

Construct and describe share data

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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)

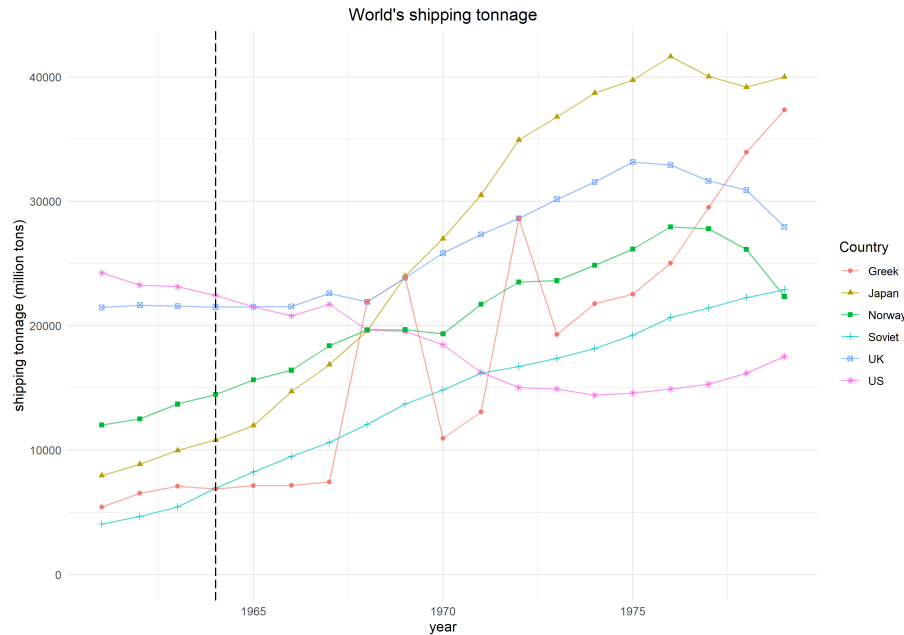


Figure 1: The trend of world's shipping gross tonnage(mill tons): *Source:* [?] which borrows the data of Statistical Tables in Lloyd's Statistics. The data contains only ships whose tonnage sizes are at least 100 ton.

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

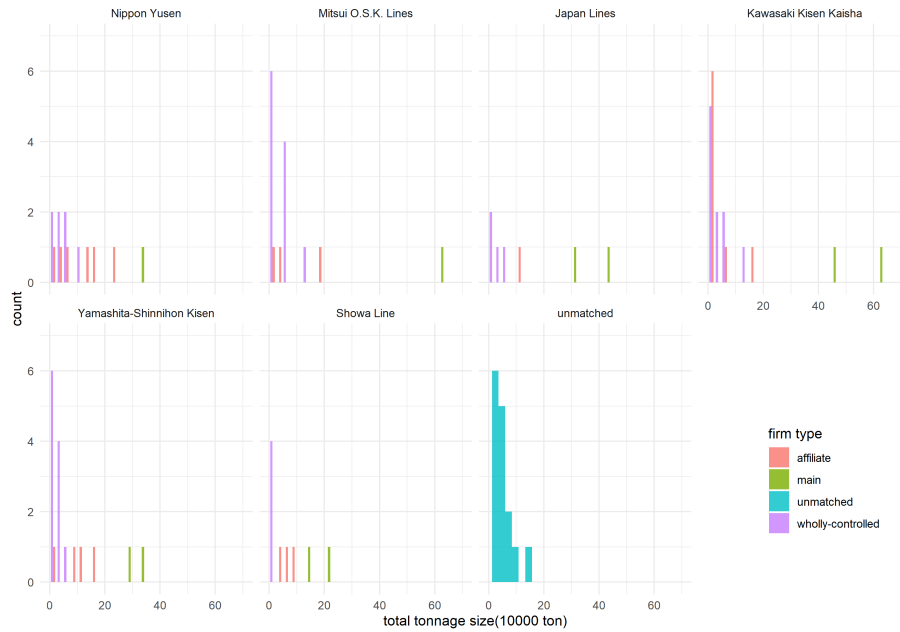


Figure 2: Distribution of tonnage size for each firm type. Observation unit: the total tonnage size for each firm type of each group.

2.2 pie charts

2.3 Regression

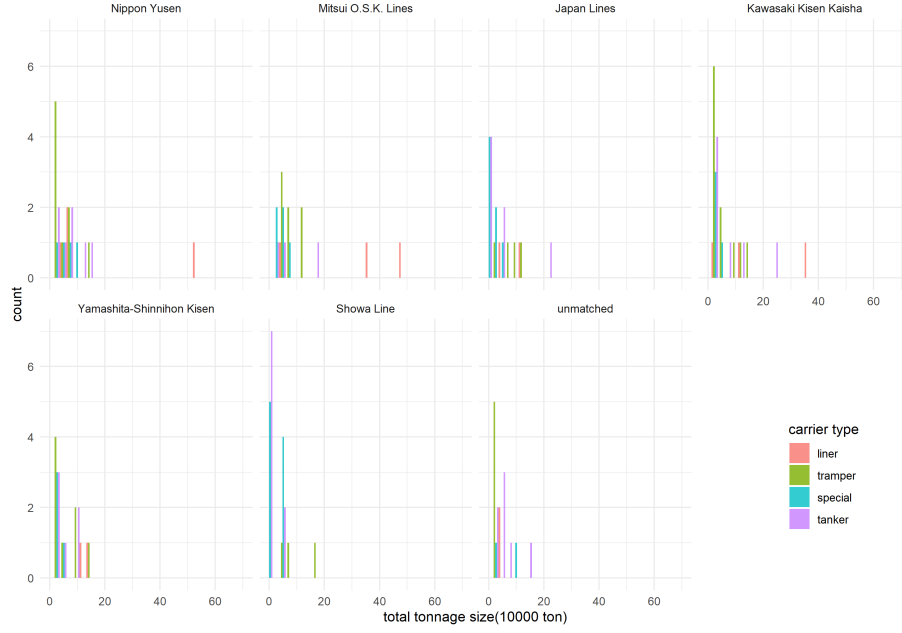


Figure 3: Distribution of tonnage size for each carrier type. Observation unit: the total tonnage size for each carrier type of each group.

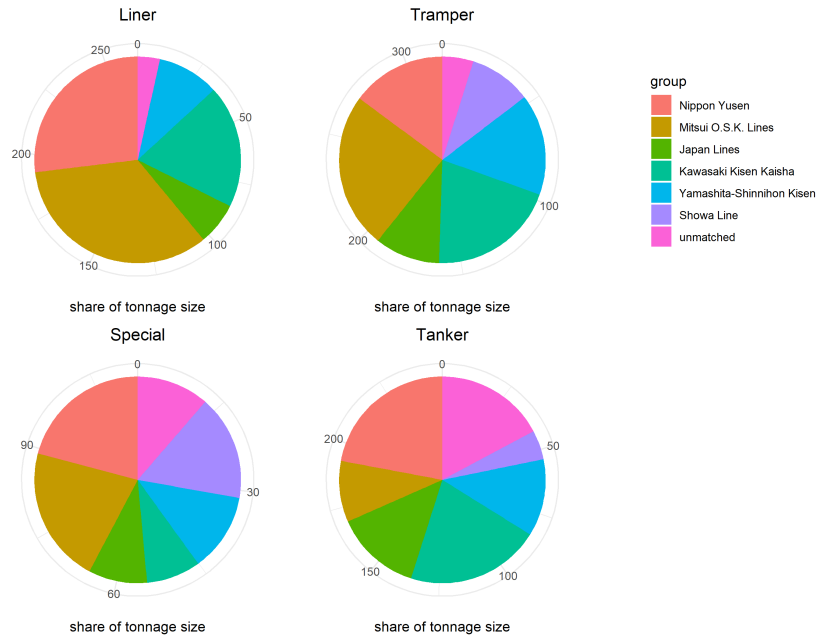


Figure 4: Shares of each carrier type and each group. Observation unit: the total tonnage size for each carrier type of each group.

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	79810.958	139876.868	479.000	10716.000	24128.500	74874.000	700730
total tonnage size of liner	118	22334.220	82068.002	0.000	0.000	0.000	0.000	526000
total tonnage size of special	118	9541.415	19479.171	0.000	0.000	0.000	7204.500	98768
total tonnage size of tanker	118	20973.136	44468.924	0.000	0.000	0.000	24776.500	250173
total tonnage size of tramper	118	26962.186	38390.142	0.000	2283.250	11189.500	30933.750	166102
<i>measure of economies of scope</i>								
share of liner	118	0.105	0.239	0.000	0.000	0.000	0.000	1
share of special	118	0.114	0.241	0.000	0.000	0.000	0.083	1
share of tanker	118	0.204	0.356	0.000	0.000	0.000	0.246	1
share of tramper	118	0.578	0.412	0.000	0.189	0.661	1.000	1
HHI based on carrier types	118	0.807	0.241	0.254	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)		-0.014 (0.010)	-0.031*** (0.011)	-0.004*** (0.001)
$\log(\text{tramper}_b * \text{tramper}_t + 1)$	0.005* (0.003)		0.002 (0.005)	0.017*** (0.006)	0.002*** (0.001)
$\log(\text{special}_b * \text{special}_t + 1)$	-0.009** (0.004)		-0.003 (0.006)	-0.016** (0.006)	-0.002*** (0.001)
$\log(\text{tanker}_b * \text{tanker}_t + 1)$	-0.001 (0.004)		-0.016** (0.006)	-0.023*** (0.007)	-0.003*** (0.001)
$\log(\text{total}_b * \text{total}_t + 1)$	-0.026* (0.014)		-0.007 (0.018)	0.026 (0.019)	0.003 (0.002)
bank coverage similarity ratio		1.687*** (0.529)	2.141*** (0.570)	0.912 (0.611)	0.119 (0.075)
$\log(\text{HHI}_b * \text{HHI}_t + 1)$		0.543*** (0.149)	0.371 (0.228)	-0.244 (0.240)	-0.035 (0.029)
$\log(\text{share of liner}_b * \text{share of liner}_t + 1)$		0.304 (0.459)	1.144 (0.759)	2.111*** (0.808)	0.256*** (0.099)
$\log(\text{share of special}_b * \text{share of special}_t + 1)$		-0.973* (0.537)	-0.981 (0.682)	-0.555 (0.710)	-0.043 (0.074)
$\log(\text{share of tramper}_b * \text{share of tramper}_t + 1)$		0.366*** (0.093)	0.273 (0.190)	-0.578*** (0.204)	-0.064*** (0.024)
$\log(\text{share of tanker}_b * \text{share of tanker}_t + 1)$		0.365* (0.198)	1.012*** (0.311)	1.266*** (0.329)	0.156*** (0.040)
same type				1.583*** (0.052)	0.228*** (0.007)
Intercept	-1.176*** (0.273)	-2.066*** (0.082)	-1.819*** (0.403)	-2.750*** (0.430)	0.037 (0.052)
Model	Logit	Logit	Logit	Logit	OLS
Observations	13,806	13,806	13,806	13,806	13,806
Akaike Inf. Crit.	12,057.300	12,031.870	12,030.990	11,064.940	10,239.880

Note:

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