Capturing the new role of transport

Round table:

Supply Chain Challenges for National Competitiveness through Transport

Geneva, 2 December 2009

M. Pesut, UNECE

Is Globalisation really ending ?

- "The integration of the world economy is in retreat on almost every front"

- "Despite the downturn, the nations of the world have not shunned globalisation. **It has been protected by the belief of firms in the efficiency of global supply chains**. But like any chain, these are only as strong as their weakest link. A danger point will come if firms decide that this way of organising production has had its day."

Economist – 19 February 2009

Trends affecting transport

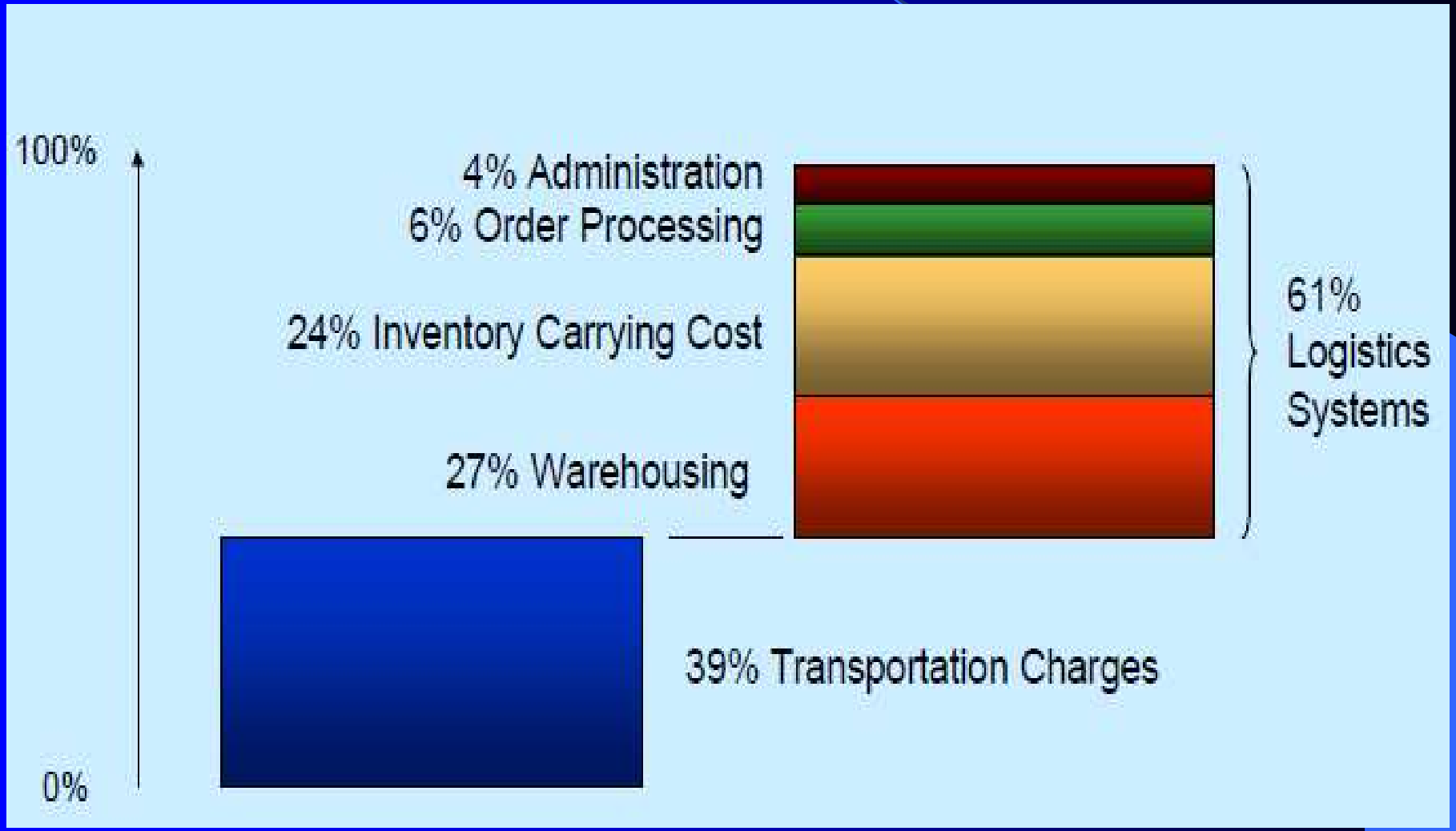
- Globalization and Global Supply Chain management
- Trade liberalization – Facilitation – Security
- Technical and technological changes
- Changing role and scope of the public sector
- Environmental awareness - growing responsibility for sustainable development

Major factors driving the integration of transport with distribution

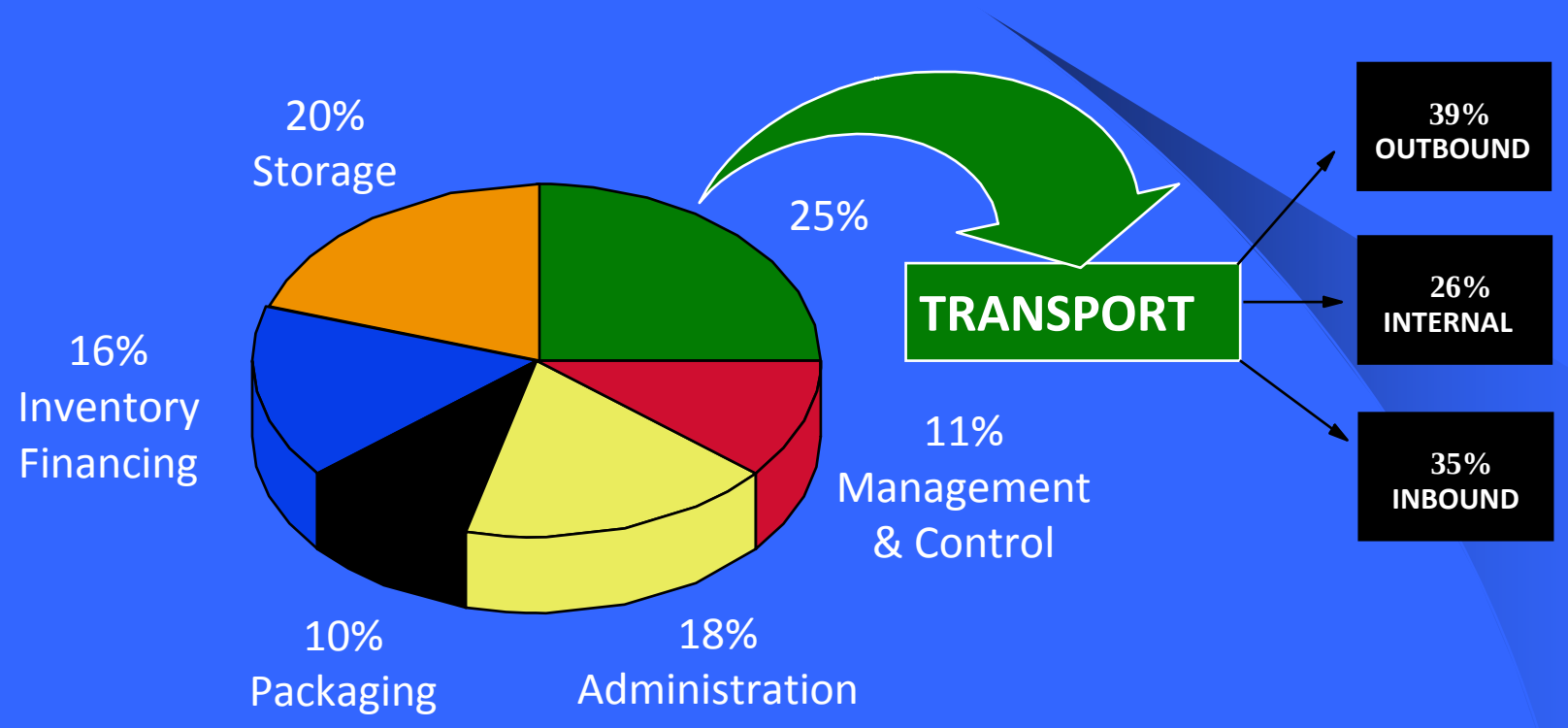
Factor	Cause	Consequence
Technology	Containerization & IT	Modal and intermodal innovations; Tracking shipments and managing fleets
Capital investments	Returns on investments	Highs costs and long amortization; Improve utilization to reduce capital costs
Alliances and M&A	Deregulation	Easier contractual agreements; joint ownership
Commodity chains	Globalization	Coordination of transportation and production (integrated demand)
Networks	Consolidation and interconnection	Multiplying effect

Worldwide logistics costs

Worldwide logistics costs exceed $1 trillion



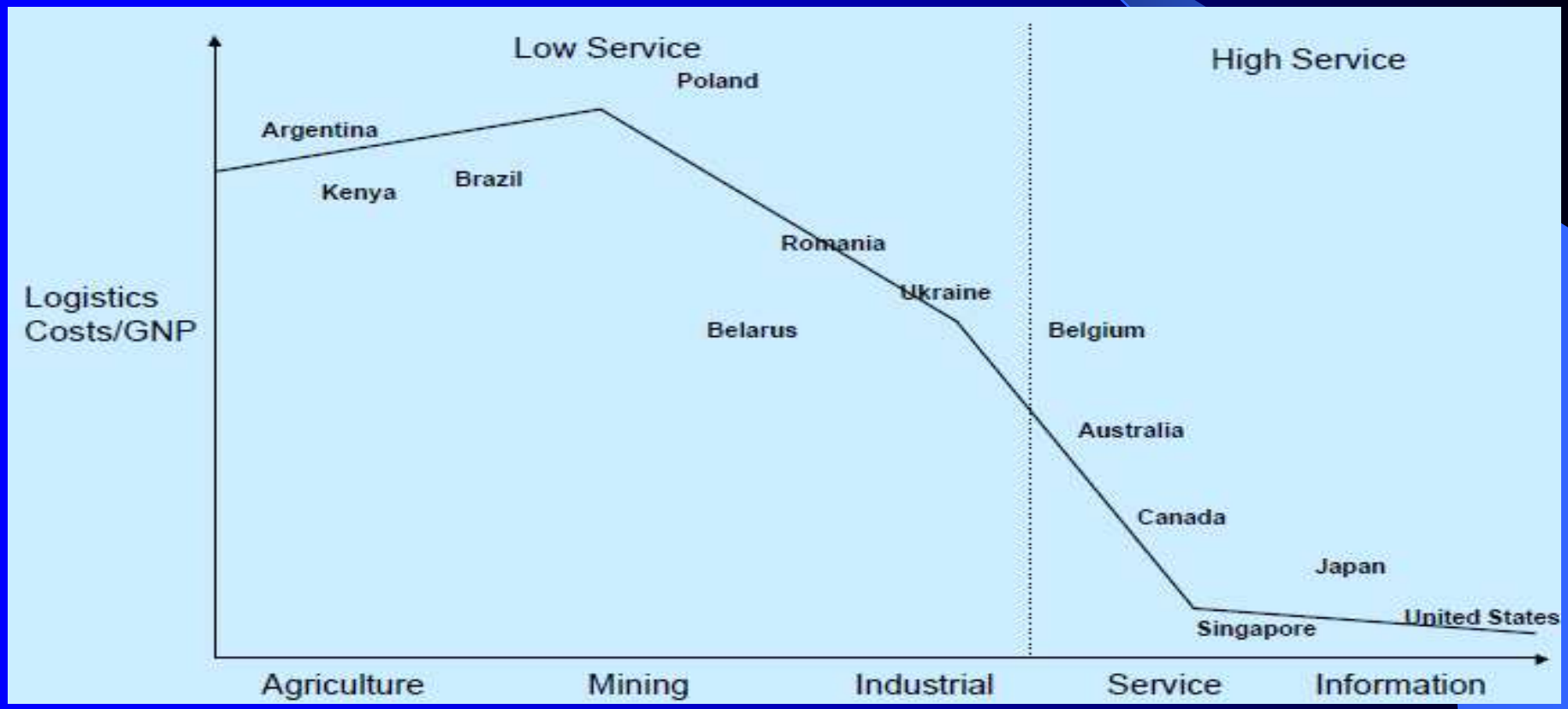
Direct transport costs are around 25% of logistics costs



Source: OECD Average: Bundesvereinigung Logistik (Germany)

Costs of logistics

- The % of GNP spent on logistics decreases as the economy develops and as competition becomes more effective



Traditional methodologies - Are they still useful?

- **Traditional transport statistics - variety of indicators**:
  - modal indicators (length of roads, railways, etc.)
  - capacity indicators (number and carrying capacity of vehicles, trucks, trains, etc.)
  - performance indicators (pkm and tkm, train km., etc.)
  - environmental indicators (emission, noise, energy consumption, etc.)
- **Strengths but also weaknesses**:
  - statistical analysis and reliability, historical data, harmonized among countries, based on objective information,
  - lack of quality of service measures, not demand driven, partially capture the role of transport in supply chains, static as they do not capture developments and dynamic changes in markets

Traditional tools for evaluation of transport's contribution to countries competitiveness

Strengths	Weaknesses
☑ Statistical analysis and reliability ☑ Existence of historical data ☑ Harmonized and agreed among countries ☑ Used in transportation evaluation report or research ☑ Based on objective data ☑ Infrastructure or service side focus	☑ They are not demand driven ☑ There is no measurement of quality of services ☑ Partially capture the role of transport in global supply chains ☑ They do not provide combined results based on external parameters like socio economic factors etc. ☑ They do not reveal the real contribution of transport to countries competitiveness
Opportunities	**Threats**
☑ Dynamic development of evaluation tools according to transport market development, ☑ Understanding of the new and more complex role of transport networks as part of the global supply chains, ☑ Reliable and efficient tools which would effectively analyze and present transport's contribution to countries competitiveness, ☑ Flexible and dynamic, scenarios based evaluation tool	☑ Partial coverage of contemporary issues of transport and transports new role ☑ Historical analysis will be their only value ☑ No dynamic change and development that would follow markets development ☑ Static and not flexible or scenarios driven

International and national initiatives

- Awareness of transport sector importance for overall national competitiveness
- To capture the new role of transport in supply chains,

International initiatives

-The World Bank - Logistics Performance Index

-The World Bank – Doing business

-The World Economic Forum – Global Competitiveness Index

-European Commission – Logistics Action Plan

-IMD Lausanne – the World Competitiveness Yearbook

National initiatives

Germany, Canada, Ireland, and others

The World Competitiveness Yearbook (IMD Lausanne)

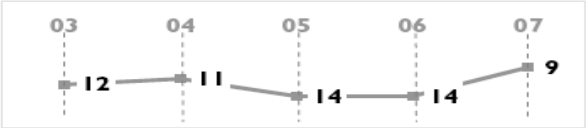
- "Competitiveness of enterprises" - Environment which sustains the competitiveness of enterprises
- "Competitiveness of nations" - National environment which enhances or hinders ability of enterprises to compete domestically or internationally
- The methodology of the WCY divides the national environment into four main factors:
  - Economic Performance
  - Government Efficiency
  - Business Efficiency
  - Infrastructure

The World Competitiveness Yearbook

- Each of these factors is divided into 5 sub-factors which highlight every facet of the analyzed areas. (20 sub-factors)
- These 20 sub-factors comprise more than 300 criteria; (each sub-factor does not necessarily have the same number of criteria (for example, it takes more criteria to assess Education than to evaluate Prices).
- Each sub-factor, independently of the number of criteria it contains, has the same weight in the overall consolidation of results that is, 5% (20x5 =100).
- Criteria can be hard data or soft data
- Hard criteria represent a weight of 2/3 in the overall ranking whereas the survey data represent a weight of 1/3. Some criteria are for background information only, which means that they are not used in calculating the overall competitiveness ranking (e.g. Population under 15).
- Finally, aggregating the results of the 20 sub-factors makes the total consolidation, which leads to the overall ranking of the WCY.

SWEDEN

OVERALL PERFORMANCE



CHALLENGES IN 2007

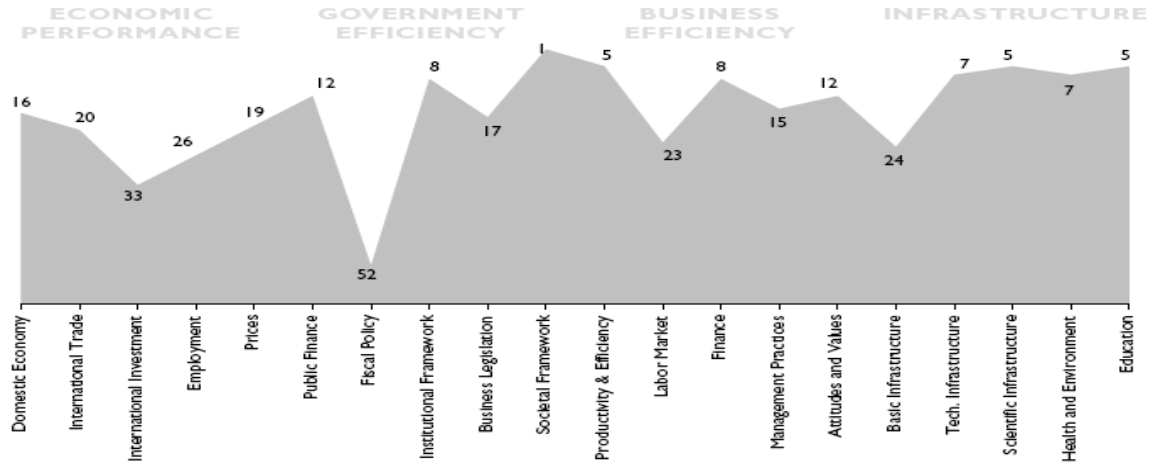
- Improve education and workforce skills in tune with business sector demand.
- Promote entrepreneurship and start-up companies.
- Increase commercial output of innovations.
- Broaden SME participation in R&D activities.
- Take advantage of new opportunities in the Baltic Sea region and in emerging markets.

Provided by :
Invest in Sweden Agency

BASIC FACTS

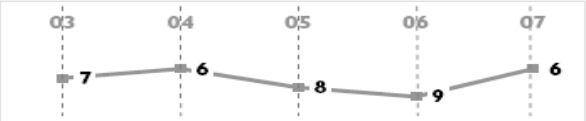
		Rank
Capital	Stockholm	
Land area (km^2 '000)	450.3 (2006)	-
Exchange rate (per $)	7.37 (2006)	-
Population (millions)	9.11 (2006)	36
GDP ($ billions)	385.0 (2006)	19
GDP (PPP) per capita ($)	33,625 (2006)	13
Real GDP growth (%)	4.4 (2006)	32
Consumer Price Inflation (%)	1.4 (2006)	7
Unemployment rate (%)	5.4 (2006)	23
Labor force (millions)	4.59 (2006)	35
Current Account Balance (%)	7.4 (2006)	11
Direct Investment		
Stocks Inward ($ billions)	171.5 (2005)	18
Flows Inward (% of GDP)	3.7 (2005)	26

COMPETITIVENESS LANDSCAPE

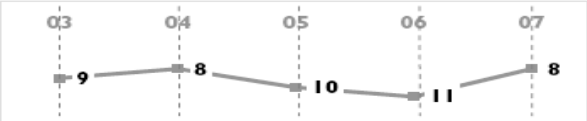


PEER GROUP RANKINGS

EUROPE - MIDDLE EAST - AFRICA



POPULATION < 20 MILLION



Supply Chain Operations Reference Model

- The Supply Chain Operations Reference-model (SCOR) - business process reengineering, benchmarking, and process measurement
- SCOR isolates key supply-chain management processes and benchmarks performance data
- Recognized by 800 member companies of the Supply-Chain Council as an effective "toolkit" for companies wanting to upgrade their supply chains for strategic advantage.
- SCOR model is a tool for ensuring that the operations strategy has the desired outcome.
- Cross-industry studies show that integrated supply-chain management typically yields the following results:
  - 25–50% reduction in total supply chain costs
  - 25–60% reduction in inventory-holding
  - 25–80% increase in forecast accuracy
  - 30–50% improvement in order-fulfillment cycle time

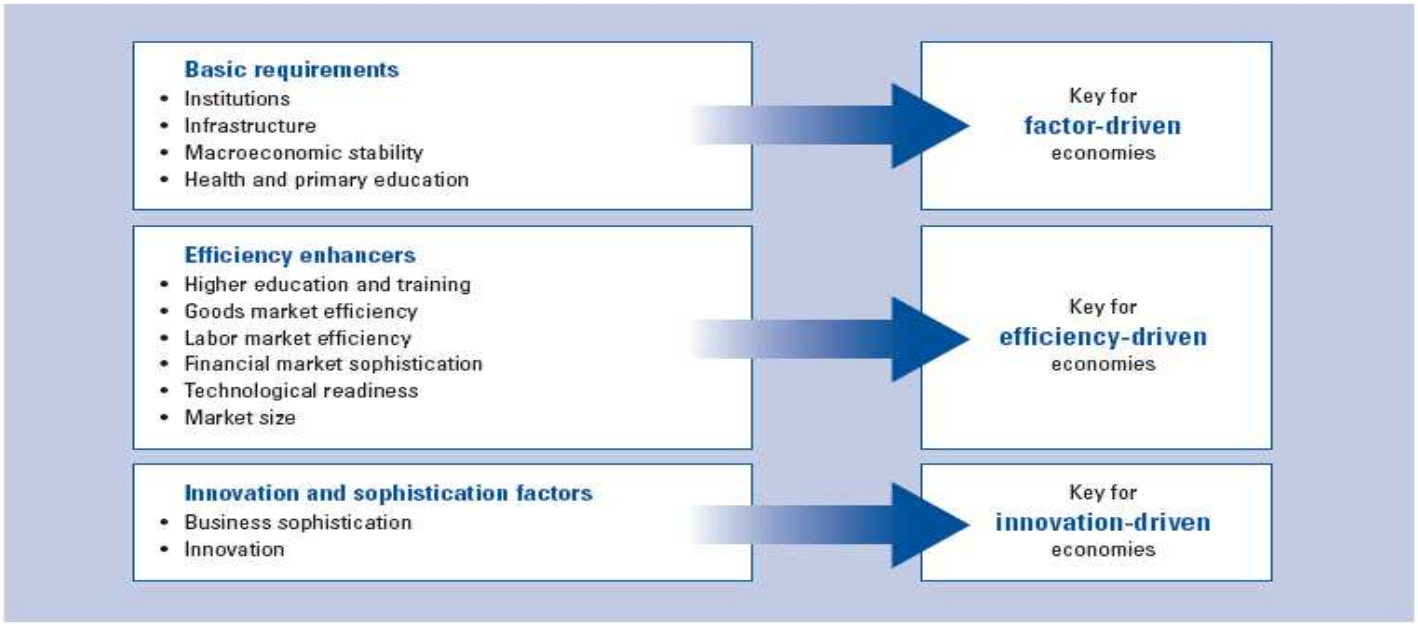
The Global Competitiveness Index (GCI)
World Economic Forum

Competitiveness - set of institutions, policies, and factors that determine the level of productivity of a country.

Global Competitiveness index - composite index based on macro and micro data as well as interviews with key business and societal stakeholders featuring 12 pillars of competitiveness.

Detailed profiles of 133 economies and data with global rankings covering more than 100 indicators in nine areas

Figure 1: The 12 pillars of competitiveness



The Global Competitiveness Index (GCI) World Economic Forum

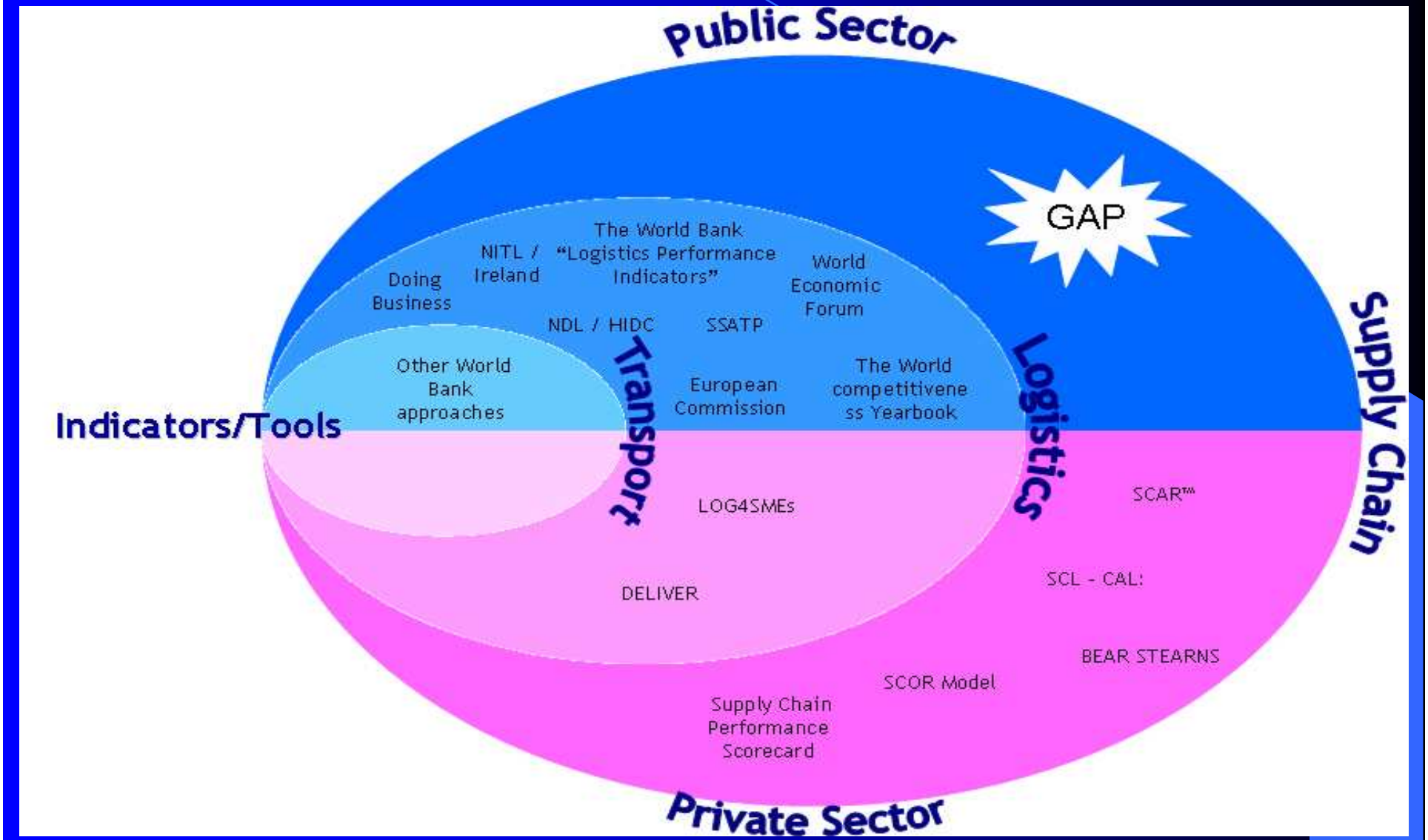
Several indicators are directly or indirectly relevant to logistics and facilitation:

- Quality of port infrastructure
- Quality of railroad infrastructure
- Quality of overall infrastructure
- Quality of roads
- Quality of air transport infrastructure
- Property rights
- Effectiveness of anti monopoly policy
- Prevalence of foreign ownership
- Prevalence of trade barriers
- Trade weighted tariff rate
- Rigidity of employment
- Reliance on professional management
- Strength of investor protection
- Soundness of banks
- Availability of latest technologies
- Domestic market size index
- Foreign market size index
- Local supplier quality
- Value chain breadth
- Production process sophistication
- Control of international distribution
- Capacity for innovation
- Government procurement of advanced technology products
- Utility patents

Relevant or Similar Tools based on:

	Sector based Analysis	Firms based Analysis	Country based analysis (Micro factors)	Country based analysis (Macro +Micro factors)	Country based analysis (Macro factors)
• LOG4SMEs	✓				
• SCAR™		✓			
• SCL - CAL: Logistics Key Performance Indicators	✓				
• BEAR STEARNS - Supply Chain Indicator / Shippers Survey Results		✓			
• SCOR Model		✓			
• Supply Chain Performance Scorecard		✓			
• The World Bank "Logistics Performance Indicators"				✓	
• World Economic Forum			✓		
• European Commission				✓	
• Doing Business				✓	
• The World competitiveness Yearbook				✓	
• NDL / HIDC			✓		
• SSATP Transport Indicator Initiative				✓	
• DELIVER Logistics Indicators Assessment Tool	✓				
• NITL / Ireland / SCMgt Centre of Excellence			✓		
• Other World Bank approaches				✓	

Where is the gap?



SWOT analysis of different initiatives to evaluate transport supply chain challenges and its contribution to competitiveness

Strengths	Weaknesses
☑ Build a preliminary database of definitions and data that can be used for the further development of an integrated evaluation tool for transport roles and contribution to competitiveness, ☑ Variety of indicators and market focus which help transport sector and Governments to better understand the issues and new – complex - role of transport market, ☑ Indicators show the need for development of tools which will evaluate integrated impact of transport sector on national economies, ☑ In some indicators, transport is considered as integral part of logistics services which shows the development of the transportation market and strengthen its role as part of the global supply chain,	☑ They do not follow common methodologies nor have harmonized definitions and terminology, ☑ They do not take into consideration the special needs of land locked countries, ☑ They do not provide aggregated results by using data from different modes of transport, ☑ In public sector, transport is being evaluated either as isolated function of the economy or with logistics services providers who are being considered as the spin-offs from transport companies, ☑ In public sector, there is no evaluation of transport sector's new role as part of the global supply chain, ☑ In public sector there is no evaluation of transport sector contribution to countries competitiveness ☑ The existing evaluation tools are not taking into account the particular characteristics of the regions, the socio- economic factors of each country, etc. in evaluation models in combination with the hard data and therefore cannot provide reliable results for further analysis and benchmarking,
Opportunities	**Threats**
☑ Development of new, flexible, dynamic and efficient evaluation tool of transports' supply chain challenges and contribution to countries competitiveness, ☑ Realization by Governments of the new role of transport networks as important part of global supply chains and not (or not only) as the predecessor of logistics services providers (3PLs/4PLs),	☑ Transport's role in the global economy and supply chain to be underestimated as cannot be measured, ☑ Transport's contribution to countries' competitiveness not to be reliably measured, or to be partially considered as result of misleading evaluation tools, ☑ Transport sector not to be considered in future investment plans as important development factor of national economies as result of lack of flexible and efficient evaluation tools of its contribution to the overall economic development.

Need for new methodology

- Re-position role of transport
  - as part of the global trade
  - important indicator for the level of development and competitiveness
- Reflect technological, commercial and regulatory changes governing transport
- Need to develop appropriate methodology based on:
  - multi-criteria based tools
  - meso-level indicators
  - specification of strategic policy objectives
  - collection of data and appropriate comparison of costs
- Outline of the new (UNECE) methodology (Informal doc. No.10)

Thank you for your attention

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