSSS ^e
1776			120	OSSS 1964c, pp. 101, 154
1777	86–113		121	Odaimyōshū okurayashiki tsuki rusui yakunin. . . . ^d OSSS 1964c, pp. 101, 154 ^f
1778			142	OSSS 1964c, pp. 101, 154
1779			114	OSSS 1964c, pp. 101, 154
1780			128	OSSS 1964c, pp. 102, 154
1817			150	<i>Ōsaka-shi shi</i> 1911 ^g
1823–1828	146–160	29–33	175–193	Suzuki 1938 ^h
1840			109	<i>Ōsaka-shi shi</i> 1911 ^g

This table is a modified version of the table in Miyamoto 1972, 1988.

a. “Odaimyō kata ohatamotoshū goyōkiki’ no kō” 「御大名方御旗本衆御用聞」の項, from “Gokinai Settsu Naniwa-maru” 五畿内撰津難波丸, in *Kokka man’yōki* 国花万葉記 (cited by Miyamoto).

b. Though the figure in OSSS 1964a is quoted as 240,000 koku by Miyamoto, the total figure in that source is 282,792 koku.

c. See note 43. The total is given as 830,000–910,000 by Miyamoto, 830,000–900,000 in Mitsui Bunko 1952, p. 2.

d. Returns for 1747 and 1777 from “Odaimyōshū okurayashiki tsuki rusui yakunin narabini myōdai kuramoto kakeya yōkiki nayose” 御大名衆御藏屋鋪付留主居役人并名代藏元掛屋用聞名寄, in “Settsu Naniwa-maru kōmoku” 撰津難波丸綱目 (Miyamoto).

e. OSSS 1964a, p. 28 (incorrectly stated by Miyamoto to be from OSSS 1964c). The figure may be a composite one for *kura* and trade rice. See also OSSS Supplement 1966, p. 264.

f. The figure of 1,210,000 is from OSSS, and differs from the *kura* estimate in “Odaimyōshū okurayashiki tsuki rusui yakunin narabini myōdai kuramoto kakeya yōkiki nayose.” It is either a further variant or a real count intended to include trade rice.

g. The source quoted by Miyamoto (the Abe report of 1842) resorts to round years. The document claims that 1,500,000 was the level of imports up to 1817, not, as Miyamoto renders it, a figure for the years of Bunka and Bunsai (1804–1829). The figure for 1840 is for the year indicated by Abe.

h. Two private archives in Suzuki, pp. 482–88, Hamamura Eizaburō-shi kyūzō 浜村栄三郎氏旧藏 and Arioka Tahee-shi kyūzō 有岡太兵衛氏旧藏. The dates of the documents are 1823 and 1828, admitting of a composite return for 1823–1828. Miyamoto gives them as for the Bunsei period as a whole (1814–1829).

Figures for trade rice (*nayamai*) which occur in general trade returns are minor if compared with estimates for *kura* rice from other sources. Where an isolated figure without context is given, it is not clear whether it is a *kura* count only or has incorporated also the figure for trade rice. That makes caution necessary when we use these statistics. A small number of returns of *kura* rice do exist, apart from trade rice given in the returns for 1714 and 1736, and apart from the gross figures with no identified provenances for 1766 and 1776–1780 reproduced in OSSS. One such return of unidentified origin, dating from ca. 1716, is in a Mitsui Bunko publication and is less than complete;⁴³ another dates from Genroku times (see Table 2, note a); a third document contains returns for two widely separated years, 1747 and 1777 (see Table 2, note d);⁴⁴ and a fourth return for the 1820s is actually a composite created by Suzuki from two private archives (see Table 2, note h).⁴⁵

Where data for quantities of *kura* or trade rice exist, it is possible from readily available price information to value the imports of rice, and where aggregates for other trade exist, to add rice to the total. This is what Yasuoka has done for 1766. Kobayashi and Wakita employed the same procedure for Osaka imports in 1714, deriving the huge value of 456,510 kan for imports for that year.⁴⁶ The usefulness of this large figure is limited, for purposes of comparison, because prices were grossly inflated in 1714; prices declined swiftly in the wake of the revaluation in 1715. The manuscript return for 1736 did not add up the component items, but Kobayashi and Wakita calculated a total 100,751 kan.⁴⁷ As in the case of the 1714 and 1766 returns, this basic return did not include *kura* rice.

Osaka exports were significantly smaller than imports, even without taking into account the huge import of *kura* rice. At inflated prices exports were 95,799 kan in 1714, and at more normal prices, 76,218 kan in 1766. Some limited validation of the accuracy of aggregates of trade can be derived from the trade returns for 1724–1730. Hasegawa Akira 長谷川彬 and Shinbō Hiroshi 新保博 computed the annual average of six of the eleven Osaka exports for 1724–1730 on the basis of 1726 prices in *Keizai shakai no seiritsu* 経済社会の成立.⁴⁸ The figures for five major commodities (ignoring the sixth item, a rather trifling quantity of rice) come to 42,903 kan of silver. What stands out is the importance of *kuriwata* 繰綿, ginned cotton, which amounted to 19,766 kan, or almost half the total. If the value of the many goods not included among the eleven commodities were known, almost certainly the grand total would be close to the count for 1766.

Aggregates where they exist show how far short of imports the exports of Osaka fell. In 1714 imports (excluding *kura* rice) were 286,500 kan, and exports 95,800 kan. In 1766 imports were 103,734 kan and exports 76,218 kan. Including and valuing *kura* rice and miscellaneous cereals, the value of imports in 1766 became 194,927 kan. The gap between exports and imports, even without including *kura* rice, and *a fortiori* if it is included, illustrates the sheer magnitude of the deficit in the balance of trade of Osaka. The opposite side of this coin of course is that this emphasizes the scale of banking and exchange business conducted by merchant houses in Osaka. It was indeed their indebtedness which made a large number of han regularly move comparatively stable amounts of rice to Osaka, where they could utilize the market to liquidate or at least control their indebtedness. By the late eighteenth century, even faraway Tōhoku domains, which hitherto shipped little rice to Osaka, seem to have increased the amounts they sent.

A four-fold distinction can be made in the figures. First, very full or elaborate returns existed for a few years, the 1714 return being the most complete. For 1736, a full list of imports may suggest that a matching list of exports has been lost and that aggregate values for both exports and imports are likewise missing. For 1766, aggregates survive, even if a breakdown does not; by chance, the totals were transcribed into a later summary document. Second, for a number of other years, some count existed. This is evidenced by the sixteen imported commodities of which *bugyō* Abe had some knowledge, by the 1866 count of twenty commodities given by later *bugyō* to a British diplomat in 1867, and by 1858–1864 vestiges of a regular count of six exports. The vagueness of statistical counts seems to be mirrored in the fact that the diplomat reported nothing for export statistics. The isolated scraps or blanks for other years hint at an appalling attrition of paper over time. Third, separate recognition has to be given to the remarkable figures for 1724–1728 for both Osaka and Edo that were compiled in response directly to Edo instigation, and the return for Edo in 1856 whose origins are unclear but whose title and internal content illustrate official concern. Fourth and finally, the figures for rice, the largest single import in Edo and Osaka alike, merit separate consideration. *Nayamai* and *kuramai* alike were included in the gross import total in Edo, but in Osaka, they are separate; moreover, with some Osaka gross figures for rice, it is not clear-cut that they included trade rice.

3. The 1714, 1736, and 1766 Returns for Osaka

The 1714 return of Osaka imports and exports for both quantities and values is the fullest, best known and most commented on tabulation of trade figures for early modern Japan.⁴⁹ It is the sole return to have been reproduced in English. Its authority is enhanced by the fact that copies survive in three locations. The 1714 figures first became accessible with their publication in 1964 in OSSS, vol. 13. Earlier, the existence of the 1714 return was known to a few, but they tended to be quite dismissive, noting flaws in its content. Kōda and Yasuoka, for example, knew of it and chose not to make wider use of it.⁵⁰ Its publication led to the uncovering of more accurate versions in two sources, one in the Mitsui Bunko in Tokyo and the other in the Osaka Castle Museum (Ōsakajō Tenshukaku 大阪城天守閣; this copy was moved to the Ōsaka-shi Shi Hensanjo in 1969). These newly revealed sources were reported on by Ōishi in articles in 1964 and 1966, but until he incorporated them in a major study in 1975, other scholars seem to have continued to rely on the defective return.⁵¹

Curiously, while Kōda had dismissed the OSSS figures, the vastly superior copy in Osaka Castle Museum is actually in his hand. This copy, and the other two surviving copies of the 1714 return as well, originated in a version possessed by Uchida Gonzō that had been copied in 1903 for Tokyo Imperial University. Kōda's copy was made in 1904 (as the date 1904 occurs elsewhere in the notebook into which he copied it). Another copy was made for Mitsui Bunko in 1913, and the OCCI made a copy at an indeterminate early date.⁵² The Uchida text is no longer extant, and the Tokyo Imperial University copy was destroyed in the earthquake and fires of 1 September 1923. By 1934, the highly capable but overworked Kōda himself (400 notebooks in his hand are preserved today) no longer recalled that he had made an accurate copy in 1904. This is less surprising than that he omitted this 1714 count from the *Ōsaka-shi shi*. His oversight, this shows, occurred not in the 1930s, but thirty years previously during his editorial work.

It is evident that the Kōda and OSSS copies were made independently of one another. There are some very minor blemishes in the Kōda copy which do not feature in the OSSS copy. The OSSS copy, moreover, despite doubts thrown on it by the few who saw it and the later emphasis by Ōishi on its defects, was not alarmingly defective. It is true that exports, if added up, came to a mere 63,736 kan, whereas the transcript itself gives the gross total as 95,799 kan. The transcribing however was not reckless. The table of imports in the OSSS text has few and very minor errors. In the case of exports, most of the gap between the transcribed components if added up and the transcribed gross total at the end of the table are accounted for by a copyist's omission of four of five categories of oil. (In all probability this was a consequence of the transcriber having, after making the first entry for oil, inadvertently skipped across the other entries for oil in the text from which he was copying). These omissions apart, there were few errors of transcription; one was superficially more serious with the quantitative entry of 2,814,830 units of incense sticks (*senkō* 線香) repeated in the column for the value of goods as an absurd total of 2,814, 830 kan (a figure which if taken literally was many times the value of total imports). However, as an error of transcription it did not affect the independently-derived figure for the gross total value of trade at the foot of the return, which was correctly transcribed by the copyist. A more important point overlooked in modern commentary is that the trade figures in all three copies (Mitsui, Kōda, and OSSS) occurred within a more substantial document in which the trade figures were followed by a section of unrelated information under the heading of "Beikoku narabini ninzu yose" 米穀並人数寄. Identical in structure, the three documents contain the same miscellaneous material under the same general title in a small and identical compilation (in which admittedly the trade return is the main item).⁵³ The fact that the version published by the OCCI in 1964 has an identical structure is not immediately evident in volume 13 of the OSSS series because the OCCI did not number documents within its volumes and the document started at the head of a page. The statistical return ends on the right hand side of sheet 14 and other material begins on the left-hand side under the heading "Beikoku narabini ninzu yose," continuing on to sheet 15. Given the absence of a numbering of the documents, items under this heading might appear to be a separate document. (This is a small but striking illustration of the adverse consequences of not being able to refer to the original copies in the OCCI archives.) The kanji 並 (read as "*narabi ni*," meaning "and"), which appears in the other versions, is missing here, but this is not a change of consequence.

The 1736 return is more obscure than the 1714 return. Unlike the case of the 1714 return, we have no paper trail as to how the 1736 document was copied in modern times from earlier documents. There does not appear to be any evidence that the actual text used for vol. 1 of the *Ōsaka-shi shi*, where it first appeared, has survived. Yasuoka in 1960 and Yamaguchi in 1968 made the figures for 1736 more widely known.⁵⁴ The 1736 figures indicate both values and the geographical provenances of the shipments. Quantities are lacking for some items, however, and for other items values are lacking (Yasuoka reproduced figures for twenty-eight items, twenty-five of them in descending order of value, Yamaguchi for twenty-five items). There is a total of 123 items or categories of goods. It seems likely that the transcription itself was made from an incomplete transcript of an earlier copy that was much more complete. It does not include any figures for exports; values are lacking for twenty of the 123 categories of imports, and no attempt was made, at any rate in the surviving copy, at

adding up a grand total.⁵⁵

While Yasuoka's only firm figure for rice was 220,791 koku, given in his table of imports in 1736, in another table on Osaka imports for the years 1736, 1804–1830, and 1840, he expanded the figure for 1736 to one million koku.⁵⁶ A figure of 800,000 koku for *kura* rice is not improbable, and a figure for 1,000,000 for total imports (*kura* and trade rice combined) is far from implausible.⁵⁷ Cotton cloth can be distinguished by being given in units of measure (*tan*) for *shiomomen* 白木綿 in 1736.⁵⁸

The 1766 (Meiwa 3) aggregates are much less well known, and long languished almost unnoticed. General aggregates for this year were quoted neither by the authors of volumes 5 and 6 of *Ōsaka-fu shi*, which appeared in 1985 and 1987, nor by contributors to volume 1 of *Nihon keizaishi* (Hayami and Miyamoto 1988). It was not until 1990 that Yasuoka, who had worked on the editorial side of preparation of OSSS series, introduced the trade aggregates to the scholarly world in a short and very clear chapter in the volume on trade in the *Shinshū Ōsaka-shi shi* (1990, vol. 4).⁵⁹ The reason the figures languished in obscurity for so long (and the reason why the return did not feature in the *Ōsaka hennen shi* series)⁶⁰ is that the document containing the return sports a general and not informative heading, “Meiwa nenkan Ōsaka shotōkei” 明和年間大坂諸統計 (Miscellaneous Osaka Statistics of the Meiwa Period). Without reference to a brief statement buried in the analysis of the content of volume 13 in the later OSSS Supplement 1966, it can be easily glossed over. Hence it is not surprising that it apparently has been consulted only by two scholars, very briefly by Miyamoto Matao⁶¹ for the figure for rice imports and more fully by Yasuoka. The document lacks a listing of individual commodities. It simply gives on a single sheet (sheet 28) the aggregate value of exports and imports, and, in two further entries, the quantities of rice and lesser cereals imported. The rest of the text of the document (sheets 29 to 32) simply contains more miscellaneous statistics. Using contemporary prices to value rice, miscellaneous cereals, and other items for which no values had been recorded in the return, Yasuoka was able to add the estimated value of rice and beans. He concluded that the figure for total imports should be raised from 103,734 kan to 194,927 kan. Whether this brief document is itself a mere copy of another document or a terse recital of gross figures from a fuller compilation has to be a matter of conjecture. I think it probable that the OCCI, which reproduced a great many full texts elsewhere in its series, had access only a now unknown summary in this instance.

4. 1724–1730 Listing of Eleven Commodities in Edo and Osaka Trade

The data for 1724–1730 are often reproduced in modern works. However, in contrast to the curiously isolated data for other years, figures for these years for eleven exports from Osaka represented a highly structured approach. That approach suggests that the compilers worked with a well-defined and ongoing purpose. Moreover, copies are somewhat more numerous than for other years, and have a closer official origin or association. A statistical urge to collect trade figures cannot be attributed uniquely to Yoshimune, who became shogun only in 1716, or to officials working under his direction, as the remarkable data for the year 1714 already illustrate what was probably at the time a statistical innovation. The figures for 1724–1730, intended to serve a real administrative purpose, were collected on a monthly basis and the detail was to be communicated to Edo with equal regularity. Furthermore, the compilation of data in Osaka was to be followed by a checking of vessels at their entry to Edo

Bay, at Uruga.

The original instructions were further elaborated with effect from the fifth month of 1727 (Kyōhō 12). Osaka officials were instructed to keep a count of all vessels entering and leaving the harbor. More detailed requirements for reporting by the *tonya* were set out from the seventh month in regard to vessels of 200 koku and upwards (in effect, if loaded, ocean-going vessels which could not ascend the shallow channels to Osaka proper): they were to provide to the *machidoshiyori* the details of vessels, burden, name of master, and whether or not the vessels had carried goods to Edo, and they were to submit these on a monthly basis.⁶² A count of vessels of 200 koku and upwards as late as 1866 suggests that this instruction was observed in Osaka to the end of bakufu rule.⁶³

The figures for the years 1724–1730 first appeared, as was the case with so many other data, in *Ōsaka-shi shi* without indication of source. A fuller version with a monthly breakdown in *Ōsaka hennen shi* 1965 (vol. 26 pp. 334–41), though not identified, is probably from a document cited by Kobayshi and Wakita in 1973. While simply a copy entered in a larger compendium of documents, the compendium has a clearly defined scope and hence suggests that it is a relatively early copy.

These two sources (one now lost) for eleven commodities shipped from Osaka over 1724–30 are supplemented by a surviving listing of eleven corresponding items landed in Edo for one year. Of this document there are two sources, the first a copy in Katsu Kaishū's *Suijinroku* 吹塵録 (for which he does not indicate a source);⁶⁴ the second a copy contained in a compilation entitled *Kyōhō tsugan* 享保通鑑 that was transcribed in 1886 from a volume in private possession.⁶⁵ Thus the *Kyōhō tsugan* version is itself a copy of what was already a copy. These two versions, despite some discrepancies that are probably the result of copying errors, are in fact very close to one another. They must come at few removes from a common source. Ōishi thinks the 1886 document *Kyōhō tsugan* the better of the two.⁶⁶ Two of the transcription variants were minor, the third one major. The quantity of sake given in *Kyōhō tsugan* is very obviously in error as 10,095,856 barrels; a more credible amount is the 795,856 barrels in Katsu's *Suijinroku*. The really important difference is in regard to ginned cotton (one of the two textile items covered): it is accounted for in *Kyōhō tsugan* but omitted by Katsu. In place of ginned cotton, Katsu—or, as he was a very accurate transcriber, the source from which he drew his figures—lists *zeni* 銭, copper coins, among the eleven commodities.⁶⁷

The account of eleven commodities entering Edo in 1726 was intended, as the words *shokoku yori Edo e nyūshin* 諸国より江戸へ入津 (“entering Edo harbor from various provinces”) in the document suggest, to include incoming trade from regions other than Osaka. We do not have instructions at the Edo end comparable to the full ones issued for Osaka for this recording exercise. Certainly it is plausible that similar rules applied to goods entering Edo bay from the south and from the north alike. If there were not a comparable control of goods from the north of Japan, the whole purpose of the enumeration effort would have been negated. Given a diffuse trading pattern in the north of Japan with no center comparable to Osaka, Uruga was almost certainly the sole originating center of the recording of this traffic. As Uruga kept track of the final destinations declared for vessels entering the Bay, it should have been easy, with the help of the *tonya* who imported goods from the north, to compile statistics on vessels and quantities of goods and send those monthly to Edo.

In the case of rice, of which Ōsaka shipped little, imports to Edo of 861,893 *hyō* were recorded in 1726. This figure covers only rice carried directly from Uraga to Edo, as noted on its arrival by sea. It omits rice landed elsewhere in the bay and then carried overland. Firewood and charcoal came almost exclusively from regions other than Osaka. In the case of sake, the quantity shipped from Osaka to Edo, 77,687 barrels, was large in absolute terms but comparatively small as a component of total imports into Edo of 795,856 barrels. Oil was important in both exports and in imports. In 1724–1730, the records of exports from Osaka show no quantities whatever for two goods, figures that we can take to be nominal for three other goods, and minute quantities for a sixth—rice—in all years but 1728 and 1729. From this we can suppose that there was in normal times a substantial export in only five of the eleven commodities. This might explain why recording in 1858–1864 of export trade from Osaka to Edo was confined to the same commodities.

The plan for regular recording of the eleven commodities is contained in the *bukka hikisage an* 物価引下げ案 of 1723. Having failed in efforts to raise rice prices, the shogunate at this stage endeavored to reduce prices of goods that recipients of rice incomes consumed. The objective was to raise the purchasing power of the shogunate and its servants. The order itself prohibited forestalling; creation of a statistical account of the movement of goods was intended as a means of identifying lags or abuses by withholding goods on their arrival in Edo Bay from the market (manipulating supply in order to manipulate prices).⁶⁸ Details of shipments were to be sent every month to the *machi bugyō* in Edo from the beginning of 1724. For goods from the north, we have to assume that a return in some form was made by the relevant *tonya* for the northern trade at Uraga and again in Edo. Inspection of all vessels at Uraga would serve to keep track of quantities and destinations, and the returns made by *tonya* of vessels reaching their destination would identify abuses. Just as the Osaka *bugyō* made monthly reports to the Edo *machi bugyō*, constant communication between officials at Uraga and the *machi bugyōsho* must have been envisaged to make surveillance effective. It seems likely that the scrutiny in Edo took the form of matching monthly data for Edo from the *tonya* with the returns from Osaka and Uraga, and that the matching process itself was very general.

No direct evidence seems to survive of the operation of the procedures at Uraga. The only concrete evidence as to how the control worked comes from the rice trade examined in an elaborate report *kyonenjū tōchi e chakumai no oboe* 去年中当地江着米の覚 (memorial of rice landed in the course of last year) in *Kyōhō sen'yō ruishū beikoku no bu* 享保撰要類集 米穀の部 (Kyōhō collection of essential details: section for rice and other cereals) for 1727, drawn up in the seventh month of 1728.⁶⁹ This source examines the trade in two stages. The first is the basic statistical return for rice recorded directly at the Edo market, amounting to 1,256,453 *hyō* for the year, a total made up of 835,681 *hyō* of samurai rice and 155,781 of trade rice, all on normal cargo vessels, plus a further 420,772 *hyō* on coastal vessels (in other words rice transshipped at Uraga from incoming vessels) that was allowed by the Uraga watch house to proceed unhindered, no doubt because of an undertaking to adhere to Edo as the ultimate destination of the rice. A second set of calculations followed. These were intended to arrive at a true statement of the gross traffic. A distinction was made between trade rice and rice on official account (*bukemai*, sometimes *ryōshumai* 領主米). Han rice was less for consumption literally by samurai families than for sale. Some rice cargoes were recorded at Uraga

and later transferred to the city overland from more distant landing points, and hence they were not included in counts of trade unloaded within the confines of the port. In Tokugawa Japan port boundaries were not defined in the Western sense. Convenience rather than legalities determined the extent of a port. In the case of Edo the main center was Shinagawa. The anchorage that served Shinagawa, however, was said in 1872 to be two or three miles offshore, and when goods were landed there they had to be carried five to eight miles further to the business center of Edo. The waterway from the anchorage to what the British official labeled Hama-goto (an erroneous rendering of *hamagata* 浜方, a general word for shore, not a specific place name) proceeded for some four miles with a depth of one and a half to three feet; within the mud flats, the actual channel used for navigation in many places had a mere two feet of water at low tide.⁷⁰ Effectively there was an advantage in using locations other than those served directly by the barges onto which goods were loaded in the crowded anchorage off Shinagawa, despite the extra costs of overland transport.

The second stage—*bugyō* recalculations—touched on samurai rice and chōnin rice, resulting in a total of 1,377,118 *hyō*. These figures resulted from an adjustment to the original calculation of samurai rice by the addition of 585,642 *hyō* first landed outside the port and then carried to the city, and an adjustment of the original figure for chōnin rice by the deduction of 44,205 *hyō* that had been landed in other places and did not reach Edo. When the quantity of rice loaded at Uruga onto coastal vessels (420,772 *hyō*) is added to this figure, the grand total amounts to 1,797,890 *hyō*.⁷¹ The shallow anchorage at Shinagawa was both a reason for unloading all or part of many cargoes at Uruga, and for vessels which did not do so to seek other points on Edo bay to unload. Some chōnin rice did not reach Edo at all.

These statistics call our attention to the definition—or more precisely, lack of legal definition—of ports. In contrast with very rigid definition of ports and sub-ports in British or French practice, ports in Tokugawa Japan were diffuse entities. In Europe, the authorities collected fiscal charges on much trade, and this necessitated rigid definition of ports for all traffic; further, any landing outside the legally defined ports required the (rarely granted) prior approval of the revenue officers.

In early modern Japan, as already observed, figures for commodities at every stage were returns made by the *tonya* or shipping wholesalers, not counts by customs officers in the Western sense. Of these there were, for example, 163 in Edo in 1726 and over 200 in Osaka in 1866. The returns made at the outset of voyages at Osaka and the later verifications in Edo in all probability reflect the authorities' acceptance of quantities reported by the *tonya*. It is doubtful that there were independent inspections of actual cargoes. The major task of Uruga scrutiny was to superintend the transfer of goods from incoming vessels to coastal vessels. The *machi bugyō*'s office in Edo would be guided by returns from Osaka and Uruga as well as evidence gathered on the spot. Adjustments in Edo represented a reprocessing of existing paper, rather than a recount. As in Osaka, almost all han rice was carried on commercial vessels, and its entry was controlled by the rice *tonya*. Conversion into koku of statistics originally stated in *hyō* suggests consumption of the order of 720,000 koku in 1727. This might seem an understatement. Osaka, a smaller city, imported a million or more koku. Multiplying the estimated population of Edo by the estimated per capita consumption rate suggests that more rice may have been imported than was recorded. Ōishi suggests that there was daimyo rice that was not recorded at Uruga at all, and it should be added to the total.⁷²

This seems unlikely, as toleration of such an inflow would have run counter to the exercise at large. Allowing for vagaries of statistical recording and of estimates of per capita consumption, figures of 700,000 koku need not be regarded as wildly out of line with the reality of Edo consumption of waterborne rice in the Kyōhō period. Arguably rice from the shogun's own domains (*tenryō* 天領) carried on shogunal vessels was not included, but Ōishi did not broach that possibility. While rice could be on daimyo or shogunal account, its movement was almost exclusively effected by merchant vessels. A British consular official noted that of 1,967 junks with capacities of 200 koku and upwards entering the port of Osaka in 1866, a mere 124 were daimyo vessels.⁷³ Shogunal rice would have been no different; the bulk would have been carried on commercial vessels.

It is possible that the process of counting that yielded the statistics for the seven years 1724–1730 continued until 1736, the year when debasement was resorted to again in an effort to raise the price of rice. It is more likely, however, that it was abandoned at an earlier date, in 1731, when harvest failure radically changed conditions in the rice trade. Yet some elements of the system survived. In the case of Osaka, some traces still existed in 1858–1864, as we see in the enumeration of five to six commodities that had been the key items among eleven enumerated commodities in the 1720s.

5. The List of Edo Imports in 1856

It is striking how meager, apart from one year's imports in 1726 (and rice imports for 1727), is the statistical information for Edo. In view of the paucity of data, the existence of very full figures of trade in Edo for one year in the 1850s (1856) is at first sight a puzzle, as it raises the question why, if statistics existed for one year, they do not survive or at least be known to have existed for others. A table with the 1856 data is printed in *Tōkyō-shi shi kō* 東京市史稿 without any indication of the source.⁷⁴ The 1856 return itself however is very different from the small number of full or near full returns for Osaka. It is a very extensive document, giving not only quantities for 128 commodities (some of them with multiple subdivisions), but also details of provenance of many goods, accompanied by more general observations. It thus differs from other surviving counts, which in presentation are very terse documents. The orderly presentation gives the impression of a specially devised exercise, not an ongoing one, intended to provide administrators with a picture of the nature and sources of supplies of food and of conventional necessities. Given the recent appearance of foreign fleets and the treaties already wrung from Japan, the document may have been prompted by fear of disruption of food supply by foreign navies and a need to estimate the scale of the problem that disruption might pose. This fear, as Fujita Satoru 藤田覚 argued more than twenty years ago, was a factor behind Mizuno Tadakuni's 水野忠邦 policy in the 1840s and especially in his relaunch of the effort to drain the Inbanuma 印旛沼 marshes.⁷⁵ Such concerns, long-lasting ones, might have been heightened by fear of social unrest in the wake of the terrible 1855 earthquake in Edo, but the fear of foreign threat and social unrest coinciding had haunted Japanese rulers since the 1780s. The title of the document reveals its special and secret purpose: *Chōhōroku: Edo omote shoshiki funaunsō nyūshin okazuke chakunidaka mitsumitsu otazune* 重宝録 江戸表諸色船運送入津陸附着荷高密々御尋 (“Very useful record: Edo list of various ships carrying goods to its shores, with attached highly confidential enquiry into quantities landed”). The entry for rice is the first and the largest entry in

the list, and compilers of the document made an attempt to calculate consumption.⁷⁶ For other goods the document often cites not only locations from which supplies came, but also supplementary details.

A return for imports to Osaka from Ezo for 1856–1858 can be viewed in the same context.⁷⁷ It seems to exist only in an account in a relatively modern book, not in a surviving copy. The fact that it has no known antecedents might support the suggestion that it originated in Osaka *bugyō* fear that the large and important Ezo–Osaka trade was as vulnerable to blockade as the trade of Edo itself. Indeed disruption of trade from Ezo to Osaka would itself have been, as Japanese shipping hugged the coasts, an automatic consequence of the operation of foreign fleets in the approaches to Edo.

6. Comparison of Trade in Osaka and Edo in 1726 and Evidence of Changes in Edo Imports, 1726–1856

Although trade between Osaka and Edo is documented only for intermittent periods, the surviving records do afford the unique luxury of a comparison of the two cities in terms of trade in one year. That year is 1726. Once we deduct from total imports to Edo the figures for known shipments from Osaka, we have a fairly good idea of the extent of trade in these commodities to Edo from other parts of Japan, predominantly from the north. All movement of trade by sea carried risks, including loss of cargoes, long delays in arrival at destination (resulting in cargo reaching the point of arrival well into a following statistical year), and fraud. In Tokugawa Japan actual shipwrecks were remarkably few, because vessels often hove to on the shoreline at night (a practice that explains also why transport was by European standards very slow). However, as the *machi bugyō* report in 1728 on the rice trade in 1727 shows, some goods were landed elsewhere and then carried overland. There are inconsistencies in the data, then, and while these may not of themselves invalidate the statistics that have survived, comparisons should not be pressed too far.

Table 3. Exports of Eleven Commodities from Osaka to Edo and Imports in Edo from All Japan, 1726⁷⁸

<u>Item</u>	<u>Unit of measure</u>	<u>Osaka</u>	<u>Edo</u>
Rice	<i>hyō</i> 俵, bundle	3	861,893
Miso	<i>taru</i> 樽, barrel	---	2,898 ^a
Sake	barrel	177,687	795,856 ^b
Firewood (<i>maki</i> 薪)	<i>taba</i> 束, bundle	---	18,209,687
Charcoal	<i>hyō</i> 俵, bundle	764	809,790
Lamp oil (<i>mizu abura</i> 水油)	barrel	69,172	90,811
Fish oil (<i>gyoyu</i> 魚油)	barrel	---	50,501
Shōyu	barrel	101,457	132,829
Cotton cloth (<i>momen</i> 木綿)	<i>ko</i> 箇 ^c	12,171	36,135
Ginned cotton (<i>kuriwata</i> 繰綿)	本 bolt[?]	98,119	82,019 ^d
Salt	barrel	248	1,670,880
Copper coin	container weighing 15 kan	---	19,407 ^e

NOTES

- a Figure given by Katsu.
- b In effect the figure given by Katsu has been adopted.
- c One *ko* equals 100 *tan* 端.
- d Omitted by Katsu Kaishū.
- e Given by Katsu Kaishū only.

Given the survival of figures for Edo imports in 1856, it is also possible to compare the figures for that year with the Edo imports of 1726. Yamaguchi in 1968 contented himself with reproducing the 1856 figures for Edo.⁷⁹ Hayashi Reiko carried this a stage further in 1969 in comparing the imports of Edo in both years.⁸⁰ The conclusion drawn in *Nihon keizai shi*, vol. 1, which reproduced the table together with a commentary, is that trade expanded significantly between the two dates.⁸¹ However, while five important commodities (sake, cotton cloth, charcoal, shoyu, and miso) rose quite sharply, three others (salt, firewood, and oil) did not increase. The overall evidence seems too inconsistent to support a confident conclusion that commodity trade was generally expanding. It is hard to understand how the quantity of some conventional necessities increased greatly while others remained static. While the sharply falling imports of ginned cotton implied that a weaving industry around Edo was in contraction, it would also help to account for the rise in imports of cloth. Cloth illustrates the problems inherent in some of the figures; conversion of cloth measures poses difficulties. *Nihon keizai shi*, vol. 1, used a conversion rate of one *ko* equals 100 *tan*, the same rate as Katsu Kaishū had used in 1890. To make the matter comprehensible in European terms, we need to convert the *tan*. According to the Nelson dictionary, one *tan* equals ten yards,⁸² but according to McClain, a *tan* was larger, measuring 12.7 meters by 0.73 meters.⁸³ There may be a problem also in the *ko* being variously said to be either 100 or 120 *tan*.⁸⁴ The real problem may be not the *tan* itself but the conversion of *ko* into *tan*: The *ko* is an awkward concept as a measure, whether it is 100 or 120 *tan*. A figure of 100 *tan* is an impossible size for a bale of cloth, and hence raises a whole area of uncertainties as to what a *ko* represents precisely. The *tan* on its own is a safer counter, and incidentally is the one used by Abe in 1842.

Total imports in 1856 were 80,168 *ko*, the equivalent of 80,168,000 yards (if we take one *tan* as the equivalent of ten yards, as Nelson does) or 101,813,607 meters (for a *tan* of 12.7 meters, as McClain has it). That this was the scale of trade might be indirectly suggested by earlier evidence of imports of 80 million *tan* to Osaka *tonya* in the early 1800s.⁸⁵ Large figures such as this gain a degree of plausibility from the fact that all figures for cotton trade for Edo and Osaka are very substantial. Osaka *tonya* in the early 1800s handled 80 million *tan* of cotton annually. At a much earlier date, 1726, the imports of cloth from Osaka to Edo were a mere third of the total imports, hinting that much larger quantities were coming from other locations. However, the problem really lies in the fact that even if we take the lower of the two measures for cloth, an import of 80 million *tan* would imply a huge consumption, about 80 yards per head. This is an impossible figure for Edo on its own. Even for the Kantō as a whole with a population of 4.4 million in 1846, it would still mean an import of 18 yards per head. If a *ko* of 120 *tan* is used the figure rises to 21.6 yards.

Two further questions arise. First, the statistics may be at fault as an effective count of trade, especially in the case of the 1856 count; we know nothing about the origins of that count or the methods employed to produce it. Second, it is possible that cloth was reshipped from Edo for the Tōhoku and other destinations. Hayashi does not state this directly for

cloth, but for imports at large, she advances the general proposition that Edo was a staging point for re-exports.⁸⁶ Combining the population of Kantō and the northeast (using data from Sekiyama's study of population),⁸⁷ a population of 7 million still means an overall consumption, for Kantō and Tōhoku combined, of eleven yards or fifteen meters per head. Though high, these numbers are not wildly unrealistic; possibly Edo *tonya* in cloth offered more flexible transfers, especially to lesser centers along the coasts to the north of Edo, than did Osaka *tonya* shipping direct. The data for 1726 might be seen to make the high figure of 1856 imports more plausible. Imports in 1726 were already high: 36,135 *ko*, which would amount to 36 million yards or more. The 1726 figures come from a recording process about which we know something, and hence poses fewer problems than the 1856 data.

7. Rice

Rice, as the Edo *machi bugyō*'s study in early 1728 suggests, transcended the other ten commodities reported in trade figures for 1724–1730. It was in a category of its own as the major foodstuff of Japan. Hence, it is hardly surprising that in Osaka, the key rice market, special attention was given to recording rice either in terms of storage or of trade. Volumes of rice storage and rice trade approximate each other, in Osaka counts, as relatively little that came in from the hinterland was consumed in the city, and some of the imported rice was redistributed into the surrounding countryside. It is not always clear to what extent separate estimates of stockpiling and crude trade counts were simultaneously made.

The only continuous data for rice are figures compiled by the Torihikijo or Rice Exchange for rice stored at year-end. Over a long period of 143 years from 1724 to 1867, they are complete except for a mere five years (1728, 1736–1737, 1743, and 1791). The numbers were published by the Dōjima rice merchants' exchange in 1912 in compliance with an order by the city council.⁸⁸ As many of the records had been lost at the time of the Meiji Restoration, the volume was based on copies or extracts from miscellaneous sources, including supplementary information from records held by citizens whose families were probably once associated with the *nakama* and *tonya*. It is not clear to what extent the records consulted were originals (as opposed to copies), or whether the statistics were reconstituted from earlier tabulations that had been based on scattered sources. Strictly speaking, a measure neither of *kura* annual turnover nor of trade itself, these figures are nevertheless the best indicator we have of trends in trade. If expressed in averages (usually ten-year averages), at a peak they reached 2,300,000 *hyō* over the decade of the 1820s, or 920,000 *koku*.⁸⁹ At such levels they must have reflected a high proportion of the total trade, at any rate from 1744 onwards. The sharp rise in the two decades preceding 1744 suggests a change in statistical coverage or the ending of some kind of limitation rather than a dramatic change in trade. From 1744 to the 1790s (Kansei times) the figures remain at a very stable level. From 1798 (Kansei 10) onwards over the long term they fluctuate. A rise in the 1790s and in the early decades of the new century is consistent with what we know from other sources and with contemporary concern about very low prices over a period of more than two decades. The high point of storage seems to be the years 1819–1828 (Bunsei 2–11). The average is halved for the years 1829–1838 (Bunsei 12–Tenpō 9). A moderate upswing recurred in the 1840s, reversed by a decline in the 1850s to a nadir in 1859–1867 (Ansei 6–Keiō 3). In the final decades the figures mirror less food shortage than a wider business crisis faced by both the city and the daimyo who traded there.

The reality of this crisis is evident in the concern among daimyo and their advisors in the 1860s over the very future of Osaka.

If Osaka was contracting, it was not so much because of problems in the supply of rice generally as of a decline in Osaka's place in the network of trade that linked Japanese regions with each other. This showed up in a relative weakening of Osaka finance houses. For the daimyo, any impairment in the status of the port threatened the continuance of the long-standing ease of borrowing from their creditors. If 3 million koku of rice was imported in 1856 in Edo—although, as demonstrated above, we cannot be certain of that figure—it already reflected a shift in the center of gravity of trade from Osaka. Such a change would correspond to the known strengthening of the ryō region centered on Edo and the weakening of the silver region centered on the western han and Osaka. As a result, in the 1860s, as well as a political crisis, there was a growing economic cleavage between east and west. That was very evident in the words of Saigō Takamori to the British diplomat Ernest Satow.⁹⁰ Moreover, as Osaka rice turnover was high to the very end of the 1820s (according to the Torihikijo figures and also in the estimates of the rice trade in the mid-Bunsei years made by Suzuki, who reckoned that imports from the Tōhoku had risen to 20 per cent of the total), Osaka was still a booming center on the eve of the Tenpō food crisis in the 1830s. The origins of a shift in the business center of Japan may arise in the 1840s, rather than in the 1830s; by the forties, the trade should have been returning to normal. The emergence of change sometime in the two decades of the 1830s and 1840s understandably gave rise to deep concern in western Japan. The old pattern had existed for a century and a half, from Genroku times. The rise in Tōhoku rice sent to Osaka in Bunsei times is not in itself surprising considering how central the business advice and finances of Osaka houses were to the Tōhoku daimyo. But it mirrored a new instability in Osaka trade, as it attracted custom from han whose commodity business was with Edo as well as Osaka, and which could easily revert to Edo. *Kura* returns, by virtue of the fact that they are given within lower and upper bounds, and usually in rounded figures, do not seem to be statistical counts in the literal sense. These returns also contain lists for each han, with extensive subsidiary details. On the other hand the trade figures—when they exist, as in 1714 and 1736—do seem to imply strict quantitative terms.⁹¹ The figures for 1766 and more particularly for 1776–1780, for which there is no supplementary information, present a challenge to interpretation. They imply, superficially, at least, a precise count. We lack, however, any indication as to whether the numbers are for *kura* rice only or for total trade.⁹² Atypically, for the year 1777 there are two separate counts, plainly illustrating the problem and the difficulty of reaching a conclusion with confidence. In a table of mere totals of rice imports in the five years 1776–1780 (in OSSS 1964c; see Table 2, above) we find a figure of 1.21 million koku for 1777; this contrasts with the estimate for *kura* rice that was stated as falling within upper and lower bounds of 0.86 million to 1.13 million koku in 1777. It is possible that often counts were rough and ready, but that on occasion, the counting technique that yielded a more precise count for trade rice was extended also to *kura* rice.⁹³ This may have been the case in 1777, for example. The *bugyōsho* did have some direct involvement in monitoring the trade in rice that went beyond passive acceptance of estimates from the *tonya*. According to Suzuki, officials took note of the contents of vessels at the entrance to the Kizu 木津 and Anji 安治 rivers.⁹⁴ This could have been in keeping with an instruction of 1727, which called for taking a precise count as one of the procedures for monitoring the trade in

rice and other commodities between Osaka and Edo. Both *tonya* returns and monitoring by *bugyōsho* officials existed, yet it is possible to conceive of year-to-year or period-to-period variation in the exactness of their counting, with calculations fuller on some occasions than others. If a close record was made of the number of vessels of above 200 koku at the offshore anchorage (because they presumably carried the bulk of the trade and transferred part of their cargoes to lighters in order to be able to continue their own journey upstream), it would be easy to visualize how a tight survey of vessels in the anchorage could be turned into a count of the contents of vessels and of a wider double check at entry to the port, especially as smaller craft (both coastal and oceangoing) were not subject to control at the anchorage.

Surviving counts of trade seem mostly to be privately made copies, rather than official copies of the original documents. Private circulation would explain also why compilers either had less than complete access, or simply failed to make a full copy, or in doing so made errors of transcription. For his calculations for the 1820s, Suzuki drew on two manuscript accounts that were separately held in private hands and therefore assumed to be copies. The fact that one of the few documents of *kura* rice has information for two years as far apart as 1747 and 1777 illustrates the somewhat random accessibility of surviving information. Even information accessible to the *bugyō*, especially if he was surveying a long period, could be relatively limited. The example of *bugyō* Abe making observations in 1842 on trends over several decades illustrates this. The variance between the trends he discerns and those that can be inferred from the Dōjima Rice Exchange figures suggests that either the *bugyō* had limited access to information or he rather too readily came to an impressionistic conclusion.

8. Archival Issues

For both population and coastal trade (as opposed to the foreign trade of Nagasaki), as already observed, statistics for early modern Japan that have survived are almost solely in private collections. There is one very real difference in trade figures compared with demographic data, however. In marked contrast to the lack of tabular recording or presentation of population figures, a tabular or near-tabular approach did exist for trade. However loose his mode of analysis, *bugyō* Abe in 1842 wrote about Osaka trade in a manner in which population had never been discussed.

Surviving copies rarely seem to take the exact form of the original documents concerned with trade, or even the form of versions made close to the date of the original. The survival of freshly made copies even in Meiji and later times was—and remains—hazardous. Copies noted in the early decades of twentieth century have since disappeared or at least cannot be traced. What is now the best known of all statistical returns of trade—that for 1714—was more or less unknown till 1964. Outside its latter-day printed format, it exists only in three manuscript copies, of which the earliest is the Kōda copy of 1904. The text held or made by Uchida is now unknown, and the copy made for Tokyo Imperial University in 1903—from which Kōda, Mitsui and the OCCI transcribed copies—was destroyed in 1923. The Uchida document was thus copied four times that we know of (Tokyo Imperial University, Mitsui, Kōda, and OCCI). If Uchida was himself a copyist and not a collector, we are looking at a story embracing six copies (i.e., including as well as Uchida's lost text the now unknown document or documents from which Uchida himself worked). Details of trade for years other than 1714 rest on an even more slender basis. The 1736 return for Osaka is now known in

printed form from the old *Ōsaka-shi shi* alone; that for 1766 is known only in a six-line entry of unknown origin, accessible only in the transcription included in OSSS in 1964.

The 1724–1730 material, because of its high administrative purpose, fared better. It exists in two sources at the Osaka end (a summary copy of unknown provenance in the *Ōsaka-shi shi* and a text copied into an early compilation of documents), and at the Edo end in two versions for a single year (in transcripts made in the Meiji era) plus a copy of a *machi bugyō* reworking in early 1728 of the data for rice in 1727 (which as it is incorporated into a compilation of administrative documents is clearly a copy, probably one made at a comparatively early date). Even the great return for Edo 1856 is simply a copy (with one glaring error of transcription), whose transcriber offered no guidance to its context. For rice, apart from gross figures for 1766 and 1776–1780 (surviving only in OSSS and of unknown origin), the huge *kura* totals (with their upper and lower bounds) are known for a mere five years—one year from a Mitsui modern publication that gives no indication of the sources of its information, three years in two compilations which copied earlier documents, and the fifth year a composite table intended to correspond to the 1820s constructed by Suzuki from two documents that were in private archives when he wrote. Even the Dōjima Rice Exchange figures, uniquely almost a complete run for 147 years, were compiled a century ago from now unaccounted-for documents after the older papers already had been lost or scattered.

For statistics on the bakumatsu years, we are unsure whether now-existing copies are a random survival or a source providing evidence of a reinvigoration of administration. This is an important uncertainty, because it casts doubt on the assumption made by some scholars that the absence of statistics is proof of a breakdown of Tokugawa administration. Population statistics illustrate the problem more graphically than trade ones. Bugyō Isshiki's personal compilation of population figures for Osaka down to 1856, surviving in his own hand,⁹⁵ prompts the question as to whether it was just a curiosity of his individual interest or part of a wider, invigorated statistical approach. Were there no population censuses at national level after 1846, as has been argued, or have the copies just got lost? For the population of the cities of Osaka and Edo, does the paucity of data merely reflect the vagaries of survival, or is it a sign of administrative breakdown? For Edo in the 1860s an isolated population return exists for 1867. In the case of Osaka, three contemporary sources including the Isshiki table fail to bring the population data beyond 1862. Yet the British Parliamentary Papers (hereafter BPP) reveal that as a result of a conversation with the *bugyō* of the city, the young British diplomat Algernon Mitford in 1867 was provided without fuss with full details of a census for 1866 that was identical in format to earlier returns.⁹⁶

What we know of earlier censuses comes from a flotsam and jetsam of copies, often made much later than the date of the census to which they relate. If a sexennial census were taken in 1852, 1858, and 1864 (the final Tokugawa-era count occurred in 1864), there may have been too little time for a diffuse copying process to have achieved a high probability of survival of the data. Katsu Kaishū illustrates the problem we face. He obtained a good deal of information on earlier censuses from miscellaneous sources, but for the nineteenth century, he found data on only two censuses. It seems not to have helped him that he had been a high official of both the shogunate and the new Meiji government, that people who had experienced the period in question were still living, and that he was acting on an express government commission when he sought the data. In a curious way, the difficulties he encountered

were similar to those the Hayashi had to deal with several decades earlier in compiling *Tsūkō ichiran*. In Katsu's case, the task was to reconstitute the story of the final decades of Tokugawa administration, and in the case of the Hayashi, it was to bring together the records on foreign relations in anticipation of an external challenge. In both instances the response was not—probably it could not have been—“to look at the files.” Rather it was to gather information together from highly miscellaneous sources.

In contrast to census information, which has often survived in very miscellaneous, sometimes unorthodox or whimsical sources, trade data has survived only in narrower and less colorful compilations. One explanation for the general shortage of figures is that they circulated only within the narrow ambit of the *bugyōsho* of Edo and Osaka. While *tonya* provided information on a monthly basis to shogunal officers, it seems they often regarded the information as transitory. They were under no obligations to hold a permanent record. I remarked earlier on what the BPP noted in the case of for one *guild* in 1867: there was a deficiency of “common books . . . for such statistics.”⁹⁷ Some guilds may have possessed some information. But the guild for traders in ginned cotton seems not to have been able to provide to the *bugyō* of Osaka in 1797 more than discontinuous figures for exports covering some months but not all of the three years 1761, 1788, and 1797.⁹⁸

Events of the bakumatsu years made it seem imperative to learn more about trade. The external crisis that forced Japan, under the guns of foreign navies, to concede some access to foreigners suggested the importance of mastering details of the scale of the provisioning problems. This was the reason for the great return for Edo in 1856. Aware of the vulnerability not only of trade routes from the Tōhoku to Edo, but also of Osaka's sea approaches, bakufu officials came to a heightened appreciation of the strategic significance of Osaka. The evidence for reinvigorated record keeping in Osaka is not conclusive, if we consider that the survival of more evidence for the 1850s and 1860s than in preceding decades might be a mere consequence of random chance. The sources for demography and trade, however, do not support a case for a breakdown of Tokugawa administration. Quite the contrary, the paper trail, although it may be a little thin, suggests that statistical recording continued to function; perhaps there was innovation, even. Whatever the vagaries of survival—typical enough of Tokugawa documents—the important point is that some statistical competence existed. When after the opening of the ports to trade in 1859 there was pressure on Japanese officials from foreign consulates and merchants for statistical information, the officials were rather quickly able to create statistics of the new foreign trade.

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Appendix

Statistical Returns of Exports and Imports for Edo and Osaka, 1714–1866

<u>Year</u>	<u>Port</u>	<u>Coverage</u>	<u>Source(s)</u>
1714 ¹	Osaka	exports, 95 items imports, 119 items ²	i. Ōsaka Shiryō Hensanjo 1904 ii. Mitsui Bunko 1913 iii. <i>OSSS</i> , vol. 13, pp. 4–14
1724–1730	Osaka	exports, 11 items to Edo	i. <i>Ōsaka-shi shi</i> 1913, pp. 650–51 (source unidentified, annual totals), ii. <i>Ōsaka hennen shi</i> 1978 (breakdown by month ³)
1726	Edo	imports 11 items from all Japan	i. Katsu Kaishū 1890, pp. 238–39 (source unidentified) ii. <i>Kyōhō tsugan</i> 享保通鑑 vol. 2.12, 188 ⁴ iii. <i>Mikan zuibitsu hyakushu</i> 未刊隨筆百種, vol. 17 ⁵
1727	Edo	imports, rice	Report from Edo <i>machibugyō</i> to <i>rōjū</i> Kyōhō 12.7.12 ⁶
1736	Osaka	imports, 123 items	<i>Ōsaka-shi shi</i> 1913, pp. 770–79 ⁷
1766	Osaka	i. aggregate values of exports and imports ii. rice imported (quantity)	“Meiwa nenkan Ōsaka shotōkei” in <i>OSSS</i> , vol. 13, p. 28 ⁸
1761, 1788, 1796 ⁹	Osaka	exports, ginned cotton (total noted as destined for Edo, Kanto, and northern Japan)	“Kuriwata kaitsugidonya kakihikae” 繰綿買次門屋書控 in “Kuriwata shōgyō ki” 繰綿商業記 in <i>Ōsaka hennen shi</i> 1978, pp. 341–45
1804–1840	Osaka	Imports, 16 items at various dates in period ¹⁰	Report by Osaka <i>bugyō</i> Abe 1842, in <i>Ōsaka-shi shi</i> 1911, pp. 639–86
1817–1822	Osaka	lamp oil shipped to Edo (average)	“Mizu abura ikken” 水油一件, in <i>Ōsaka hennen shi</i> 1978, pp. 345–47
1817–1826	Edo	oil imports from Osaka (average)	Kobayashi and Wakita 1973, p. 318
1827–1832	Edo	oil imports from Osaka (average) ¹¹	Kōda 1934b, p. 186
1832	Edo	oil imports (also gives quantities from Osaka)	Kōda 1934b, p. 186
1833	Edo	oil imports (also gives quantities from Osaka)	Kōda 1934b, p. 186

1833	Osaka	oil exports (figure likely to be understated)	“Abura yosedokoro goyōdome” 油寄所御用留 <i>Ōsaka hennen shi</i> 1978, pp. 347–48
c. 1841	Edo	round figure for oil imports (lists name of main centers of supply) general observation made in 1841	Report by head (<i>gyōji</i>) of Nihonbashi honfunecchō tonya, 1841 Kōda 1934b, p. 180
1851, 1852 (10 mos.), 1859	Edo	oil imports from Osaka	Kōda 1934b, p. 188
c. 1864	Osaka	Exports of oil	“Keiō gannen kokusō shiryō” 慶 応元年穀倉史料 in Kobayashi and Wakita 1973, p. 318
1856	Edo	imports, 126 items (with miscellaneous additional detail)	“Chōhōroku” ¹²
1856–1858	Osaka	imports from Ezo	<i>Ōsaka-shi shi</i> 1914, pp. 839–40 ¹³
1856–1864 ¹⁴	Osaka	6 items to Edo, 6 items ¹⁵	i. <i>Ōsaka hennen shi</i> 1978, pp. 348–50 ¹⁶ ii. “Osaka machiburegaki” 大坂町 触書 cited by Takekoshi Yosaburō 竹越与三郎, <i>Nihon keizai shi</i> 日 本経済史, vol. 4, pp. 718–19 ¹⁷
1866	Osaka	Imports, 20 items	BPP, vol. 4, p. 274, report on Osaka / Hyōgo

¹ On the tables for 1714, see Ōishi 1964, pp. 2–31; Ōishi 1966, pp. 107–124, and Ōishi 1975, pp. 140–67. The table has also been reproduced in *Ōsaka hennen shi* 1978, pp. 305–13 and *Ōsaka hennen shi* 1965, pp. 199–208.

² Full title of tables: “Shōtoku yon kinoeuma nenjū shokoku yori Ōsaka e kitaru” 正徳四甲午年中従諸国大坂江
来 and “Shōtoku yon kinoeuma nenjū Ōsaka yori shokoku e unkō” 正徳四甲午年中従大坂諸国江運行.

³ *Ōsaka-shi shi*. A breakdown on a monthly basis was published in 1978 in *Ōsaka hennen shi* 1978, pp. 334–41, and more briefly in *Ōsaka hennen shi* 1965. It also included data for the month of January 1731. The source is not identified in this volume, but it is probably the document cited by Kobayashi and Wakita 1973, p. 110, as “Ōsaka yori Edo e tsukizuki sekisōdaka yose oboe” 従大坂江戸江月々積送高寄覚, drawn from a collection entitled “Tenmagumi sōdoshiyori Satsumaya Jinbē ‘hikaechō’” 天満組惣年寄薩摩屋仁兵衛「扣帳」.

⁴ Stated by Ōishi Shinzaburō to be from a *shabon* now in Shiryō Hensanjo which ends with the words “Meiji jūkyū-nen shigatsu Kazoku Mizuno Tadahiro zōsho o utsusu 明治十九年四月華族水野忠弘藏書ヲ写 and also gives the names of copyist and proof-reader. Ōishi 1998, p. 73, and footnote 13, pp. 101–102.

⁵ From a series of volumes on Edo customs and manners compiled by Mitamura Engyo 三田村鳶魚 (1870–1952) (Ōishi, 1998, footnote 13, pp. 101–102). A modern edition in twelve volumes was published in 1976–1978.

⁶ “Kyonenjū gotōchi chakumai no oboe” 去年中御当地着米の覚 in “Kyōhō sen’yō ruishū, beikoku no bu” 享保撰要類集 米穀の部. Ōishi 1998, pp. 79–80.

⁷ Also reproduced in OSSS 1964, p. 20–27, and in *Ōsaka hennen shi* 1978, pp. 321–31.

⁸ Not reproduced in *Ōsaka hennen shi* 1978. Detail reproduced in Yasuoka 1990, p. 16. Yasuoka simply attributed the volume to the Ōsaka Shōgyō Kaigisho (OCCI), without indicating that it had been published in OSSS, vol. 13.

⁹ 1766 (stated to be figures for 6 months, but only 5 are given), 1788 (9 months), 1796 (9 months). The source is cited as “Kuriwata kaitsugidonya kakihikae” 繰綿買次問屋書控, a document of which the original was dated

Kansei 9.6.2 by the *nakama* official responsible for that year, prepared for the *bugyō*.

¹⁰ Used by Yasuoka 1960 in creating his table of imports for 1736, 1804–30, 1840.

¹¹ Average attributed by Kōda to Narahara Kenjurō.

¹² “Chōhōroku: Edo omote shoshiki funaunsō nyūshin okazuke chakunidaka mitsumitsu otazune” 重宝録 江戸表諸色船運送入津陸附着荷高密々御尋. *Tōkyō-shi shi kō* 1926, pp. 13–99.

¹³ The table is reproduced in *Ōsaka hennen shi* 1978, pp. 331–34 which indicates 北海産荷受問屋組合没革史, 3 as the source. The source is also cited in the introduction to the OCCI Supplement 1966, p. 1. This seems to indicate that an early book, rather than a manuscript, is now the only known source for the data.

¹⁴ “Ōsaka machiburegaki” 大坂町触書 covers the second through fifth months of 1858, the eighth month of 1860 to the first month of 1861, and 1864.1.8–1864.2.1 (sic). *Ōsaka hennen shi* covers the second to seventh months of 1858, the eighth month to twelfth month of 1860, the first month of 1861, the eighth to twelfth months of 1864, and the first month of 1865. The figures available in *Ōsaka hennen shi* 1978, pp. 348–50 up to the seventh month of Ansei 5 (1858) are drawn from OSSS 1964a, vol. 13, pp. 90–97; and from the eighth month of 1860 from OSSR 1964b, pp. 191–206. After the detailed information for the early dates, the data as given in *Ōsaka hennen shi* 1978 become summary, with monthly gross totals only.

¹⁵ For one of the six commodities, rice, quantities are small. For each commodity the quantities are certified monthly by three officials (*machidoshiyori*) in Osaka.

¹⁶ See note 14. Figures in *Ōsaka hennen shi* are different in detail from those by Takekoshi.

¹⁷ Quoted in Kobayashi and Wakita 1973, p. 318.

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NOTES

- 1 See Nagazumi 1987 for the most informative account of the data drawn from Dutch sources.
- 2 Cf. *Nagasaki-ken shi* 1985, pp. 553–58.
- 3 Best illustrated today in the celebrated Port Books in the Public Record Office, London, which cover the sixteenth to eighteenth centuries.
- 4 Based on data in Cullen 2003, pp. 41–47.
- 5 *Nagasaki-ken shi* 1986, pp. 789–90; Matsuura 2007, p. 267.
- 6 Cullen 2003, p. 44. The calculations are based on the assumption that Japanese currency was 80 per cent pure. If the proportion were higher, Japanese values converted into sterling would be higher, but my conclusions would not be radically altered.
- 7 Cullen 2003, p. 84.
- 8 Hirakawa 1994, pp. 48–73. The quantity were said to be 2,600,000 (sic) to 700,000 *hyō* 俵, or bags, of dried sardines 干鰯, though the quantity fell later (p. 49). 260 *man* 万 seems to be a misprint for 26 or 20 *man*.
- 9 Vessels had a carrying capacity as high as 1000 koku (though most in fact were much smaller than this figure).
- 10 Cullen 2003, p. 83, and note 51.
- 11 There is a problem in regard to shipping capacity. Measures of burden underrated carrying capacity. Ships of up to 1000 or more koku engaged in the coastal trade. Hence depending on a count of either 500 koku or 1000 koku per vessel, the rice trade required 3000 to 6000 vessels. The higher figure seems unlikely.
- 12 Miyashita 1997, pp. 250–67.
- 13 McClain and Wakita 1999.
- 14 Hayashi 1994, pp. 211–33; McClain 1999, pp. 44–79; Flershem 1964, pp. 405–416.
- 15 Takase 1966, p. 61.
- 16 BPP, vol. 5, p. 101. A figure of 3340 vessels is given in BPP, vol. 4, p. 615. The difference may be accounted for by the latter figure being given for a Western calendar year whereas the former figure is for a Japanese calendar year.

- 17 But see Yamamoto 1994.
- 18 Ravina, 1999, pp. 158, 159, 161–62, 168–75, 182–86.
- 19 Miyamoto 1985.
- 20 Wigen 1995, p. 56.
- 21 The words *tonya* 問屋 (wholesaler) and *kabunakama* 株仲間 (literally, stock association) crop up repeatedly and almost interchangeably in modern literature. In administrative documents of the Tokugawa period, the word *tonya* was the most common term used in relation to statistical formalities. To become a member of a guild it was necessary to purchase a *kabu*, or share, which conferred the rights of guild membership on its holder. See BPP, vol. 4, pp. 624–25, “Memorandum by Mr Aston on the commercial system of Osaka.” Aston gave the number of guilds as 200, a figure which, for guilds as opposed to *tonya*, seems in error.
- 22 Ōishi 1995, pp. 166–71.
- 23 Cullen 2006, p. 150.
- 24 Ackroyd 1979, p. 247.
- 25 In 2002, the OCCI scaled down the operations of its library, which in any event does not seem at earlier dates to have given ready access to the archives. This has copperfastened the situation. Professor Ōishi Shinzaburō 大石慎三郎 once commented that this library was extremely inconvenient for consultation (“Etsuran ni hijō ni fuben de atta” 閲覧に非常に不便であった) (Ōishi 1966). I am very grateful to Ms. F. Moriwake of the OCCI for much assistance in regard to the records of the Chamber.
- 26 The publication project arose out of the association between a senior managing director of the OCCI, Sato Tatsusaburō 里井達三郎, who was interested in the Chamber’s historical materials, and Miyamoto Mataji 宮本又次 (1907–1991), a professor of history in Osaka University, who already had close links with OCCI. Miyamoto had written an account of the Chamber in 1955, and he treated it again in a book published in 1963. The preface by the President of the Chamber in the OCCI Supplement 1966, itself a fanfare for the completion of the project, contains a warm note of thanks to Miyamoto, and from the internal evidence, the eleven-page introduction was written by Miyamoto.
- 27 Sakudō Yōtarō 作道洋太郎, Yasuoka Shigeaki 安岡重明, Iwahashi Masaru 岩橋勝, and Takashima Masaaki 高嶋雅明.
- 28 There is a brief account of the work of compilation in OSSS Supplement 1966, pp. 7–8.
- 29 Hotta 2007, pp. 66–71; *Ōsaka-shi shi benshū no hyakunen* 2002.
- 30 Ōishi 1964, 1966, 1998.
- 31 Miyamoto 1972, 1988.
- 32 However, OSSS, vol. 13, p. 14 has a figure for daimyo rice of 1,123,070 koku and for *zakkoku* 雑穀 (minor grains) of 72,895 koku for 1714.
- 33 BPP, vol. 4, p. 274, Sydney Locock, “Report on the Ports of Osaka and Hyōgo,” 10 June 1867. This report (pp. 271–84) is a most informative one. “Governor” was what the British called the *bugyō*, elsewhere in this article called “magistrate.”
- 34 *Ōsaka-shi shi* 1911, pp. 639–86.
- 35 In nine cases it was possible for Yasuoka to select comparable figures from the 1736 return to create a profile of Osaka trade for 1736, 1804–1830, and 1840 (Yasuoka 1960, p. 120). In other words the dates or spans of time, as they arise, are often approximations, and Yasuoka somewhat simplistically but up to a point defensibly based his approach on extending the varying periods chosen by the *bugyō* to the entire period 1804–1830 as a basic period of relatively higher trade levels (perhaps the fact that this gathered together neatly the years of the entire Bunka and Bunsei periods may have also been a factor in the choice) and settling on the year 1840 as the *bugyō*’s date for measuring the decay of trade.

36 *Ōsaka-shi shi* 1911, p. 651.

37 *Ōsaka Dōjima beishō enkaku* 1912.

38 BPP, vol. 4, pp. 275–76.

39 BPP, vol. 4, p. 356.

40 It would have been relatively simple to expand an exercise of this sort into a count of Osaka imports. However, the respective roles of *bugyō* officials and *tonya* or their guilds, and the question whether officials sometimes demanded fuller returns or more precise counts from *tonya*, remain matters of conjecture. Uncertainty remains also with regard to whether returns for different categories of vessel (e.g. rice on vessels above 200 koku, rice on lighters and on smaller vessels sailing directly to the wharves) might on occasion be further scrutinized by *bugyōsho* officials, as had been the case in Edo in 1727.

41 See Saitō 1998.

42 BPP, vol. 4, p. 276–78, Sydney Locock, “Report on the Ports of Osaka and Hyōgo,” 10 June 1867.

43 Miyamoto attributes the figure to 三井文庫, 近世後期における主要物価の動態, pp. 2–5 without giving a date for the volume. There are two editions of this work, one in 1989 (Mitsui Bunko 1989) and an earlier one in 1952 (Mitsui Bunko 1952). The main text is identical but the preliminary matter is different and the information on pp. 2–5 has been omitted. The original edition has estimates of han rice, in some cases in a spread between two figures rather than a single figure, and they add up to the gross total of 830,000–900,000 koku quoted in the text. The source for the figures is not indicated. The text also made a tentative suggestion, based on these figures for *kura* rice and for trade data in the 1736 statistics that imports in this period were in the region of 1,000,000 koku (*kura* rice about 800,000 koku, and trade rice 200,000 koku).

44 Miyamoto 1972, p. 54.

45 Suzuki 1938, pp. 482–88. Original sources were two: for 1823, “Ōsaka kurayashiki tsuki narabini kokudaka nobose mai tsuki” 大坂蔵屋舗附并石高登米附, and for 1828, “Shodaimyō keizu rokudaka Ōsaka kaimai roku” 諸大名系図禄高大坂廻米録. Both were preserved in private archives in Osaka.

46 Kobayashi and Wakita 1973, p. 108.

47 *Ibid.*, p. 109. Their table lists only thirty-one commodities, of which twenty-six include values. Their total however is based on an enumeration not only of these twenty-six values but of other goods the values of which are not set out in their table.

48 In Hayami and Miyamoto 1988, p. 232.

49 To avoid any confusion it should be noted that the new *Shinshū Ōsaka-shi shi* 新修大阪市の史 reproduced the 1714 return on two occasions, one in a full form for imports only together with the 1736 return (*Shinshū Ōsaka-shi shi* 1990, pp. 12–13), and the other in a somewhat truncated form for both exports and imports in *Shinshū Ōsaka-shi shi* 1989, pp. 506–507.

50 A statement by Kōda in an 1934 article that the 1714 return enumerated 91 items and gave a sole category of oil makes it clear that he had this return in mind (Kōda 1934a, p. 191). The book itself was first published in 1934, and the references to trade figures in the article remain unchanged in later editions. Kobayashi and Wakita 1973 (pp. 106–107) noted that Kōda had not presented the return in the *Ōsaka-shi shi*, but was aware of its existence when he wrote the paper “Kabu nakama” in 1934. Their citation of p. 304 as the page on which Kōda referred to the 1714 return is to the 1934 edition, not to the unchanged version in the later *Kōda zenshū*. See also Yasuoka 1960, p. 114.

51 Ōishi 1964, 1966, 1975. For examples of reliance on the defective return, see Yamaguchi 1968, pp. 60–61, and Kobayashi and Wakita 1973, p. 107.

52 Probably the date of the OCCI copy is close to 1903 or 1904, as the document was becoming known.

53 These observations are based on study of the copy in the Mitsui archives in Tokyo and of the copy in the Ōsaka-shi Shi Hensanjo. I am greatly indebted to Ms Otsuki Yōko in Mitsui archives and to Ms

Yoshida Hiroko in Ōsaka-shi Shi Hensanjo for much assistance in the course of examining both records. I am indebted to Mr Uchida Masahiro and Mr Yataka Kōno for assistance on a later visit in Osaka.

54 Yasuoka 1960, p. 115; Yamaguchi 1968, p. 60.

55 While the return is usually presented without addition of figures, Kobayashi and Wakita added up the figures for which values are given to give a total of 100,751 kan (1973, p. 109). Their table lists only thirty-one commodities, for which twenty-six include values. Their enumeration however includes also the values not set out in their table.

56 Yasuoka 1960, p. 123. He offered the total of 1,000,000 koku without explaining its derivation.

57 He stated in his text that the amount of *kura* rice was 800,000 to 900,000 koku, and that the total import of rice was generally 1 million koku (p. 114).

58 White cotton cloth is rendered variously as *shiroteuwata* 白手綿 or, more commonly, *shirokiwata* or *shiomomen* 白木綿. *Kiwata* is ambiguous: it can mean raw cotton and as such is identified in written records by its weight. *Kiwata* as cloth is identifiable in the records by being counted in *tan*, a unit of length. A source of confusion is that Yasuoka's table of 1736 trade gives *shiroteuwata* only, whereas in a later table in the same article, without advertence to the fact, Yasuoka adds 32,723 *tan* of *shimamomen* 縞木綿 or striped cotton cloth to 1,178,391 *tan* of *shiomomen*, making a total of 1,211,154 *tan* (Yasuoka 1960). Hayashi 1969 (p. 193), accepted Yasuoka's total in 1736 of 1,210,000 *tan*.

59 Yasuoka 1990, p. 16. Yasuoka simply attributed the volume to the Ōsaka Shōgyō Kaigisho without indicating that it had been published in OSSS 1964A.

60 Volume 26 was published in 1978, but the table was reproduced from a much earlier volume in the same series.

61 Miyamoto 1972, p. 56. Miyamoto Matao attributed it in a footnote to OSSS 1964c. While that volume has some statistics on rice for later years, the 1766 figure for rice occurs in OSSS 1964a.

62 *Ōsaka-shi shi* 1913, p. 651.

63 BPP, vol. 4, p. 275, report by Locock on Osaka and Hyōgo, 10 June 1867.

64 Katsu 1890, pp. 238–39.

65 Ōishi 1998, p. 73, and footnote 13, pp. 101–102. According to Ōishi, the *shabon* is now in the Shiryō Hensanjo. It ends with the words “Meiji jūkyūnen shigatsu kazoku Mizuno Tadahiro zōsho o utsusu” 明治十九年四月華族水野忠弘藏書ヲ写 (a copy of notes from the writings of Mizuno Tadahiro on his journey to China in April of Meiji 19) and also gives the names of copyist and proof-reader.

66 There is also, according to Ōishi, a third or more modern copy of *Kyōhō tsugan* in *mikan zuibitsu hyakushu* 未刊 隨筆百種, vol. 17 (Ōishi 1998, footnote 13, pp. 101–102). This is part of a series of volumes on Edo customs and manners compiled by Mitamura Engyo 三田村鳶魚 (1870–1952), an amateur researcher of Edo manners and customs. A modern edition in 12 volumes was published in 1976–1978.

67 Ōishi 1998, p. 74, has a table of the variations.

68 See Ōishi 1998, p. 72.

69 Ōishi 1998, pp. 79–80. report from Edo *machi bugyō* to *rōjū*, 13th year, 7th month, 17th day.

70 BPP vol. 5, p. 62, vice-consul Dohmen to Adams, 15 February 1872.

71 This total is different from Ōishi's total (Ōishi 1998, p. 83). In arriving at his grand total, Ōishi seems not to have taken into account the deduction of 44,205 *hyō* from the original chōnin figure of 155,946 *hyō*.

72 Ōishi 1998, p. 83. See also detail in map on p. 82.

73 BPP, vol. 4, p. 275, report by Locock on Osaka and Hyōgo, 10 June 1867.

74 *Tōkyō-shi shi kō* 1926, pp. 13–99.

75 Fujita 1987, pp. 248–253.

76 There is a very large mathematical error in the document which confirms both that it is a copy and that an error of transcription occurred. Having noted that daily consumption was 7500 koku, the total for annual consumption is given as 700,000 koku. For a year of 365 days in fact the consumption would amount to 2,717,500 koku. Elsewhere the document notes that employment categories other than samurai and chōnin (e.g., fishermen), and other uses of rice (making sweet goods) would raise the consumption to above 3 million koku. While such a large estimate is debatable, it shows that the author of the original text was fully aware of a total well in excess of 700,000 koku. As the document almost invariably employs round figures, the most plausible way in which the error arose was that the total consumption was rounded by the original author to 2,700,000 koku and that the “2” was omitted by a transcriber (a sort of error which was painfully common in transcriptions in Tokugawa times).

77 The figures appeared first in the old *Ōsaka-shi shi* 1914, pp. 839–40. The table is reproduced also in *Ōsaka hennenshi* 1978, pp. 331–34, where *Hokkai-san niuke tonya kumiai enkaku shi* 北海産荷受問屋組合沿革史3 is cited as the source. The source is also cited in the introduction to the OSSS Supplement 1966, p. 1, which would seem to suggest that both *Ōsaka-shi shi*, vol. 1 and OSSS drew on it. In other words, an early book rather than a manuscript seems to be the only known source for the data.

78 For details of imports see Ōishi 1998, p. 74. The 1726 details are reproduced as part of a table by Hayashi 1969, p. 192. For the sake of completeness, Katsu’s curious figure for *zeni* is included in the table in the text above, but is almost certainly an error in the text that he consulted (not known to us today), rather than one committed by Katsu himself.

79 The Edo figure for 1856 is from *Tōkyō-shi shi kō* 1926. Yamaguchi’s figure (p. 61) for cotton cloth at 7,909,364 *tan* is somewhat different from Hayashi Reiko’s figure of 80,168 *ko* (Hayashi 1969, p. 192), and the difference would be larger still if converted into *tan* at Hayashi’s rate of 120 *tan* to the *ko*.

80 Hayashi 1969, p. 192.

81 Hayami and Miyamoto 1988, pp. 253–55.

82 Nelson 1962, p. 229 (no. 817).

83 McClain 1999, p. 63.

84 The total import would be still higher by Hayashi Reiko’s conversion rate of 120 *tan* to the *ko*. Hayashi 1969, p. 193.

85 *Ōsaka-shi shi* 1911, p. 651.

86 Hayashi 1969, p. 195. The pattern of silk exports from Kyoto is taken as an illustration of how widespread was the distribution of textiles (pp. 195–7), although from its internal detail, that pattern has little direct relevance to redistribution from Edo. It simply shows that 37.7 per cent of the total distribution was consigned to Edo. However the absence in the table of a region to the north east of Edo would imply that part of the Edo total must have been reshipped to the Tōhoku.

87 Sekiyama 1958

88 *Ōsaka Dōjima beishō enkaku* 1912. The Council decision to require publication of the records and statistics of the exchange (taken in 1903) is reported in an unnumbered page in the front matter of the volume. The history of the project is narrated very briefly on behalf of the Torihikijo, p. 1.

89 Miyamoto 1972, p. 57. Miyamoto 1988, p. 135.

90 Cullen 2003, p. 200.

91 Suzuki 1938, p. 490, quoting *Ōsaka-shi shi*, vol. 4, p. 596. In the return constructed by Suzuki on the basis of two documents from the 1820s, the trade figures were both rounded and given within upper and lower bounds, in the manner of *kura* returns.

92 Miyamoto 1972, p. 54, furnishes an example of a complete individual entry.

93 OSSS 1964c, p. 154. Elsewhere in the same volume identical data are presented together with data for exports (pp. 101–102). Exports were much smaller and for Osaka were more positively a trade

activity rather than a daimyo-conducted business. The combination of exports and imports in the table would appear to confirm that the import data for the years 1776–1780 with their precise numerical count to the apparent last koku were intended to be comprehensive.

94 Suzuki 1938, p. 490, quoting *Ōsaka-shi shi*, vol. 4, p. 596.

95 Uniquely for Tokugawa-era demographic data, Isshiki's figures are presented in serial or tabular form. Cullen 2006, p. 156.

96 BPP, vol. 4, p. 273.

97 Ibid., p. 278.

98 *Ōsaka hennen shi* 1978, pp. 341–45. The details are an extract from a guild record entitled *kuriwata kaitsugi toiya kakiage hikae* 繰綿買次門屋書上控 that survived because of its inclusion in a wider compilation, *kuriwata shoki* 繰綿書記. Minor textual omissions within the extract could either be the fruit of careless transcription, or reflect existing defects in the document from which it was extracted. The title of the extract seems to hint at *tonya* origin, though it is certified by the signature of the guild *nengyōji*. This is a rare instance of a document illustrating the interplay of *tonya* and guild.

要旨

徳川期沿岸交易および幕末・明治初期海外貿易の統計

ルイ・M・カレン

二部構成の本論の主たる目的は、徳川期および明治初頭15年間に於ける日本の貿易に関する資料評価である。第一部は本稿であり、第二部は *Japan Review*, No. 22 に掲載の予定である。現存する日本沿岸交易（あるいは海外貿易に対する言葉としての「内陸」交易）の統計には注目すべきものがある。ヨーロッパにおいてはこれに比肩すべきものはない。大坂に関するものとしては、多岐にわたる輸入品や注意を要する六品目に関する数字が残されているが、恐らくそれらは大坂から江戸へ運ばれた品物であろう。大坂港の総積荷高を示す1714年、1736年、および1766年の統計は、今日では非常に貴重なもので、これ以外に総計を示す数字は残されていない。消費の中心である江戸に関しては、輸出を示す記録はない。唯一知られる江戸沿岸交易の数字は、1723年から1730年にわたる、11の品物が大坂（輸出）と江戸（輸入）に記録されているものと、大きくその勢いを盛り返した1856年のもののみである。海外貿易については、1859年の開港以来、その統計は納品書などに基づき幕府役人によって直接記録されている。それ以前は、役人たちは沿岸交易の間屋や組合などによって提供された資料に依拠していた。