

**Summary:**

# **Logistics costs in Norway**

## **Key figures and international comparisons**

*A survey on the costs of logistics in Norwegian manufacturing and wholesale trade shows logistics costs that on average constitute 14.2 % of the turnover. The cost share is 16.7 % of turnover for the wholesalers and 13.7 % of turnover for the manufacturing industries. The building and construction industry have the lowest logistics cost share in the survey.*

*The estimated cost of logistics as a percentage of turnover among Norwegian manufacturing and wholesale industries is in line with results from similar studies in other countries. The total cost of logistics for Norway is calculated at approximately NOK 254 billion in 2007. This corresponds to 14.7 % of the Norwegian mainland GDP.*

## **Introduction and background**

This report summarizes the key findings from a survey on the costs of logistics in Norwegian manufacturing and wholesale trade.

One of the main goals in the Norwegian communication and transport policy is to reduce the drawback of distance. Norway is located in the periphery of Europe, far away from the main marketplaces. The drawback of geography enhances the importance of cost efficient logistics. Norwegian exports are to a large extent raw materials and semi finished products. This means that Norwegian companies are ofte part of a bigger supply chain. The relative cost level in Norway compared to other countries is high, giving Norwegian export industry a drawback in the price competition. These are factors that underline the importance of a cost efficient logistics operation in Norwegian export industry.

## **The survey**

The main focus of the survey is to quantify the cost of logistics for 2007 by cost component, industry and region in Norwegian manufacturing and wholesaling industries. The results from the survey enable us to compare the cost of logistics in Norway with similar international studies.

The survey was conducted during the fall of 2008.

A web-based questionnaire was chosen as the preferred survey tool. The survey was sent by e-mail to the potential respondents during November and December 2008. After two reminders the final deadline was set at year end. The recipients were invited to participate in the survey and in return given an opportunity to benchmark their own cost of logistics with other companies in the same industry and region.

The database of information on the cost of logistics contains 540 companies from manufacturing, wholesale, and building and construction industries.

## **Our definition of the cost of logistics**

In our survey the cost of logistics is defined to include the following cost components:

- Transportation, including inbound, outbound and internal transport
- Warehousing
- Capital tied up in transportation and warehousing
- Packaging
- Insurance
- Obsolescence and wastage
- Logistics administration

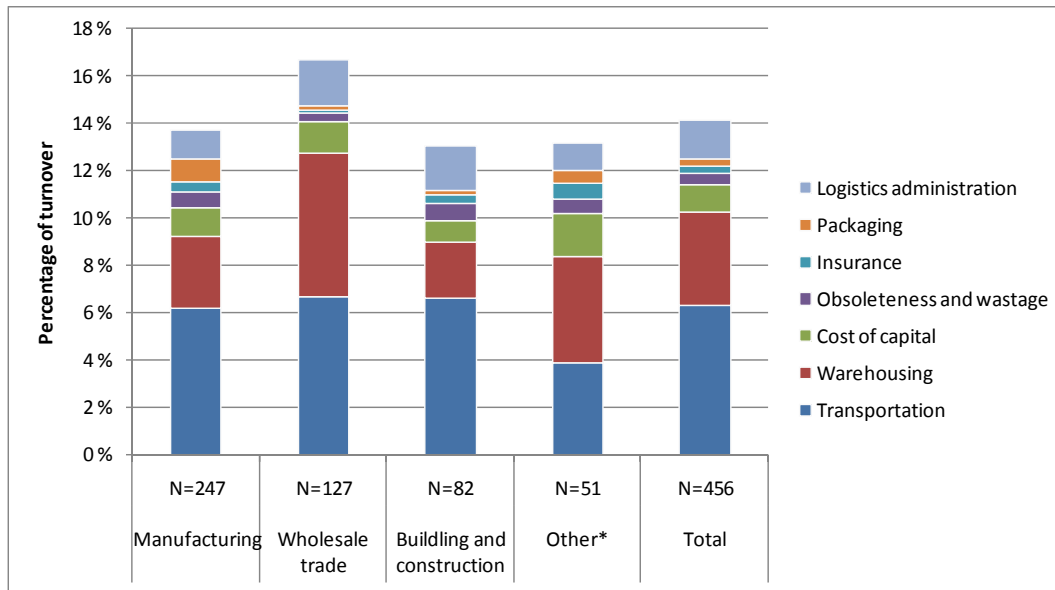
## **Main results**

Table I and figure I summarize the main results of the survey, showing the cost of logistics as a percentage of turnover for the manufacturing, wholesale, and building and construction industries for 2007. The results are weighted by the industry structure and company size.

*Table I: Industry weighted total costs of logistics, in percentage of turnover, for 2007.*

	<b>Cost of logistics</b>
Manufacturing	13,7 %
Wholesale	16,7 %
Building and construction	13,0 %
Others*	13,2 %
<b>Average</b>	<b>14,2 %</b>

\* Not weighted by the industry structure and company size  
Source: TOI-report 1052/2010



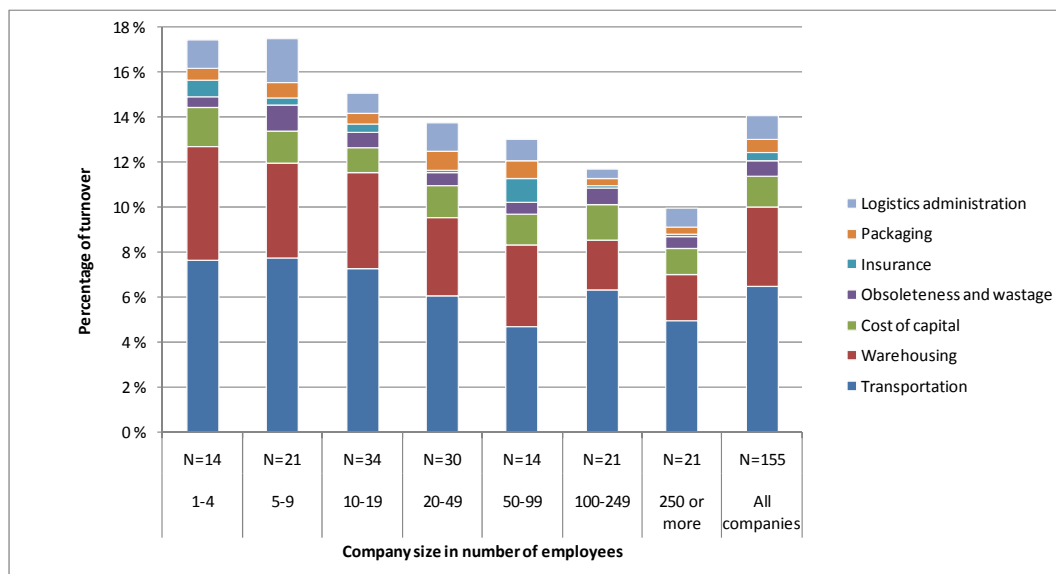
Source: TOI-report 1052/2010

Figur I: Cost of logistics in percentage of turnover, decomposed into cost components, by main industries. All results are weighted by industry structure and company size, except the category "Other\*".

The survey shows that the costs of logistics constitute on average 14.2 % of the turnover. The costs of transportation represent the largest cost component, about 45 % of the total logistics costs. Warehousing and capital cost amount to a further 36 %, while the other cost components sum up to 20 % of the total cost of logistics. From table I and figure I we see that the wholesale trade has the highest cost shares, while building and construction have the lowest cost share in the survey.

## Results for companies using 3pl providers

The dataset contains information on the use of third party logistics (3pl) providers. Figure II shows the cost of logistics by company size for those companies in the survey that confirm use of 3pl provider as part of their logistics operation.



Source: TOL-report 1052/2010

Figur II: Cost of logistics in percentage of turnover, decomposed into cost components, by firm size represented with number of employees. Results are not weighted by industry structure and company size.

From figure II we see that there are economies of scale in the cost of logistics among the companies that use a third party in their logistics operation. We do not find this clear trend when considering the whole population. One reason for this lack of economies of scale is found in the fact that larger companies pay for both inbound and outbound transportation more frequently than smaller companies.

## Aggregated cost of logistics

We have calculated the cost of logistics at the macro level, i.e. as a percentage of Norwegian GDP. The survey results are weighted by each industry segment's share of total turnover and aggregated over the segments to find total cost of logistics in Norway, calculated to be 254 billion NOK in 2007. This corresponds to 14.7 % of the Norwegian GDP in the mainland economy.

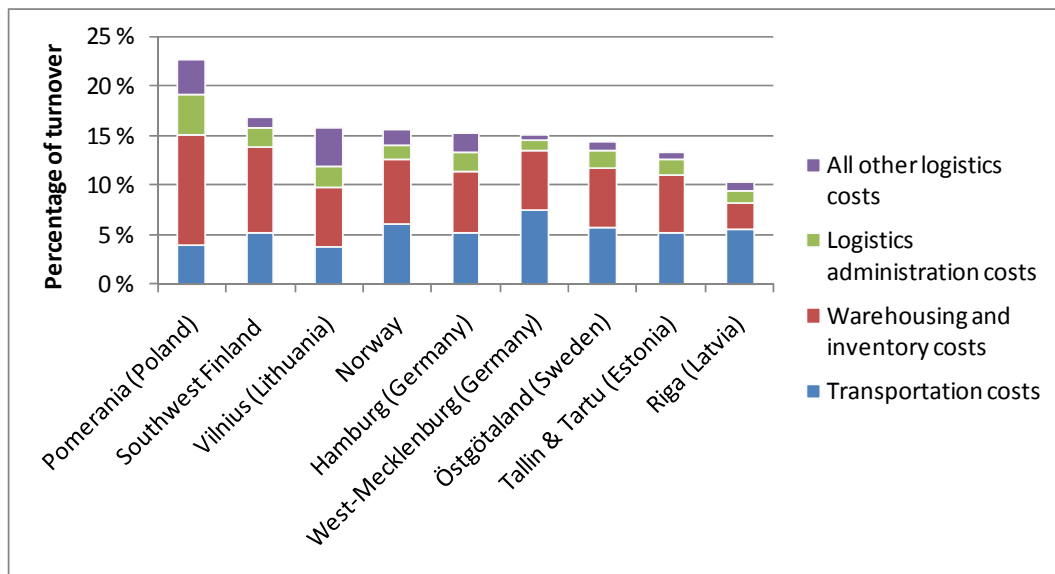
In addition we have calculated the total costs of logistics using the national freight transport model (Logistikmodellen). This model estimates the costs of logistics to be 225 billion NOK in 2006 corresponding to 13.1 % of the Norwegian mainland GDP. Thus, the aggregated results from the survey and the calculated logistic costs from the national freight transportation model provide rather similar results, strengthening confidence in the survey as well as in the freight transportation model.

## International comparisons

The methodology chosen for the survey enables us to compare the results with similar studies from other countries. In particular the results from *Finland-State of logistics* (Naula et al., 2006 and Solakivi et al., 2009), and *LogOnBaltic* (Ojala et al., 2007)).

LogOnBaltic shows a cost of logistics in manufacturing industries of between 11 and 15 percent of turnover, when excluding the extreme values of West Mecklenburg and Lithuania. The corresponding result from LIN is 12.8 % and in line with the results from the Baltic Sea region.

Figure III compares the results from LogOnBaltic with the results from LIN for manufacturing companies including the building and construction sector.

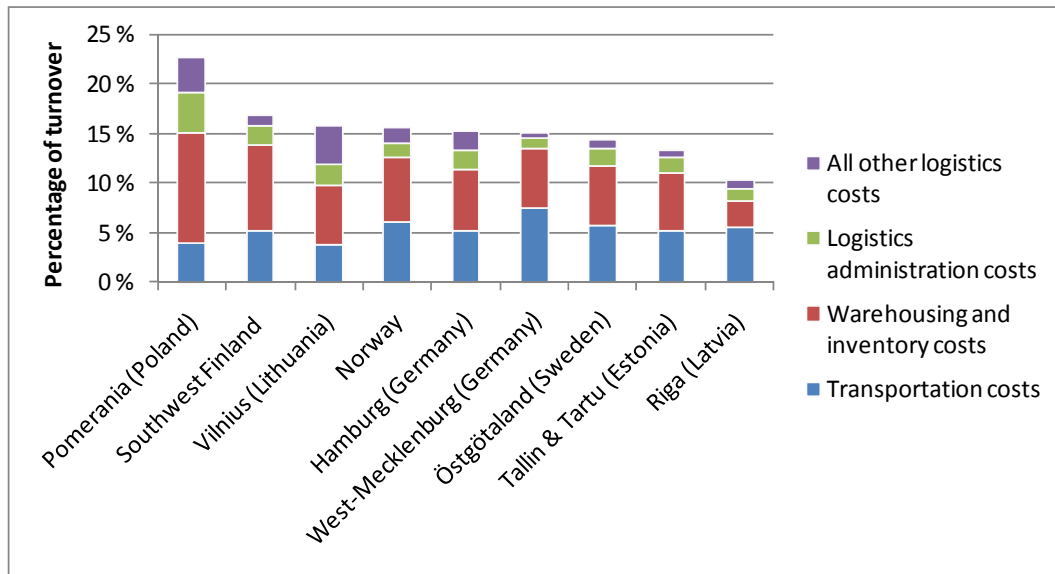


Source: TOI-report 1052/2010

Figure III: Logistic cost shares for manufacturing industries from LogOnBaltic compared to results from LIN. Manufacturing here includes building and construction.

For wholesale trade Pomerania (Poland) has the highest logistics cost share with 22.6 % of the turnover, while Latvia has the lowest share with 10.4 %. The other results for wholesalers in the LogOnBaltic study vary between 13 and 17 % of turnover. In Norwegian wholesale trade the share is 16.7 % of turnover, and hence in the upper region compared to the results from the Baltic Sea region.

Figure IV shows the results for the wholesale industries in the LogOnBaltic study compared to the results from LIN.

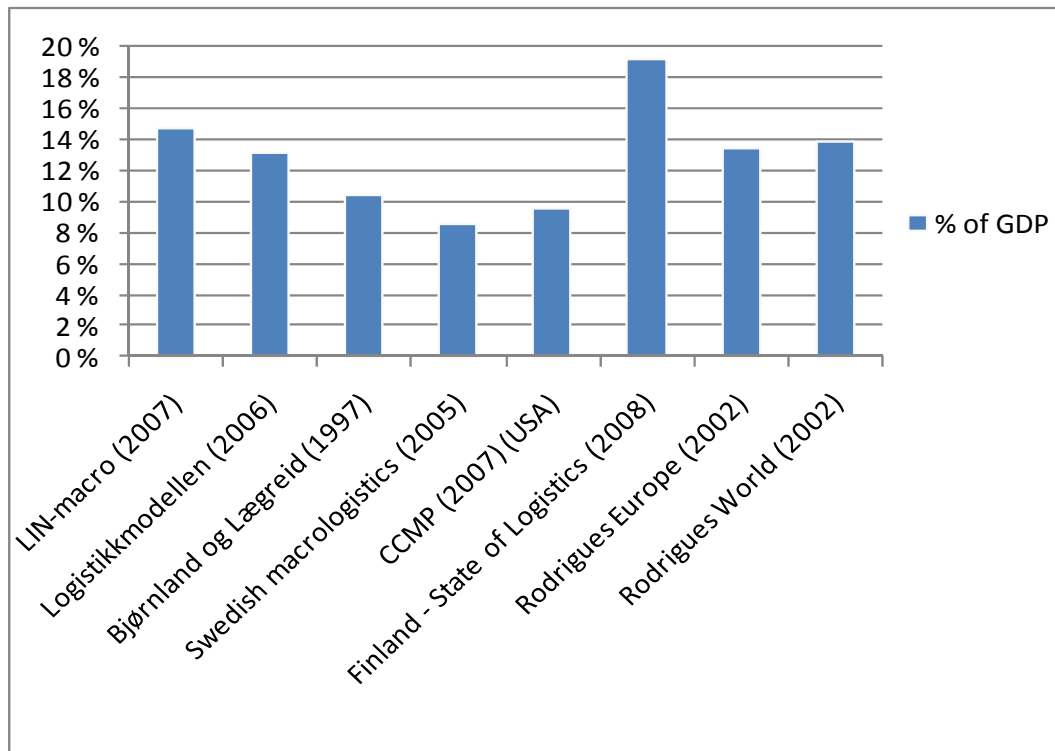


Source: TOI-report 1052/2010

Figur IV: Results for wholesale industries from LogOnBaltic compared to results from LIN.

Finland – State of logistics 2009 (Solakivi (2009)) calculates the cost of logistics at 19 % of Finland’s GDP. The corresponding results from LIN estimate the cost of logistics in the Norwegian economy, at 14.7 % of the Norwegian mainland GDP.

Figure V compares selected studies where the national cost of logistics is calculated as a percentage of GDP.



Source: TOI-report 1052/2010

Figur V: A comparison of results for the total cost of logistics as a percentage of GDP. Focus year in parentheses.

The main reason for the difference between the results from *Finland-State of logistics* and LIN is that the Finnish average include the retail industry, which is not included in the results from LIN.

The estimated cost of logistics in the Norwegian manufacturing industries and wholesale trades are in line with results from comparable studies in other countries.