Market analysis for shifting goods from road to rail by means of combined transport in Germany

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Introduction

Up to 60% CO₂ could be reduced due to the use of rail instead of road on the analyzed relations (UIRR, 2003)

But not every truck transport can be shifted to the rail and there isn´t said how much potential exists

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Market analysis for shifting goods from road to rail

Questions of this paper

» Which kind of transports
  » can be shifted from a **technical and logistical point** of view?
  » are realistic and attractive to shift from an **economical point** of view?
  » How can they be **categorised**?

» What is the **maximum** potential in the case of Germany?
Very low amount of firms have work sidings for direct loading of train wagons:

According to Bruckmann (2006) only 2% of transport routes have work sidings on both sides

» „conventional“ rail transport is not possible for most transports

» Only alternative: combined transport (CT)

(UIRR, 2009)
Economic point of view – example distance

Economic minimum distance: 300 km

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Combined transport is only possible with following suitable types of boxes:
Container, swap body and semi-trailer (special strengthened)

Goods transported by truck and their suitability for CT boxes
1. Container, swap bodies: no change of transport box
2. Palletized, bundled goods: small adjustment of transport boxes
3. Bulk and special goods: max. 80% shiftable technically in CT transport boxes
## Levels of potential

<table>
<thead>
<tr>
<th>Aspect Level</th>
<th>Definition</th>
<th>Technically</th>
<th>Logistically</th>
<th>Economically</th>
<th>Invest</th>
<th>Time frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary potential</td>
<td>all container and swap bodies &gt;300 km transport distances</td>
<td>no change of transport box</td>
<td>no change of loading process at the firms</td>
<td>possible &gt; 300 km transport distance</td>
<td>none</td>
<td>short</td>
</tr>
<tr>
<td>Secondary potential</td>
<td>all palletized and tied goods &gt;300 km transport distances</td>
<td>adjustment of transport boxes</td>
<td>small/ no changes of loading process</td>
<td>&quot;&quot;</td>
<td>small</td>
<td>middle</td>
</tr>
<tr>
<td>Tertiary potential</td>
<td>80% of bulk and special goods &gt;300 km transport distances</td>
<td>max. 80% shiftable technically in CT transport boxes</td>
<td>Reorganisation of loading process at the firms</td>
<td>&quot;&quot;</td>
<td>middle</td>
<td>long</td>
</tr>
</tbody>
</table>

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German truck transports potential to shift to CT

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Combined transports 2007
+ Primary potential = Increase + 53%
+ Secondary potential = total increase + 189%
+ Tertiary potential = total increase + 403% (= 25 Mio. Trucks)
Combined transport is the only possibility for most companies to transport with CO₂ friendly train.

In the case of Germany

absolute maximum shifting potential results in 10% (= 25 Mio truck transports) of the current truck transports

This means five times more traffic on combined transport than at present.