

Construct and describe share data

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Oct 22 2020

0.1 Trend of world's shipping tonnage

- Gross Tonnage of Japanese Merchant Vessels from http://www.mlit.go.jp/hakusyo/transport/index1_.htm
- Gross Tonnage of top6 countries from <http://www.mlit.go.jp/hakusyo/transport/shouwa41/ind060101/frame.html> and Loyd statistics (missing 1961-1963 now)

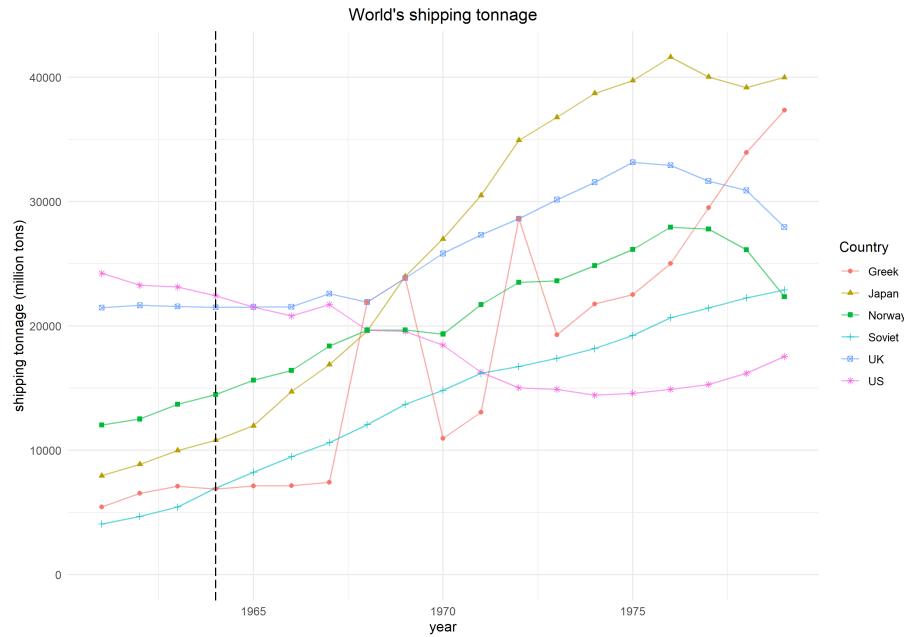


Figure 1: The trend of world's shipping gross tonnage(mill tons): *Source:* [?] which borrows the data of Statistical Tables in Lloyd's Statistics. The data contains only ships whose tonnage sizes are at least 100 ton.

0.2 Trend of world's freight movement tonnage

- shipping_quantity_japan is from book3
 - Ministry of Transport Shipping Bureau (missing 1961-1965 now)
 - http://www.mlit.go.jp/hakusyo/transport/index1_.htm

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0.3 Trends of the number of shipping firms in Japan

0.4 planned shipbuilding

The payment of planned shipbuilding is needed for calculation of the estimated amount of financial support.

* [https://www.mlit.go.jp/hakusyo/transport/shouwa39/ind060103/001.html#tabII-\(I\)-12](https://www.mlit.go.jp/hakusyo/transport/shouwa39/ind060103/001.html#tabII-(I)-12)

Note that 38 is the dimension

1 Descriptive data

1.1 descriptive summary

2 type-based histogram

2.1 Groupby histogram

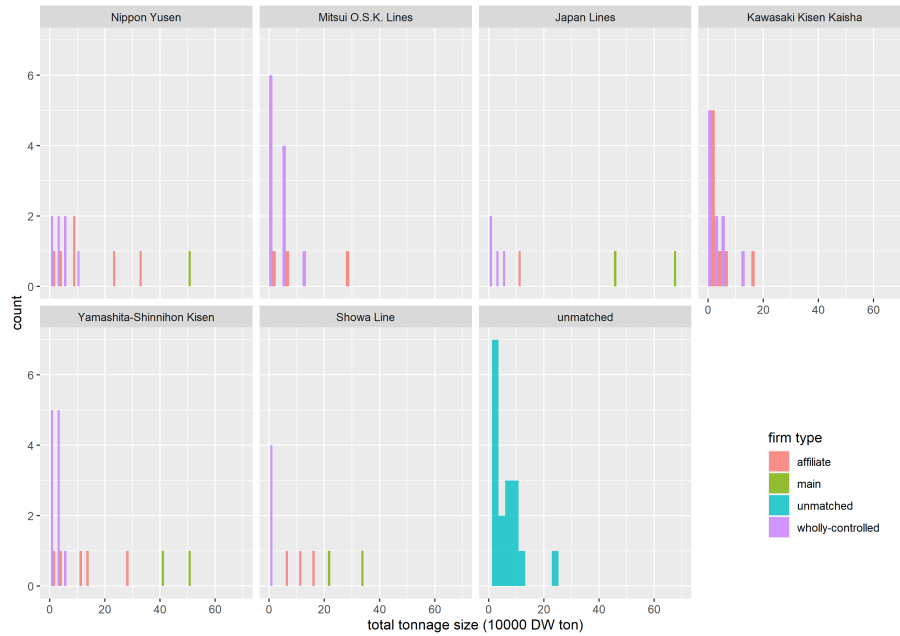


Figure 2: Distribution of tonnage size for each firm type. Observation unit: the total tonnage size for each firm type of each group.

2.2 pie charts

2.3 Regression

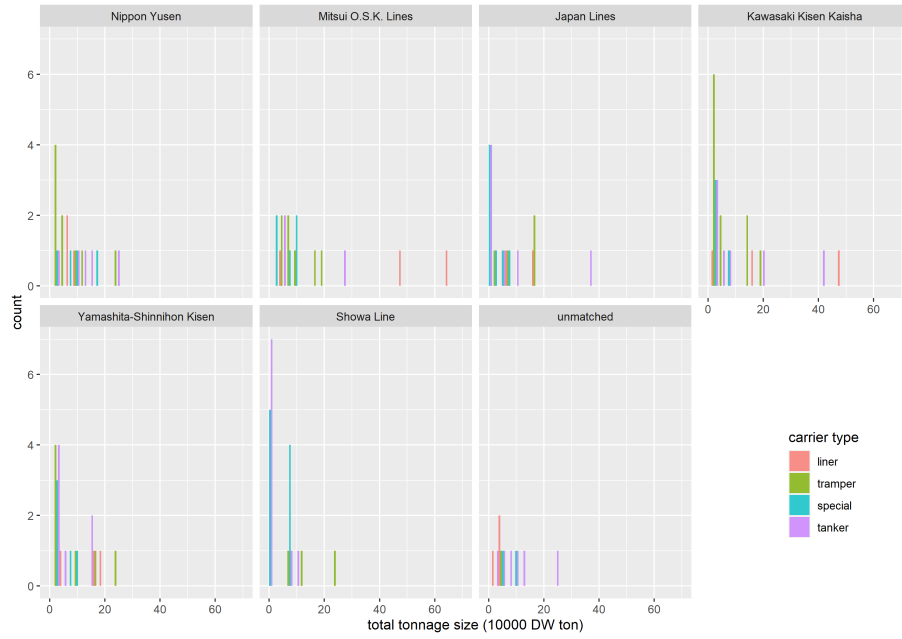


Figure 3: Distribution of tonnage size for each carrier type. Observation unit: the total tonnage size for each carrier type of each group.

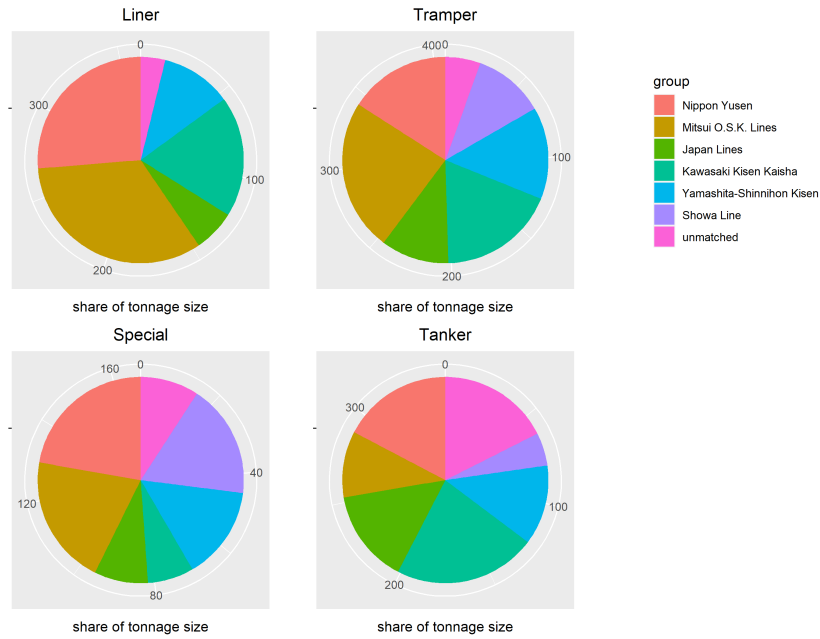


Figure 4: Shares of each carrier type and each group. Observation unit: the total tonnage size for each carrier type of each group.

Table 1: Summary statistics for independent variables.

	<i>N</i>	<i>mean</i>	<i>sd</i>	<i>min</i>	<i>q25</i>	<i>q50</i>	<i>q75</i>	<i>max</i>
<i>measure of economies of scale</i>								
total tonnage size	118	109889.195	207066.440	479.000	11189.250	26461.000	90563.000	1022743
total tonnage size of liner	118	30656.051	112049.108	0.000	0.000	0.000	0.000	721218
total tonnage size of special	118	15080.932	33126.398	0.000	0.000	0.000	7586.000	176566
total tonnage size of tanker	118	29611.525	70524.066	0.000	0.000	0.000	24067.750	417241
total tonnage size of tramper	118	34540.686	55403.907	0.000	2283.250	12855.500	33663.750	245501
<i>measure of economies of scope</i>								
share of liner	118	0.104	0.235	0.000	0.000	0.000	0.000	1
share of special	118	0.117	0.244	0.000	0.000	0.000	0.088	1
share of tanker	118	0.192	0.351	0.000	0.000	0.000	0.208	1
share of tramper	118	0.587	0.417	0.000	0.135	0.705	1.000	1
HHI based on carrier types	118	0.815	0.241	0.258	0.584	1.000	1.000	1

Table 2: Preliminary regression results for predicting matchings. Observation unit: a one-to-one matching pair. The sample size is determined by all possible matching pairs from 118 firms in my data set.

	<i>Dependent variable:</i>				
	1(match)				
	(1)	(2)	(3)	(4)	(5)
$\log(\text{liner}_b * \text{liner}_t + 1)$	-0.002 (0.006)		-0.013 (0.009)	-0.029*** (0.010)	-0.003*** (0.001)
$\log(\text{tramper}_b * \text{tramper}_t + 1)$	0.005* (0.002)		0.004 (0.005)	0.018*** (0.006)	0.002*** (0.001)
$\log(\text{special}_b * \text{special}_t + 1)$	-0.009** (0.004)		-0.002 (0.006)	-0.017*** (0.006)	-0.002*** (0.001)
$\log(\text{tanker}_b * \text{tanker}_t + 1)$	-0.003 (0.004)		-0.017** (0.007)	-0.026*** (0.007)	-0.003*** (0.001)
$\log(\text{total}_b * \text{total}_t + 1)$	-0.021 (0.013)		-0.010 (0.017)	0.049*** (0.018)	0.006*** (0.002)
bank coverage similarity ratio		1.598*** (0.525)	2.052*** (0.575)	0.649 (0.617)	0.088 (0.076)
$\log(\text{HHI}_b * \text{HHI}_t + 1)$		0.525*** (0.148)	0.372* (0.221)	-0.123 (0.231)	-0.019 (0.028)
$\log(\text{share of liner}_b * \text{share of liner}_t + 1)$		0.334 (0.473)	1.159 (0.739)	2.140*** (0.788)	0.253*** (0.096)
$\log(\text{share of special}_b * \text{share of special}_t + 1)$		-0.996* (0.519)	-0.990 (0.667)	-0.529 (0.694)	-0.041 (0.072)
$\log(\text{share of tramper}_b * \text{share of tramper}_t + 1)$		0.308*** (0.091)	0.165 (0.188)	-0.558*** (0.200)	-0.058** (0.024)
$\log(\text{share of tanker}_b * \text{share of tanker}_t + 1)$		0.257 (0.210)	0.992*** (0.335)	1.311*** (0.354)	0.158*** (0.043)
same type				1.600*** (0.052)	0.229*** (0.007)
Intercept	-1.271*** (0.260)	-2.041*** (0.083)	-1.748*** (0.395)	-3.312*** (0.425)	-0.033 (0.051)
Model	Logit	Logit	Logit	Logit	OLS
Observations	13,806	13,806	13,806	13,806	13,806
Akaike Inf. Crit.	12,056.510	12,037.120	12,034.740	11,053.080	10,230.180

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 3: Summary of total tonnage size for each group.

	firm type	total tonnage	number of firms	total tonnage in a group
<i>Nippon Yusen</i>				
1	(1) main	1034191	2	1962560
2	(2) affiliate	702458	7	
3	(3) wholly-controlled	225911	7	
<i>Mitsui OSK Line</i>				
4	(1) main	1328329	2	2151842
5	(2) affiliate	269686	5	
6	(3) wholly-controlled	553827	20	
<i>Japan Line</i>				
7	(1) main	731779	2	937154
8	(2) affiliate	125738	1	
9	(3) wholly-controlled	79637	4	
<i>Kawasaki Kisen Kaisha</i>				
10	(1) main	1098399	2	1762176
11	(2) affiliate	375095	9	
12	(3) wholly-controlled	288682	7	
<i>Yamashita Shinnihon Kisen</i>				
13	(1) main	609016	2	1194941
14	(2) affiliate	421930	5	
15	(3) wholly-controlled	163995	10	
<i>Showa Line</i>				
16	(1) main	361226	2	610004
17	(2) affiliate	221640	3	
18	(3) wholly-controlled	27138	4	
<i>Unmatched</i>				
19	unmatched	799016	24	799016
<i>Total</i>				
20		9417693	118	9417693