A comprehensive overview
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Discussion Paper 2012 - 04
Published at the
ITF Summit 2012
Leipzig, Germany

Available also at:
www.internationaltransportforum.org
Logistics costs: no statistical nor accounting units

• Definitions vary from case to case
  – Large differences in awareness levels across countries

• Firm and macro level data not compatible
  – Linkage to National Accounts data only implicit;
    • Some industry or transport statistics also rely on questionnaires
  – Self-reported data may be subjective or biased

In short: severe knowledge gaps exist on the concept of logistics costs
The boundary of the firm affects the object and unit of analysis; but it is fuzzy.

The line between firm, supply chain or network?

Upstream SC <-> Focal firm <-> Downstream SC

Firm <-> Strategic Business Unit <-> Conglomerate

"Arm’s length" transaction <-> Long-term partnership

Outsourcing <-> In-house-operations

Intra-firm trading <-> Intra-industry trading

Domestic operations <-> International operations
Main types of logistics study/survey

• Statistics-based studies applying models
  – Econometric
  – Other modelling approaches

• Surveys using questionnaires
  – Comprehensive themes
  – Single-theme surveys

• Case study-based approaches
Existing studies e.g. by the following...

<table>
<thead>
<tr>
<th>Logistics providers</th>
<th>Logistics users</th>
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<tbody>
<tr>
<td>Finland</td>
<td>Sweden</td>
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<td>Germany (BVL)</td>
<td>US State of Logistics</td>
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<td>Switzerland</td>
<td>South Africa</td>
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<td>Thailand, Japan</td>
<td>Brazil</td>
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<td>France</td>
<td>Europe Top 100</td>
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<td>Colombia</td>
<td>Norway</td>
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<tr>
<th>Source of data</th>
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<tr>
<td>Statistics-based</td>
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<td>Survey-based</td>
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<th>Type of study</th>
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<td>ASLOG France</td>
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<td>Brazil: ILOS</td>
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<td>Transport Canada</td>
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<td>University of Lund, Sweden</td>
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<td>Technical University of Berlin</td>
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<td>Fraunhofer Institute, Germany</td>
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<tr>
<td>Delcan Corp. for CSCMP, USA</td>
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<td>Thammasat University Thailand</td>
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<td>St. Gallen University Switzerland</td>
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<tr>
<td>Turku School of Economics, Finland</td>
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<tr>
<td>Japan Institute of Logistics Systems</td>
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<tr>
<td>South Africa: CSIR &amp; Stellenbosch U.</td>
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<tr>
<td>Ministry of Transport, New Zealand</td>
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<tr>
<td>Latin America: Georgia Tech &amp; LALC</td>
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<tr>
<td>Institute of Transport Economics Norway</td>
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A wide spread of methods, units and definitions on logistics cost; few longitudinal studies exist.

Logistics costs as % of: (i) GDP *; (ii) Sales **; (iii) Total costs ***

- Tajikistan 2005*
- Moldova 2005*
- Ukraine 2007*
- Russia 2011*
- Brazil = ILOS (2010) *

* State of logistics
** ELA/ AT. Kearney**
*** BVL Germany; Manufacturing***

Levels of Logistics Costs in Statistics-based Studies; Percentage of GDP (* % of sales)

Levels of Logistics Costs in surveys; Percentage of GDP (* % of sales)

LPI 2007 indicated a strong correlation of national logistics performance and costs.

Source: Arvis et al. (2007) Connecting to Compete; Logistics Performance Index, World Bank
Knowledge gaps on national level logistics performance indicators & costs

• Lack of comparable methods & terminology

• Very few cross-country studies made even in HICs

• Little comparative data across countries & industries

→ Fact-based, comparative policy recommendations difficult to make without adequate indicators
Logistics Performance International Observatory (LPIO) initiative by The World Bank to improve Logistics Cost & Performance analysis

• Collecting the existing knowledge → LPIO
  – Starting mainly from High Income countries
  – Three workshops held in the US, Europe and Asia

• Analytic tools esp. for Middle & Low Income countries
  • Questionnaire-based surveys
  • Statistics-based studies
  • Modelling approaches
  • Other approaches, e.g. Logistics Performance Index (LPI) surveys

Aim to measure logistics costs & KPI’s in a more uniform way

" F → K ← °C "

In conclusion, there is strong...

• ...interest for exchange of knowledge among researchers in the field;

• ...need for improved market information; and

• ...demand for better analysis to support policy-making especially in LICs and MICs.

⇒ A need to create a joint knowledge platform to study national level logistics performance
Thank you for your attention!
Selected references:

- Ittmann, HW, King, DJ, Maspero, EL et al. (2008) Fourth annual state of logistics survey for South Africa 2007: logistics for regional growth and development
- Transport Intelligence (2008) Logistics & transport Industry Environmental Survey
- Barbero J A (2010) Freight Logistics in Latin America and the Caribbean: An Agenda to Improve Performance, Inter-American Development Bank Infrastructure and Environment Department, TECHNICAL NOTES No. IDB-TN-103
Statistics-based logistics studies do exist:

- Annual State of Logistics Report U.S  
  1989

- Bowersox, Rodrigues, Calantone & Closs, Stank  
  1999, -02, -05

- South Africa State of Logistics Survey  
  2003

- Logistics costs in Brazil  
  2005

- Top 100 in (European) Logistics  
  2007

- Norwegian logistics costs  
  2008

- Svensk Makrologistik (Sweden)  
  2008

- Radelet and Sachs  
  1998

- Lee & Hausmann (World Bank background note)  
  2005
...as do surveys using questionnaires, such as:

- ELA & A.T. Kearney 1987
- Finland State of Logistics 1991
- German Logistics Association BVL 1995
- State of Logistics: The Canadian Report 200X
- Norwegian Logistics barometer 2003
- LogOn Baltic Logistics Survey 2007
- World Bank Logistics Performance Index 2007
- Colombian logistics survey 2008
- Swiss Logistics market, St. Gallen University 2009
World Bank case studies on national logistics costs in Low-Income countries

- Arvis: Sub-Saharan and North Africa 2003
- Ojala: Moldova, Albania, Ukraine, Central Asia 2003
- Naula: Central Asia 2007