TURNOVER AND OUTPUT MEASUREMENT FOR FREIGHT TRANSPORT BY ROAD IN GERMANY

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Definition of the Service

- Freight Transport By Road
  - All kinds of transporting cargo on the road
  - Including renting of trucks with driver, furniture removal and animal-drawn transports
Unit of Measure to Be Collected

Output

- Tonnes – volume of freight transported
- Tonnes-kilometres (tkm) – transportation performance.
  \[1 \text{ tkm} = \text{performance of transporting 1 t of cargo for a distance of 1 km}\]
- Task of Transport Statistics

Turnover

- Euro
- Task of Service Statistics
Market Conditions

Size of Industry:

<table>
<thead>
<tr>
<th>Sectors (NACE/WZ)</th>
<th>No. of companies</th>
<th>No. of employees</th>
<th>total turnover (1000 EUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>60.24</td>
<td>34,038</td>
<td>275,207</td>
<td>23,380,576</td>
</tr>
<tr>
<td>63.40.1</td>
<td>8,851</td>
<td>203,422</td>
<td>35,993,122</td>
</tr>
<tr>
<td>Sum</td>
<td>42,889</td>
<td>478,629</td>
<td>59,373,698</td>
</tr>
</tbody>
</table>

Source: FSO service statistics, 2003

60.24: Freight Transport By Road (especially smaller companies, pure hauliers)

63.40.1: Freight Forwarding (especially larger companies, diversifying in other parts of the logistics sector like sea and air freight, customs clearance, contract logistics)

Differentiation between both sectors is a hard task
Market Conditions

Further Conditions and Constraints

- 1994-1998: Liberalisation of the market, tariffs were abandoned; today, the market is deregulated

- Strong competition from foreign hauliers, especially after the expansion of the EU in 2004 => however, transportation performance by German hauliers continues to grow

- Trend of outsourcing transportation activities => *Werkverkehr* (transport on own account by industrial companies) becomes less important
Market Conditions and Constraints

Special conditions:

- Subcontracting is very common due to the nature of the business
Classification Structure – Output

Main analysing variables:

- Weight of the transported cargo in tons (t)
- Transportation performance: tonnes-kilometres (tkm) effected during the journey

Main classification variables:

- Type of transport
  - Transport for third parties ("hire or reward")
  - Transport on own account (Werkverkehr)
Classification Structure – Output

Main classification variables (2):

- Main traffic relations
  - National transports
  - International transports outwards
  - International transports inwards
  - Transit

  - Level 1: 10 chapters marked by one-digit numerical codes (0 to 9)
  - Level 2: 52 groups identified by two-digit numerical codes
  - Level 3: 175 headings identified by three-digit numerical codes
Classification Structure - Output

  - The ten chapters:

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Agricultural products and live animals</td>
</tr>
<tr>
<td>1</td>
<td>Foodstuffs and animal fodder</td>
</tr>
<tr>
<td>2</td>
<td>Solid mineral fuels</td>
</tr>
<tr>
<td>3</td>
<td>Petroleum products</td>
</tr>
<tr>
<td>4</td>
<td>Ores and metal waste</td>
</tr>
<tr>
<td>5</td>
<td>Metal products</td>
</tr>
<tr>
<td>6</td>
<td>Crude and manufactured minerals, building materials</td>
</tr>
<tr>
<td>7</td>
<td>Fertilizers</td>
</tr>
<tr>
<td>8</td>
<td>Chemicals</td>
</tr>
<tr>
<td>9</td>
<td>Machinery, transport equipment, manufactured articles and miscellaneous article</td>
</tr>
</tbody>
</table>
Classification Structure - Output

  - If more than one type of good is transported on a journey, only the most important has to be reported.
  - In 2008, NST/R will be replaced by the new goods classification NST 2000, based on CPA. Structure: 20 first-level groups.

- Type of freight (mode of appearance)
  - How the goods are packaged
  - Determines the type of vehicle used
  - Six types are distinguished
Classification Structure – Turnover

- All turnover measured of enterprises with their main activity in freight transport by road
- Can include turnover resulting of other business as well
- The aim of service statistics is not to measure the turnover gained by freight transport but the development and structure of the enterprises offering mainly this service
Evaluation Classification Structure

1. Output

- Transport statistics required for supporting transport policy on European, national, regional and even local level
- Main user group: governmental and research institutions for planning and forecasting purposes as well as political decisions
- Transport always related to production and trade ⇒ knowledge about transported cargo necessary
- NST-R/NST-2000 provides the necessary details
- For enterprises, more information is given on the mode of appearance
Evaluation Classification Structure

2. Turnover

- A lot of road freight transportation in Germany is done by freight forwarders with own truck fleet that dominate the market and set the prices.

- A significant share of the German road freight transportation market is kept by foreign companies whose turnover is not measured in Germany.

- No splitting of turnover of international transports.

Concept measures the turnover of German companies with FT as their main activity. Not suitable to estimate the size of the German FT market.
For a long time, VAT statistics were chosen to get the **turnover** for 60.24

In 2000, Service Statistics were introduced as another possible source

However, quality of that new data is still not sufficient

Therefore, VAT statistics remain the main source; every year, it is decided again upon which data to use

**Output** figures (tkm) are used to estimate quarterly figures by extrapolation.
Turnover/output data methods

1. Output

- Respondents: owners of tractive vehicles registered in Germany with a weight over 3.5 t

- Stratified sample based on the register of tractive vehicles maintained by the Federal Motoring Office (Kraftfahrt-Bundesamt – KBA); sample size: 0.5% of all vehicles registered
Turnover/output data methods

1. Output (2)

Road transportation statistics based on nationality concept (not territoriality concept as found for other modes of transport)

**Nationality concept**
All transports of vehicles registered in a certain country, without regard to destination and relation

**Territoriality concept**
All transports within a certain country, without regard to the origin of the vehicle

However, territorial data available after consolidation of all European data by Eurostat
Turnover/output data methods

1. Output (3)

- Reporting period: half-week (104 reporting periods each year)
- Respondents have to give information about all journeys during the reporting period for which they have been selected
- Information about the vehicle is taken from the vehicle register
- Information about the journey and the transported goods is questioned by questionnaire
- Centralised statistics conducted by KBA and BAG (Federal Office for Freight Transport)
Turnover/output data methods

2. Turnover

- Two statistics: absolute values (published annually) and relative change (published quarterly).

- Respondents: Companies from sector 60.24 according to the business register

- Sample stratified according to region and VAT turnover information; size: 15% (annually) and 10.1% (quarterly, they account for more than 42% of the sector’s total turnover)
Turnover/output data methods

2. Turnover (2)

- Publication: annual data as raised figures (absolute values); quarterly data as percentage change; index numbers (basis 2000=100) available as seasonally and working-day adjusted figures are

- It is tested whether VAT data can be used to calculate the quarterly figures
Comparability with SPPI practices

- Turnover: no breakdown of the data according to market segments → gives only an impression of the size of the market

- Output: most important source for the weighting pattern
  - tkm of the transport statistics combined with freight rates from the BAG = turnover
  - Data was regrouped to fit into the SPPI classification
Development of an Index of Service Production

- ISPs exist for the industrial sector and are regularly calculated, but not for the service sector.
- Two possible approaches for freight transport by road:
  - Turnover deflated by SPPI
  - Volume indicator based on tkm
- However, quality of input data has to be improved to compile sufficient ISPs:
  - Data quality for turnover not yet satisfying
  - ISP based on tkm neglects other services of 60.24 companies and includes freight transport by road services from other sectors.
Summary

- Turnover and output statistics are available
- Coherency between service statistics, transport statistics and SPPI has to be improved due to different aims of the statistics:
  - Service statistics: main activity concept (NACE)
  - Transport statistics: covering of all freight transport by road
  - SPPI: get the price development of the FT market
- An ISP based on turnover figures and SPPI might be a way to get output figures describing the development of the NACE sector 60.24 better than transport statistics do