Time of arrival variation for short-sea shipping of roundwood and chips within the Baltic Sea

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Introduction

- Much of Swedish import sourcing 2000-2013 (LV, EST, RU) is via short-sea shipping
- One vessel carries same volume as 100 trucks or 3-4 trains, so precise arrival times are important:
  - How precise is short-sea shipping in the Baltic Sea?
  - How does precision vary between sources?
Material & Methods - Data

Welcome to vesselplan.com

The system vesselplan.com is an internet based database to easily share information regarding dry bulk shipments. vesselplan.com connects buyer, supplier, ship owner and port agents so all involved parties always have the same information.

Latest news

2014-02-24
Server certificate upgrade

2013-03-08
Annual general meeting
## Material & Methods

- Data collected for 335 roundwood & chip cargoes during 2013
- Flows were from aggregated to 3 export sources (LV, EST, RU) and 3 regions of discharge (S SWE, SE SWE, N SWE)
- Cargo wts (mt)
- Times at PoL, during voyage, time at PoD

### Table 1: Number of cargoes per selected flow from Ports of Lading to Ports of Discharge

<table>
<thead>
<tr>
<th>Ports of lading</th>
<th>S SWE (11)</th>
<th>SE SWE (16)</th>
<th>N SWE (17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV (4)</td>
<td>38</td>
<td>76</td>
<td>76</td>
</tr>
<tr>
<td>EST (2)</td>
<td>11</td>
<td>46</td>
<td>29</td>
</tr>
<tr>
<td>RU (8)</td>
<td>0</td>
<td>32</td>
<td>27</td>
</tr>
</tbody>
</table>

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Results:

- Seasonal vessel cargo sizes (Q1-Q4)
  - Wtclass 1: < 2000 mt
  - Wtclass 2: 2000-4000 mt
  - Wtclass 3: >4000 mt
- Class 2 cargoes dominate for the PoD’s in the south (11, 16)
- Class 3 cargoes dominate in the north (17)
Results:

- Average time between loading and unloading 60 hrs (59% voyage time, 36% delays before leaving PoL and 5% delays before discharging at the PoD.
- Average times between PoL-PoD flows: 26-66 hrs.
Results: Deviations from EToA

85% of all cargoes arrived at PoD within 5 hours of EToA with right-skewed distribution (more late than early arrivals)

PoDs
- smallest deviations were for S SWE (11)
- largest deviations were for SE SWE (16) and N SWE (17)

PoLs
- smallest deviations were for LV (4) and EST (2)
- largest deviations were for RU (8)
Discussion

– Follow up of delivery data provide a useful source for quantifying precision in short-sea shipping of roundwood and chips

– Reduced import volumes and consolidation of sources has increased the use of specialty wood-shuttles

– Given the larger vessel cargo sizes for the northern PoD flows, the trend for specialized vessels is most relevant for the shorter southern routes

– This study did not show any increase in PoL-PoD times during winter conditions
Discussion

- Limited fast ice for PoL RU (8) and PoD N SWE (17) during normal peak ice period in the studied period.
Conclusions

– For firms using Vesselplan, 85% of cargoes arrived within 5 hrs of the estimated time

– The system provides a base for
  – Comparing risks between PoL-PoD combinations
  – Following-up lead times
  – Planning and coordinating capacity for parallel (truck and rail) flows
Acknowledgements

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