Chair of Logistics Management

University of St.Gallen

The SWISS Transport & Logistics Market

Selected Results

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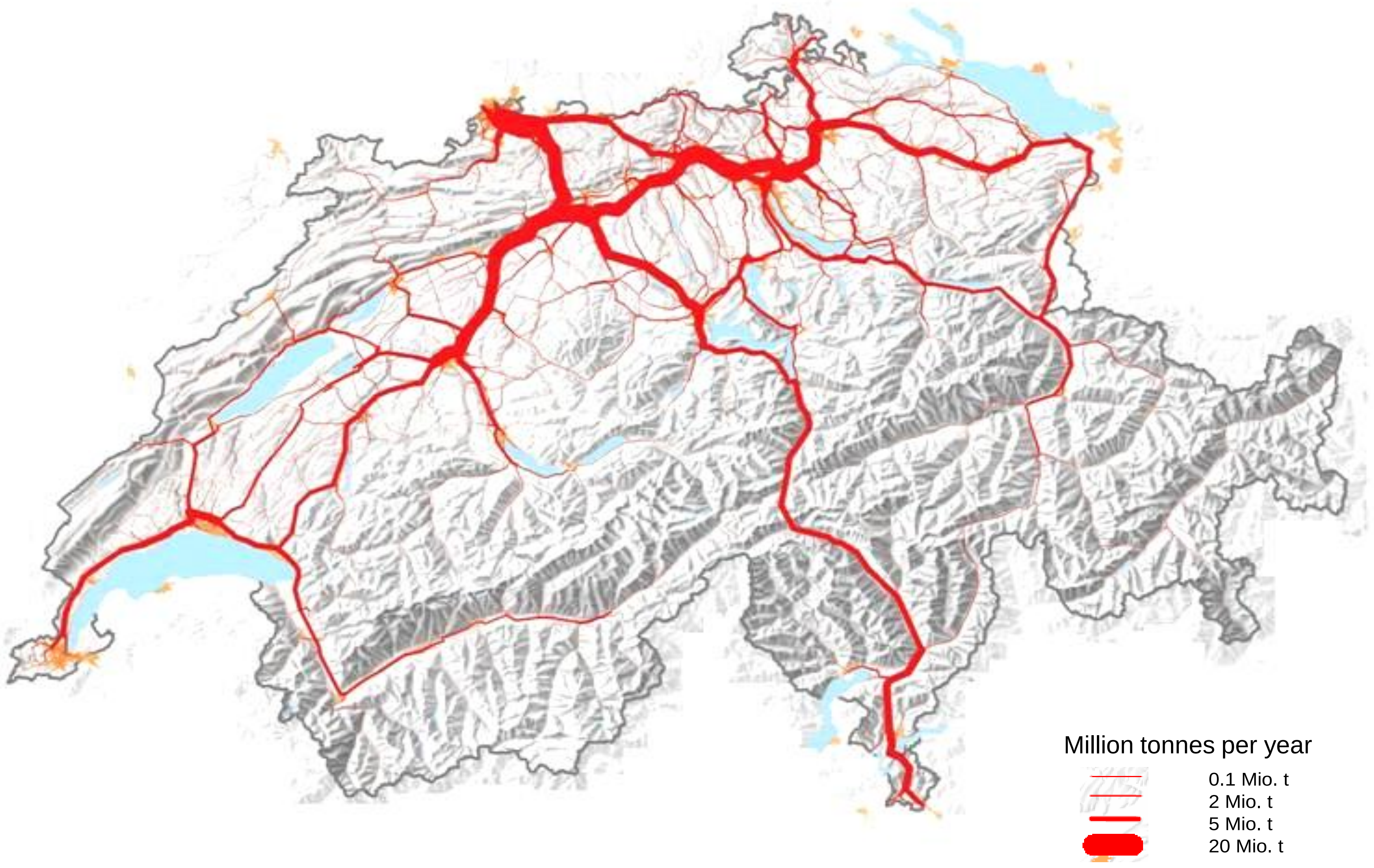
Volume of cargo according to mode of transport

Mode of transport	Volume of cargo 2006 [in Mio. t] [3]	Volume of cargo 2007 [in Mio. t] [3]	Proportion of total appearance
Road transport	351.2	361.2	77.2%
Rail transport	70.2	72.7	15.5%
Waterway transport[1]	13.9	14.5	3.1%
Air freight transport[2]	0.34	0.36	0.1%
Pipe lines	22.0	19.0	4.1%
total	**457.6**	**467.8**	**100.0%**

[1] Shipping transport is limited to the Rhein section between Basel and Rheinfelden and trips on short channels and the larger swiss lakes.
[2] The air freight transport refers to the actual tonnage transported by swiss airports. Air freight transported via foreign airports is not included.
[3] The listed tonnage does not refer to the adduced traffic performance. Traffic performance also includes bridged distances and is measured in "tonkilometer" entities.

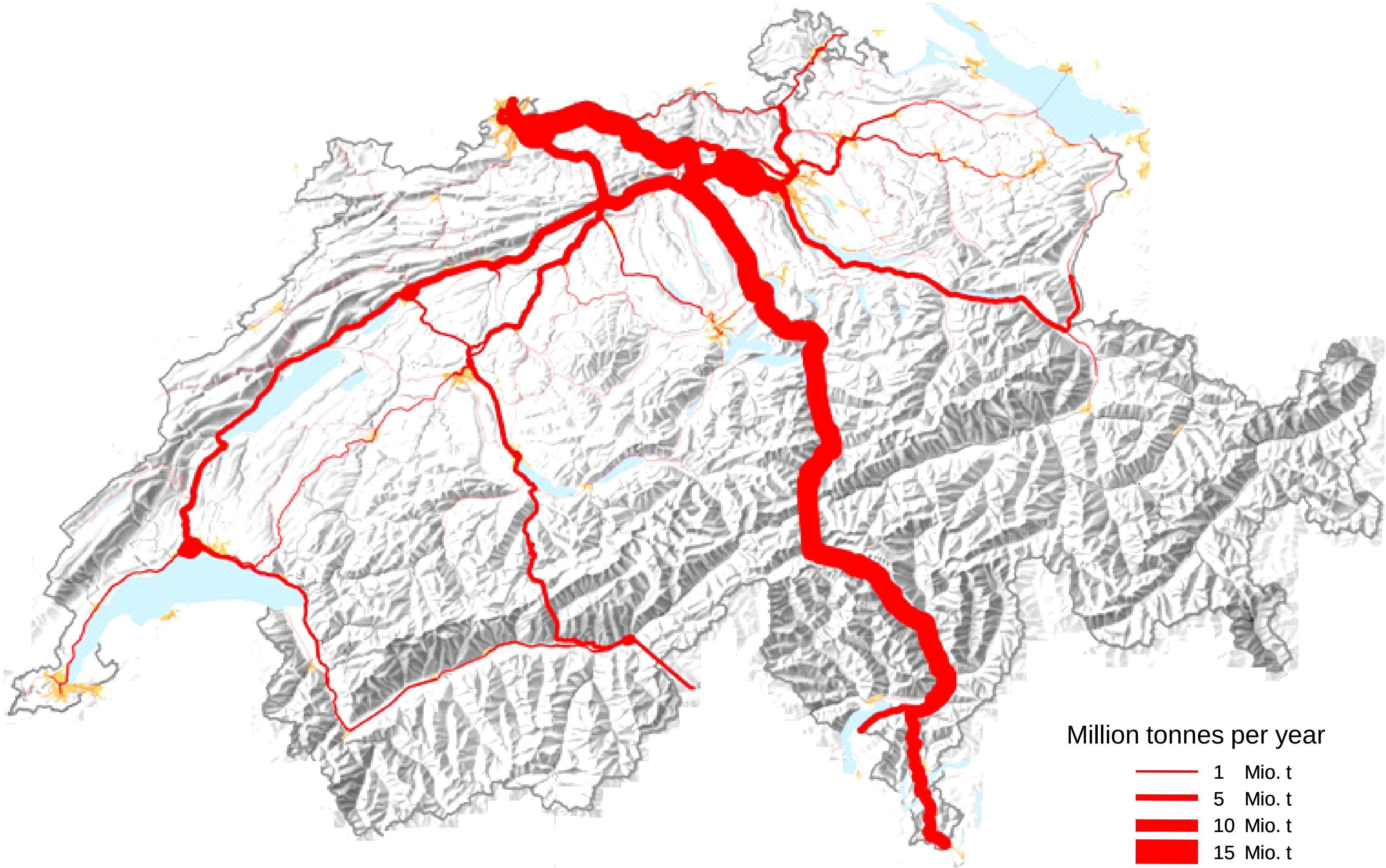
Sources: Bundesamt für Statistik, 2008: Verkehrsaufkommen und Verkehrsleistung im Güterverkehr; Bundesamt für Statistik, 2008: Fracht und Post im Linien- und Charterverkehr seit 1950; Eidgenössische Zollverwaltung, 2008

Allocation of Swiss road transportation of goods



Source: Amt für Raumentwicklung 2000

Allocation of Swiss rail transportation of goods



Source: Amt für Raumentwicklung 2003

Selection of Swiss national traffic and freight initiatives – "No general master plan for logistics"

- **1992, NRLA - New Rail Link through the Alps** (German: NEAT)**:** A New Rail Link through the Alps with two new base tunnels through the Gotthard and the Lötschberg.
  Total cost ceiling: 24 bn CHF (approx.)
- **1994, Constitutional Article on the Protection of the Alps (**German: Alpenschutzartikel)**:** The article accepted with the aim of protecting the alpine region from the negative effects of through traffic by road (art. 36 & 84 Federal Constitution/BV). This article requires the transfer of trans-alpine heavy goods traffic from road to rail within 10 years and prohibits any increase in the capacity of the transit roads in the alpine region.
- **1994, Mileage-Related Heavy Vehicle Tax, MRHVT** (German: LSVA)**:** Comprehensive road-user tax, dependent on distance, weight and emission, levied on heavy goods veheciles (HGVs). This includes road costs (construction, operation and maintenance) and a quantifiable part of the (Start: 2001).
- **1999, Traffic Transfer Act** (German: Verkehrsverlagerungsgesetz)**:** Together with the Land Transport Agreement between Switzerland and the EU which, among other things, explicitly anchors the Swiss policy of traffic transfer (road to rail). A reduction to a maximum of 650,000 alpine-transiting lorries per year is to be achieved as quickly as possible.
- **2008, Elimination of road infrastructure weaknesses** (German: Engpassbeseitigung auf dem Nationalstrassennetz)**:** Removal of the greatest bottlenecks in the road infrastructure (motorways and agglomeration). Total cost ceiling: 5 bn CHF.
- **2009, ZEB - Future developments of large-scale railway projects**. The urgency of the public transport projects that have not been financed yet needs to be assessed based on the fact that the situation at the outset has changed.

Additional initiatives :
Railway noise reduction, High Speed Rail (HSR) network connections,
Funding of combined transports, Alpine Crossing Exchange

Selected results of the study "The utility of the traffic and freight industry in Switzerland" – Main focus on transportation

Objectives

- Quantitative compilation of the value creation of the traffic and freight industry
- Provide an overview of the traffic specific segments and its value creation (e.g. to the GDP)
- Differentiation of transport modes exclusive turnover activities, storage activities and value-added services
- Methodological basis: Macroeconomic data -> Input-Output-Table (www.input-output.ethz.ch)
- Basis year: 2001

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

ASTRA = Federal Roads Office
ARE = Federal Office for Spatial Development

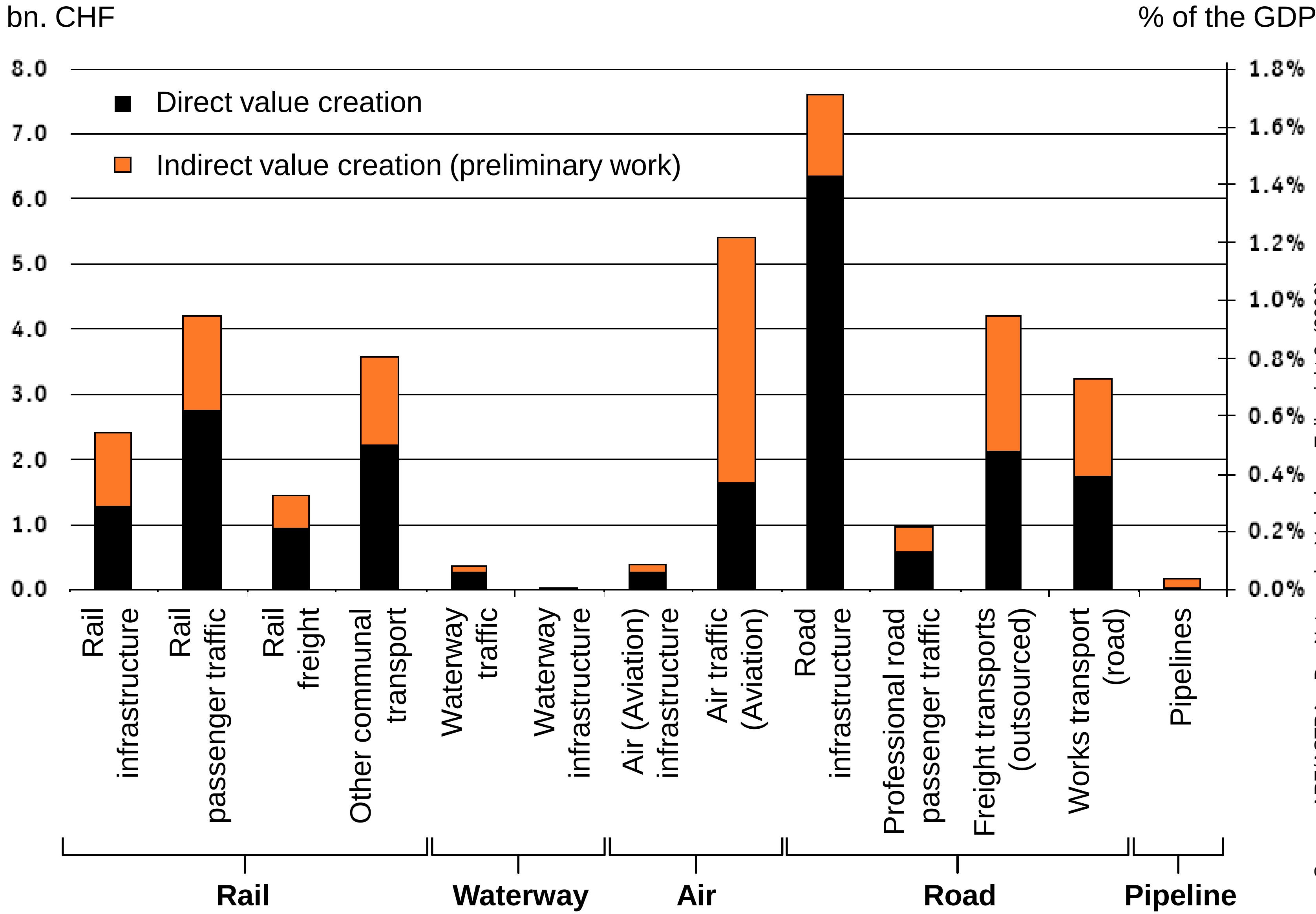
together with

INFRAS

Study "The utility of the traffic and freight industry" [1]

[1] = Bundesamt für Raumentwicklung und Bundesamt für Strassen (2006): Die Nutzen des Verkehrs, Teilprojekt 2: Beitrag des Verkehrs zur Wertschöpfung in der Schweiz

Overall value creation of the traffic and freight industry sector in 2001 [total: 30,6 bn CHF]



Source: ARE/ASTRA – Der Nutzen des Verkehrs – Teilprojekt 2 (2006)

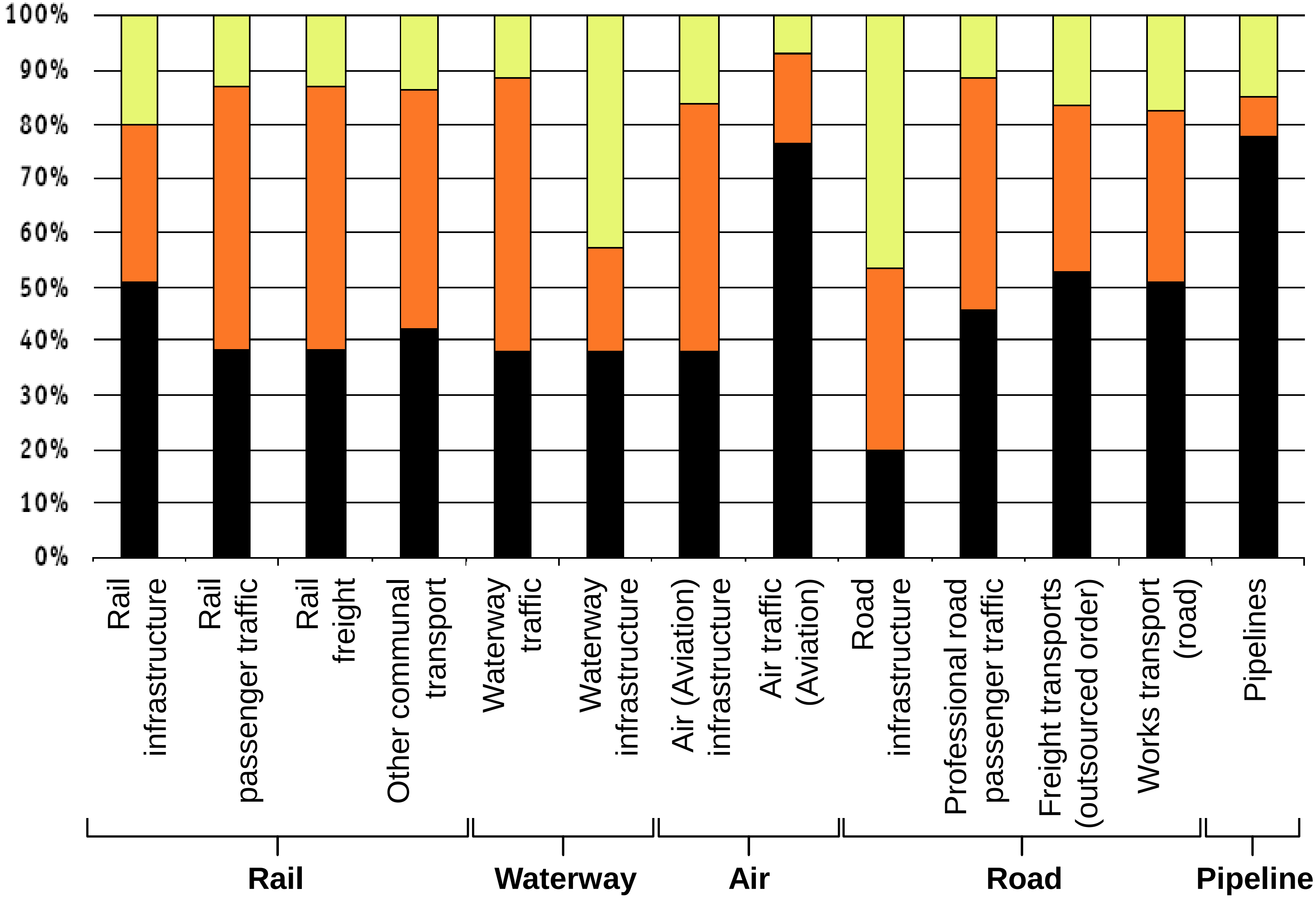
ASTRA = Federal Roads Office; ARE = Federal Office for Spatial Development

Relative gross output of the traffic and freight industry sector in 2001

Portion of the gross output [in %]

- ■ Preliminary work
- □ Capital
- □ Work

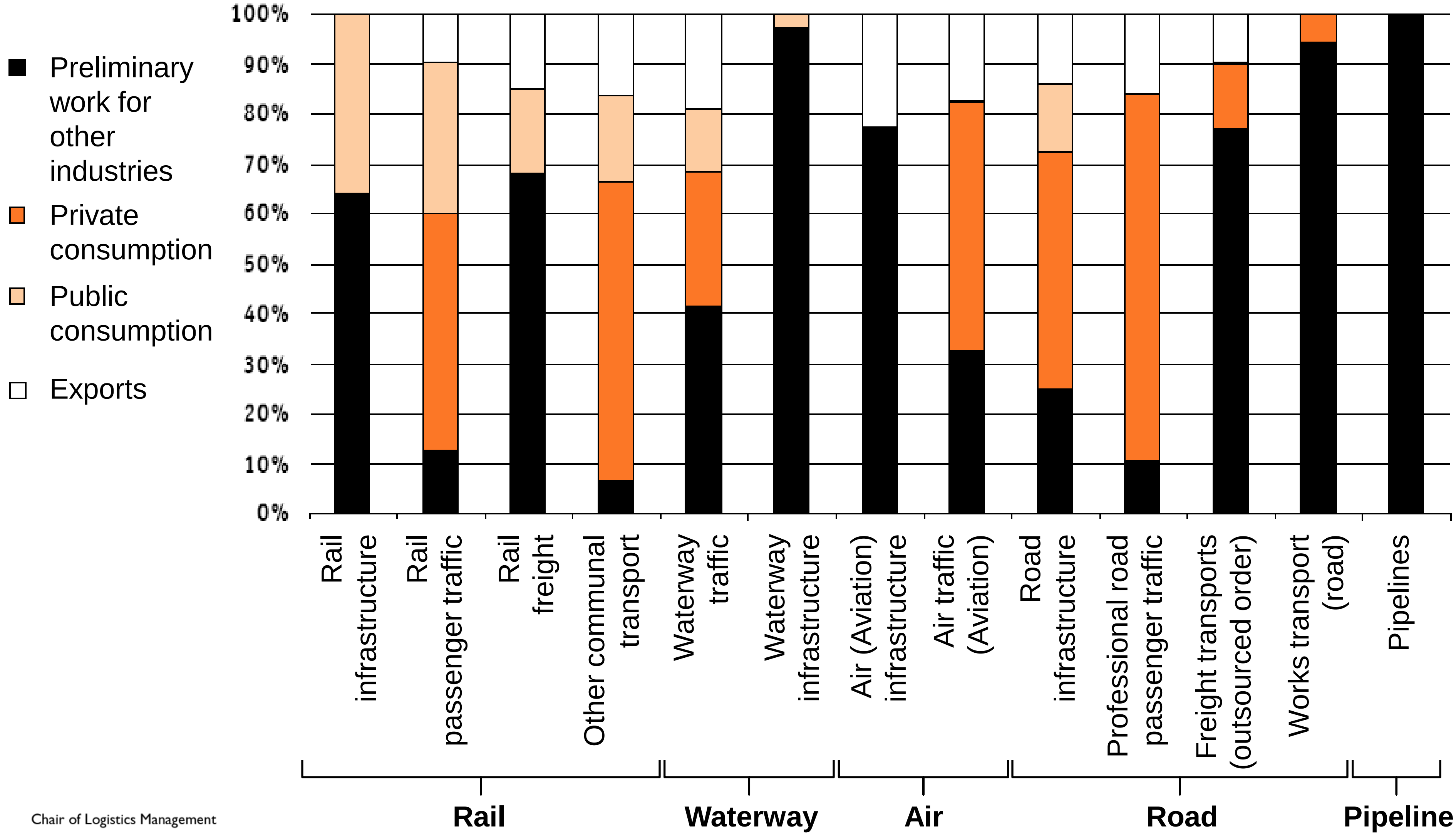
Work intensity
+ capital intensity
= value creation intensity



Source: ARE/ASTRA – Der Nutzen des Verkehrs – Teilprojekt 2 (2006)

Demand structure (usage) of the traffic and freight industry sector in 2001

% of total volume of cargo



Source: ARE/ASTRA – Der Nutzen des Verkehrs – Teilprojekt 2 (2006)

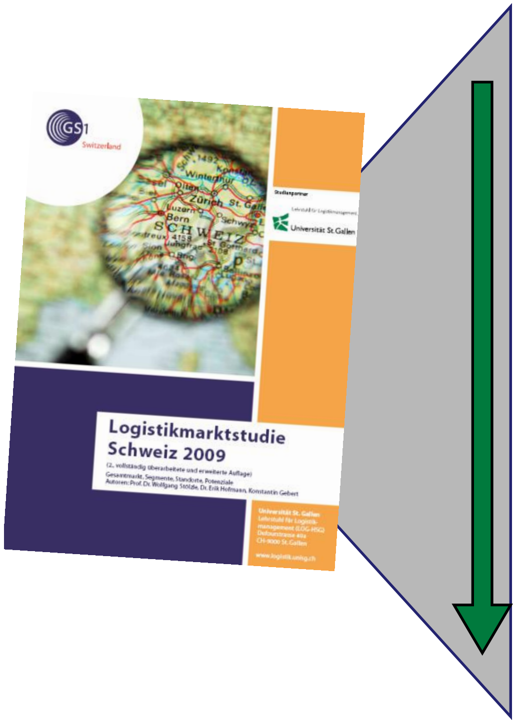
Selected results of the "Swiss Logistics Market Study" – Wider focus on logistics (including transportation, turnover, storage, value-added services)

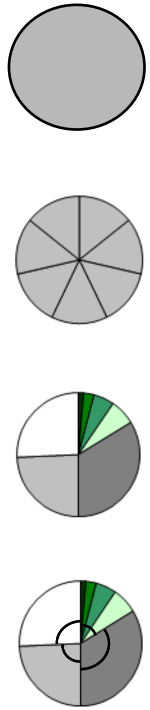
Objectives

- Quantitative and qualitative compilation of the logistics market
- Provide an overview of the logistics market
- Depiction of the current and future situation on the swiss logistics market
- Outline the temporal development of the swiss logistics market
- Methodological approach: Macroeconomic data (secondary statistics) as well as own empirical studies (survey and Delphi-experts)
- Yearly updates: continuous advancement of the study and repeated publications

Swiss logistics market study

Procedure outline (methodological approach)





1. Definition and quantificaion of the logistics market
via statistics based on secondary data (top-down method)

2. Determination of the logistics market's suitable segmentation

3. Quantification of single sub- and crossmarkets
through fields research(bottom-up method)

4. Product and branch specific analysis of market segments
through experts and statistics based on secondary data

5. Identification & interpretation of trends and developments
through a delphi study

Source: Stölzle/Hofmann/Gebert (2009) – Logistikmarktstudie Schweiz

Swiss logistics market volume – Including in-house logistics activities and outsourced logistics services

B

Approximation of labor market

Evaluation of labor labor statistics

35.408 bn. CHF

Logistics market volume

~35,7 bn. CHF

C

Demand side approximation:

Evaluation of enterprise and industry turnovers

36.754 Mrd. CHF

A

Supply side approximation:

Evaluation of the craft and freight traffic statistic

35.215 bn. CHF

Base year: 2008

Variation compared to previous year 2007: **+ 5 %**

Source: Stölzle/Hofmann/Gebert (2009) – Logistikmarktstudie Schweiz

A

Approximation of the supply side: evaluation of the craft and freight traffic statistic

Procedure:

1. Starting point: number of **vehicles within freight traffic**

\+

2. Attribution of practice-oriented **yearly sales revenues** resp. **yearly cost per vehicle**

\+

3. "Residual": consideration of other **up and downstream logistics performance** concerning transport, especially turnover, warehousing and value added services

=

Logistics market volume

~ 35.215 bn. CHF

Selected characteristics (base year 2007):

Number of domestic road freight transport vehicles:	324‘153
Road freight transport vehicles' turnover:	11.1 bn. CHF
Transport turnover of all, including foreign licenced, vehicles (Road, rail, aero, aquatic, pipeline):	14.7 bn. CHF
Transport	43.7%
Turnover and warehousing	41.2%
Other	15.1%

B

Approximation of the labor market: evaluation of labor statistics

Procedure:

1. **Number of employees** who directly and indirectly perform logistics activities

+

2. Consideration of average **wages,** employer's salaries, profits, etc.

+

3. "Residual": inclusion of **other non-related aquisition and wage variables (purchased inputs)**, such as vehicles, fuel

=

Logistics market value

~ 35.408 bn. CHF

Selected characteristics (base year 2007):

Number of employees in logistics:	164'782
[Proportion of employees in Switzerland (4.2 million):	3.73%]
Employees' gross wage and payroll:	10.3 bn. CHF
Gross added value in logistics (wages + taxes + amortization + interest):	15.4 bn. CHF
	+
Purchased inputs (e.g. fuel, motor vehicles, telecommunication insurance, etc.):	18.5 bn. CHF

C

Approximation of the demand side: evaluation of enterprise and industry turnovers

Procedure:

Industry	Turnover during value-adding process: initial production	…	service	Logistics costs as percentage of turnover	Logistics costs (in CHF)
Agriculture and forestry	... CHF			X%	Y
Coal and steel industry, construction industry				...	...
…				...	...
Clothing industry				...	...
Food industry				...	...
Service sector			... CHF	...	...
					∑ = Swiss logistics market

Selected characteristics (base year 2007):
Total industry turnover: 956 bn. CHF

Selection:
Agriculture and forestry (11.5%): 1.6 bn. CHF
Manufacturing of metal products (6.5%): 1.3 bn. CHF
Wholesale (6%): 5.5 bn. CHF

Average proportion of logistics cost: 3.6%

Logistics market volume

~ 36.754 bn. CHF

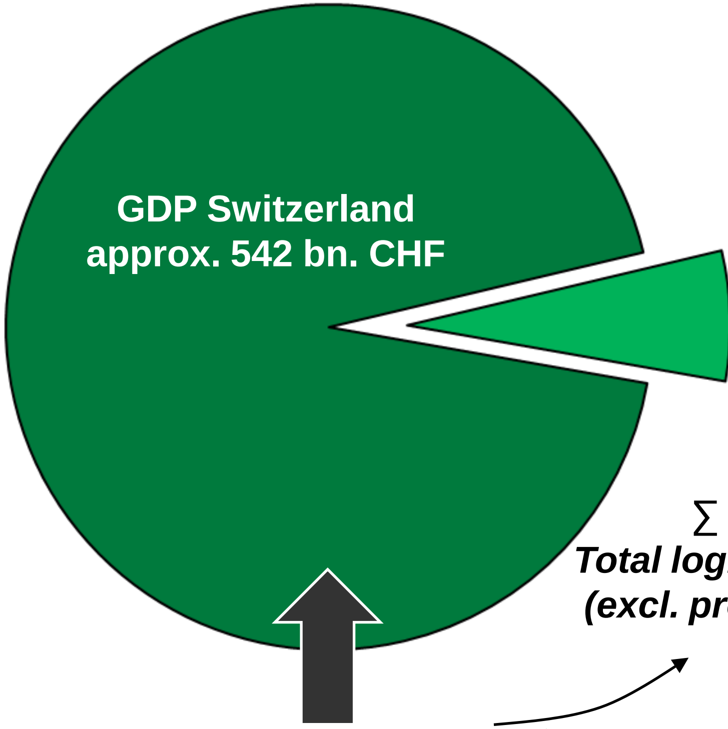
Total swiss logistics market

	absolute		in %		Variation to previous year
Value based market volume (CHF) p.a.					
Total market	35,7 bn.	CHF			+5,0%
thereof outsourced	19,9 bn.	CHF	55,6%	(of total logistics market)	
Freight transport volume (t) p.a.					
Total market	477,3 Mio.	t			+2,0%
thereof outsourced	248,1 Mio.	t	52,0%	(of total logistics market)	
Ø cost per ton	76	CHF			
Employees (number)					
Total market	169'000	E			+2,4%
thereof outsourced	97'000	E	57,5%	(of total logistics market)	
Ø cost per employee	210'000	CHF			
Proportion of cross markets					
Proportion contract logistics	5,5 Mrd.	CHF	34,2%	(of total logistics market, outsourced)	
Proportion of cargo terminal services and warehousing	1,3 Mrd.	CHF	8,0%	(of total logistics market, outsourced)	

The swiss logistics market currently has a volume of 35,7 bn. CHF (year 2008) and has grown by just 5 % (approx. 1,7 bn. CHF) in comparison to the previous year (2007).

Source: Stölzle/Hofmann/Gebert (2009) – Logistikmarktstudie Schweiz

Proportion of logistics of the total economic output (GDP)



Logistics services
(outsourced)
19.9 bn. CHF

Logistics services that were outsourced by industrial and commercial enterprises to third party logistics (excl. production logistics)

∑ 35,7 bn. CHF
Total logistics performance (excl. production logistics)

Logistics activities
(inhouse)
15.8 bn. CHF

Self- generated logistic services by industrial and commercial enterprises (exkl. Produktionslogistik)

The logistics market is characterized by a comparatively large and value increasing volume. It thereby offers an enduring base for Siwtzerland's prosperity.

Source: Bundesamt für Statistik (2007); Stölzle/Hofmann/Gebert (2009)

Added value by logistics services in comparison to other economic sectors (2/2)

Sector	Gross added value
Wholesale and retail business*	57 bn. CHF
Banking industry*	45 bn. CHF
Logistics (as a "cross function")	**35,7 bn. CHF**
Building sector*	28 bn. CHF
Insurance industry*	21 bn. CHF
Chemical industry*	20 bn. CHF
Mechanical engineering*	14 bn. CHF
Hospitality industry (without tourism)*	11 bn. CHF

* = data from 2007

Source: Bundesamt für Statistik (2008)

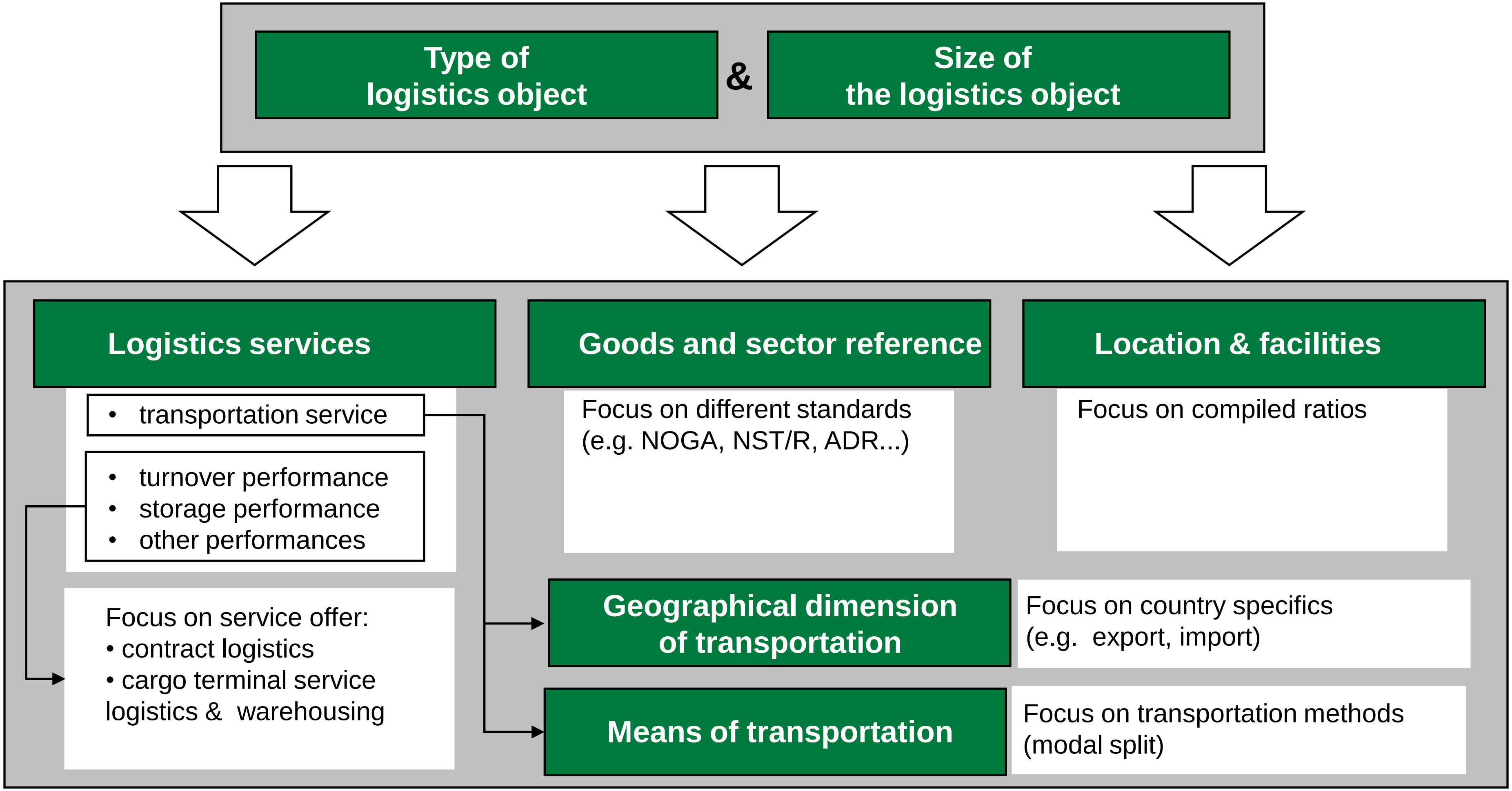
Number of employees in the logistics sector in comparison to other economic sectors

Sector	Number of emplyees
Wholesale and retail business*	496 444
Banking industry*	119 587
Logistics (as a "cross function")	**169'000**
Building sector*	299 025
Insurance industry*	54 340
Chemical industry*	66 867
Mechanical engineering*	99 243
Hospitality industry (without tourism)*	220 801

* = data from 2005

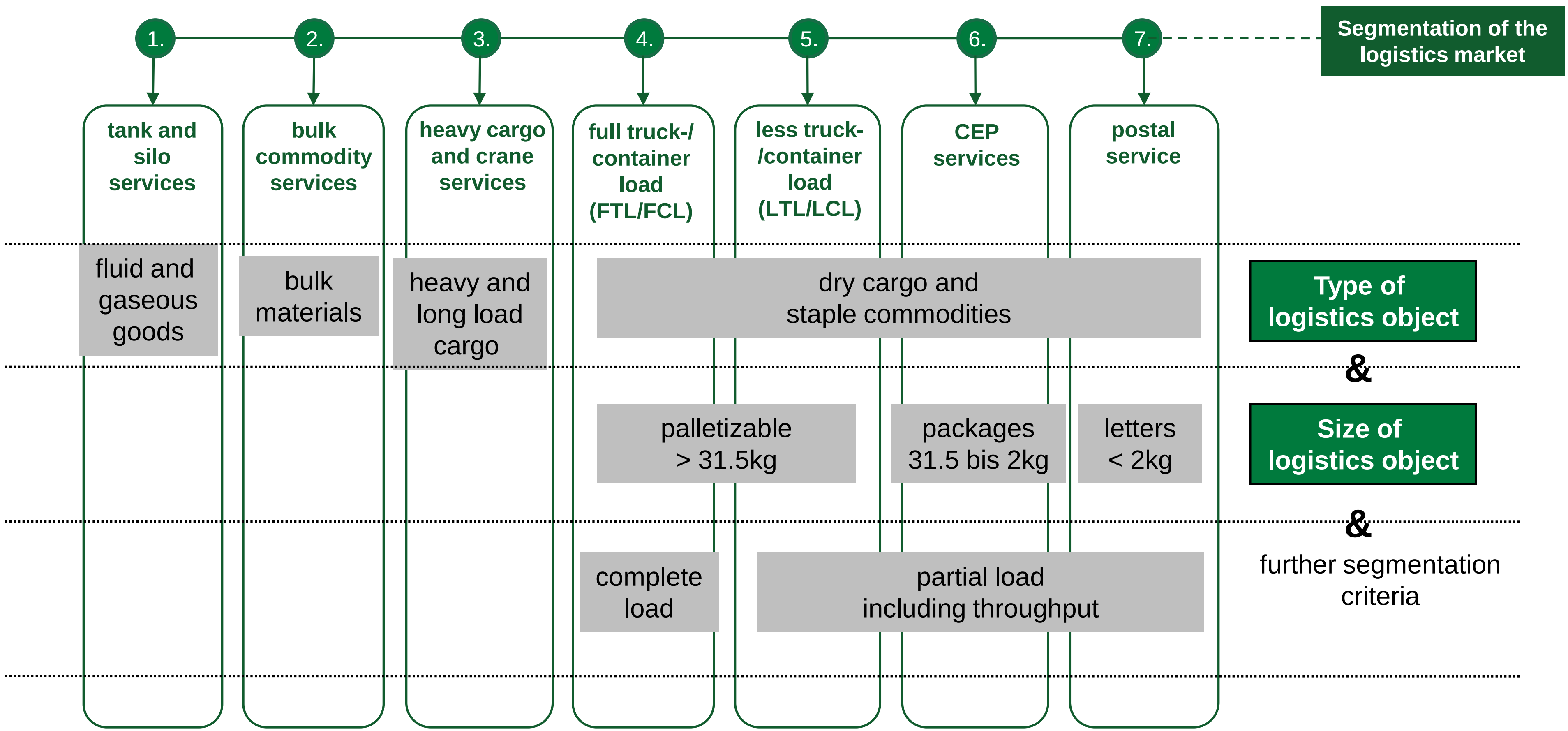
Source: Bundesamt für Statistik (2008)

Conceptual approach towards segmentation systematics



Source: Stölzle/Hofmann/Gebert (2009) – Logistikmarktstudie Schweiz

Formation of 7 submarkets according to type and size of the logistics object



Source: Stölzle/Hofmann/Gebert (2009) – Logistikmarktstudie Schweiz

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* TUL = Transport-throughput-storage

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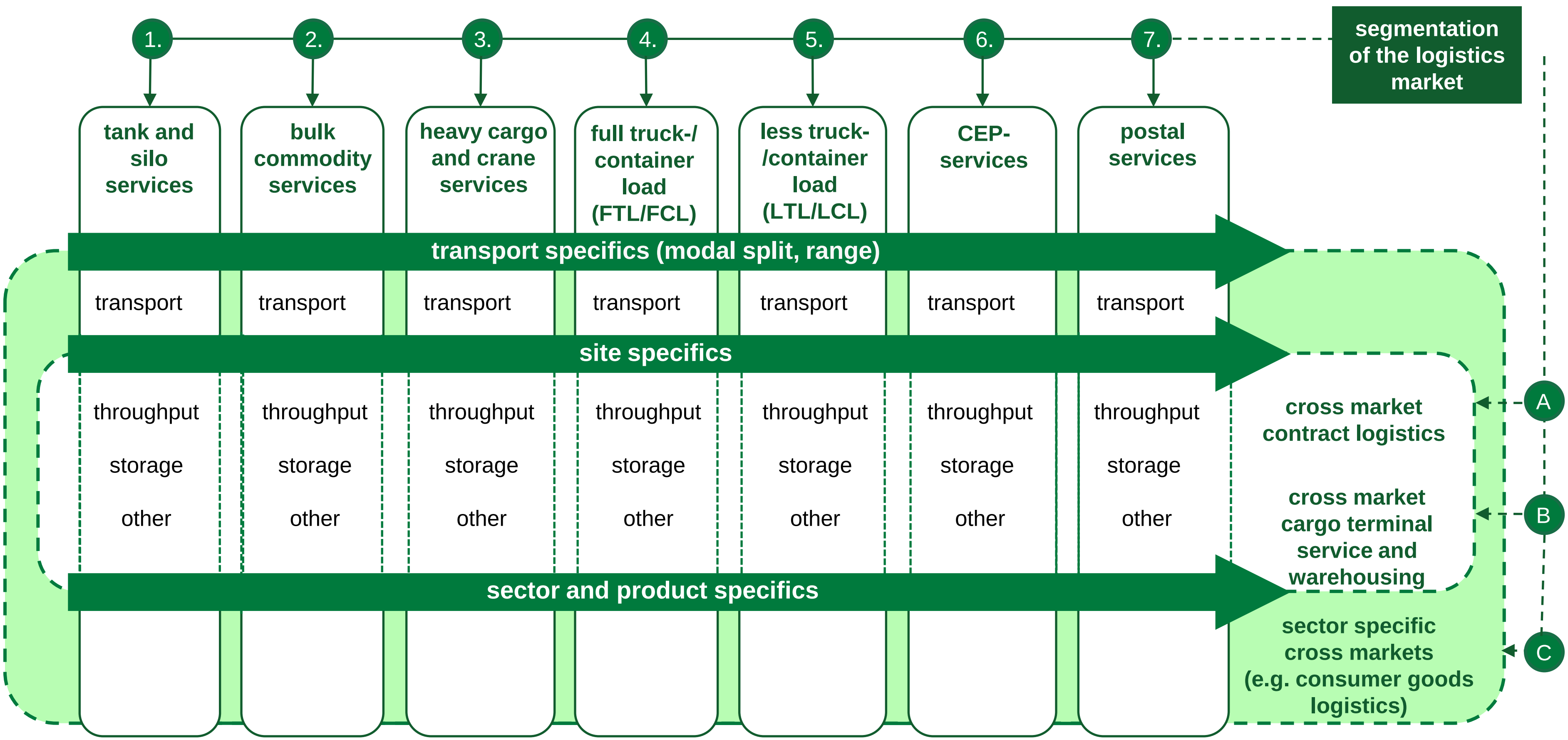
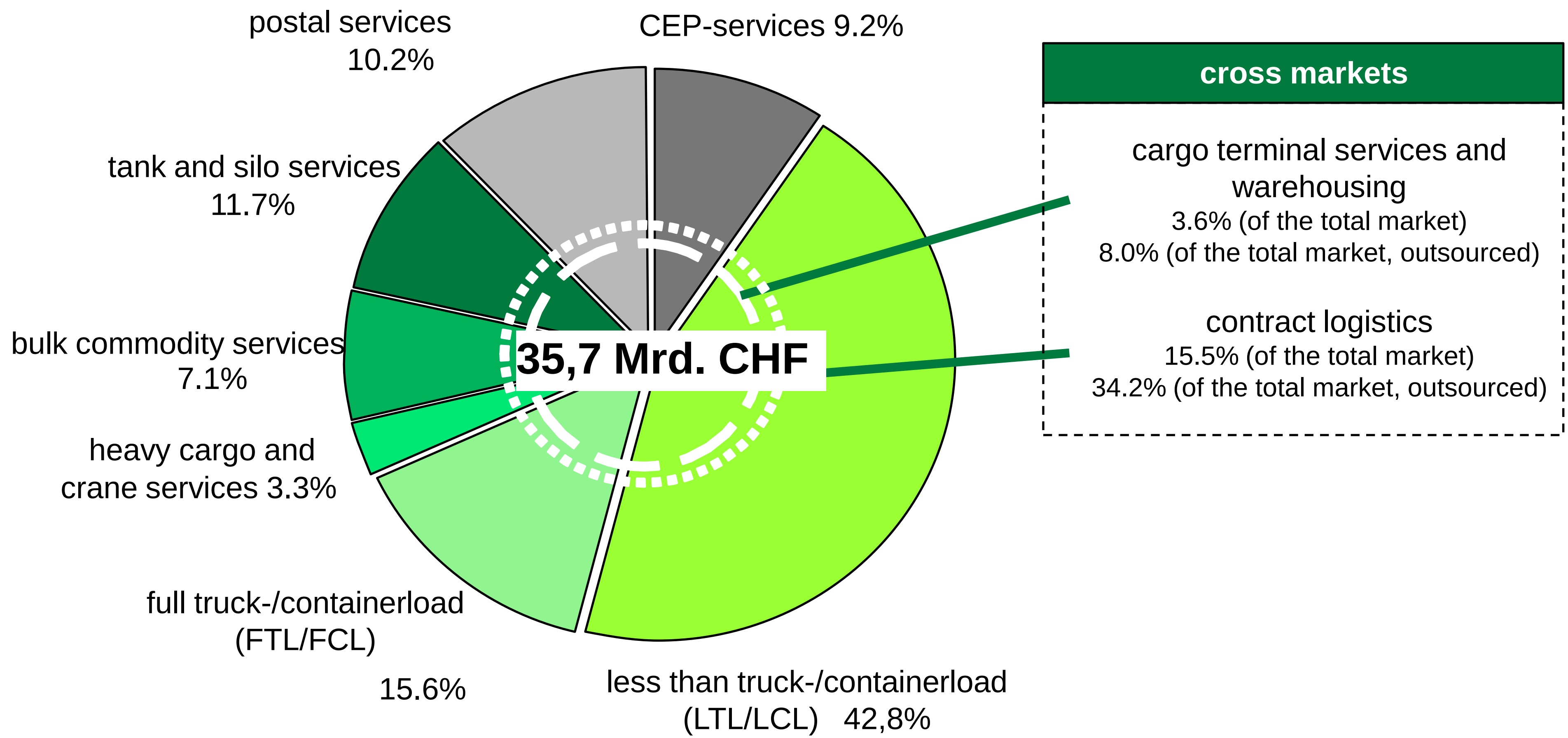
Supplementation of the 7 primary markets by 3 cross markets



Source: Stölzle/Hofmann/Gebert (2009) – Logistikmarktstudie Schweiz

* TUL = Transport-Umschlag-Lagerung

Proportion of sub and cross markets within the total value-oriented market



Source: Stölzle/Hofmann/Gebert (2009) – Logistikmarktstudie Schweiz

General cargo is with about 42.8 % market share by far the most important logistics sub market

Thank you very much for your attention!

Contact

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