

The assessment of competitive intensity in logistics markets

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Abstract The markets for freight transportation and other logistics services are undergoing rapid transformation: concentration of demand and supply in the hands of fewer, larger shippers and service providers, new business models of highly integrated intermodal, “fourth-party” and supply-chain wide logistics service offerings, and a dramatically increasing volatility in the general economic environment are among the reasons for the changes. As a consequence, the “strategic” task of assessing the opportunities and power of certain players in the markets, and the important political and judicial task of assessing and maintaining competition in those markets have become very difficult. Traditional ways of meeting the challenges involved with defining and “measuring” markets and competitive intensity do not seem to be sufficient any more. This paper reports on a study of the new challenges, which strategists, administrators, judges, and politicians face in their efforts to assess competitive situations in logistics markets. It develops suggestions for a consistent and practical process and structure of defining and measuring logistics markets and market positions.

Keywords Competitive intensity · Competition law · Logistics industry studies · Market intelligence · Market boundaries · Relevant markets · Workable competition

1 Logistics services in a changing arena of competition

The markets for freight transportation and other logistics services are undergoing rapid transformation—both on the demand and the supply side. Demand for logistics services, currently estimated at more than € 1.100 bill. p.a. for the United States, and at € 900 bill for Europe,¹ is massively affected in quantity and quality by the growing volatility of economic developments in the world. And new kinds of service offerings, as well as new formations of service providers are emerging at the supply side of the logistics market arenas, too:

Main drivers of those changes and turbulences are:

1. the continuing internationalization of transport chains and logistics networks which—as a consequence of “globalization”—is causing European and global value chains to stretch out over ever longer distances and more stages with increasing international division of labor;
2. increasing concentration of logistics demand in the hands of fewer, but increasingly more powerful large “shippers” and logistics client companies;²

¹ Wilson [24] estimated the depressed 2009 volume for the US at \$ 1095 b. (corresponding to € 912 b at an assumed exchange rate of 1.20 \$/€, which is considered a realistic long-term Dollar/Euro equivalent), while Klaus et al. [12] estimate the comparable volume of the 27 nations of the European community, plus Switzerland and Norway, at € 880 b. After-recession” figures for the year 2010 are anticipated to come out about 5% higher.

² For example, through the shift of control over logistics services from hundreds or even thousands of consumer goods suppliers to newly formed “inbound” logistics systems by the big retail chains such as WALMART; METRO or REWE. See, e.g., the DVZ-Newsletter No. 18 of 2.5.09 “Aldi is Working on New Procurement Logistics System”.

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3. corresponding concentration in logistics services provider markets due to industry mergers, acquisitions, and joint ventures;³
4. the entry of new types of logistics service providers into established logistics service markets through developments such as the privatization and expansion of formerly publicly owned providers of postal, rail, aviation, and communication services. These used to see themselves primarily as the trustees of public interests. Today they aggressively compete for sales and profits in open markets;⁴
5. new business models of “contract” and “fourth-party logistics (4PL)”⁵ which offer logistics- and other value-added services in highly integrated and sophisticated ways—often having evolved from traditional transport and forwarding activities;⁶
6. ... including the emergence of “hybrid” logistics providers, i.e., spin offs from in-house logistics operations of large corporations who are becoming aggressive players for third-party business in the open market as well. They offer specialized industry know how, the benefit of stable base capacity utilization, and capital strength through their corporate parents, which may be based in manufacturing industries, retailing, IT and consultancy services;⁷
7. political, technological, and economic changes at a global scale, causing dramatically increased volatility of markets which used to be considered stable and continuously growing.⁸

The combined effects of these developments make it difficult to correctly assess market positions and intensities of competition in the huge, diverse markets for transportation and broader logistical services. Some of these

³ Compare the annual lists of merger activities in the logistics sector such as the KPMG “M&A Update—Transport & Logistics” under www.kpmg.de, as well as Klaus et al. ([12] S. 68 ff.).

⁴ Compare current business reports by formerly state-owned Deutsche Post as “DHL”, the Dutch post office as “TNT”, the British postal service as “GLS” or the French railway system through “GEODIS”.

⁵ Compare: the annual studies by Langley and Cap Gemini ([14], 2010) “The State of Logistics Outsourcing”.

⁶ Note the historical development of classic international carriers such as KÜHNE & NAGEL, SCHENKER or HELLMANN into integrated logistics providers, or the transformation of medium-sized transport companies such as BETZ, GEIS, DSV, FIEGE or RHENUS into diversified contract logistics providers. For sources and references see the “Top 100” company profiles in Klaus et al. [12].

⁷ European examples are ARVATO, a subsidiary of the Bertelsmann Group; HERMES, a subsidiary of the OTTO retail group, and Rail4Chem, which grew out of the BASF chemical corporation.

⁸ The most obvious manifestations of the new economic volatility were the “New Economy Boom” about the year 2000, and the worldwide financial and economic crisis of 2008/2009.

changes reduce competition (e.g., especially those in Nos. 1. to 3. in the list above), while others intensify competition (Nos. 4 to 7).

As a consequence, strategy planners in logistics companies who are considering the entry into new market segments, or mergers and acquisitions, as well as administrators and judges in public and legal institutions who are responsible for the organization and regulation of logistics markets, are confronted with new kinds of issues. In order to assess present and future logistics market realities properly, new questions must be considered regarding the definitions and data that should be used to correctly assess the boundaries of markets and positions of power by the players involved:

- Are traditional practices in defining market boundaries—such as the traditional distinctions between carrier and forwarder markets—still appropriate in a time for integrated logistics services?
- What is the relevance of traditional distinctions between the transport modes of road, rail, water, air in a time of more, and more intermodal, seamlessly organized transport chains?
- How narrowly and detailed—respectively how broadly and aggregated—should markets be defined to assess market shares; for example, in the integrating European Community of 500+ million people, considering vanishing political and administrative boundaries, and the simultaneous elimination of infrastructural boundaries through new tunnels, bridges, and the gradual development of efficient Trans-European transport corridors?

2 A challenge of getting to more consistent assessments of competitive intensities in logistics markets

Against this background, established practices in defining market boundaries and market positions in the field of logistics services should be critically examined. New answers must be found on how to measure market shares, competitive intensities, and assure their comparability.

In order to highlight and concisely describe the related problems and to develop a systematic framework for the assessment of market boundaries and market shares, a three-part study was initiated in 2009 by the Fraunhofer Institute at Nuernberg, Germany, under the guidance of this author. It was based on the current legal and institutional situation of the European logistics industry:

- First part of the study was a review of conceptual contributions to the issue of assessing competitive intensities in the Economics, Business Administration, and Competition Law literatures.

- Secondly, current practices in the definition of markets and market boundaries and market shares were documented on the basis of three different approaches: a review of current transport and logistics data reporting structures by public institutions as a factual frame of reference and important source for market definitions; a detailed analysis of recent decision cases by the European Commission related to mergers and acquisition requests; and a series of interviews with business practitioners and experts on their thoughts about meaningful logistics market definitions.
- Thirdly, a framework for the more consistent and quantifiable assessment of market boundaries and market shares by selected competitors has been outlined and suggested on the basis of this research.

This paper is a summary report on the study.⁹ It is intended as an invitation to more academic discussion and future research in the important field of logistics industry studies, which have received relatively little attention in academic research so far.

3 Conceptual contributions to the assessment of competitive intensity

3.1 The “free market premise” and fundamental purposes of competition law

Behind all economic and legal considerations of competition in our economic system is the “free market premise”, which can be traced back to Smith [23]. It holds that the “invisible hand” of competition in free markets is the most effective way of guiding people’s natural inclination toward self-interest toward the good of society.

In the case of Germany, the “Free Market Premise” is legally founded in the provisions of §§ 19 and 36 of the Law against Restraints on Competition (GWB, version of 15.12.2008):

§19:

1. The abuse of a dominant position in a market by one or more companies is forbidden.
2. A company has a dominant market position insofar as it is as a seller or buyer of a certain type of commodity or commercial service in the objectively and territorially relevant market
 1. without competitor or facing no significant competition or
 2. has a superior market position in relation to its competitors; in this respect, its market share,

financial strength, access to sales or procurement markets, integration with other companies, legal or actual barriers to market entry by other companies, actual or potential competition from companies based within or outside the area of application of this law, the ability to switch its buying or selling activities to other goods or services, and the possibility that customers or suppliers could switch to other companies should be taken into account...

3. A company is assumed to have a dominant market position if it has a market share of at least one third.

§36:

1. Any merger which could be expected to establish or reinforce a dominant market position... must be prohibited!

The analogous provisions of the EG Treaty (version of 29.12.2006) in Article 82 are:

The abuse of a dominant position in the single market or a significant part of the same by one or more companies is incompatible and is prohibited insofar as it can interfere with trade between the member states.

In particular, this abuse can consist of the following:

- (a) the direct or indirect enforcement of unreasonable purchase or sales prices or other business conditions;
- (b) the restriction of production, sales or technical development to the detriment of the consumer;
- (c) the attachment of different conditions for the equivalent service to trading partners, where this would lead to a competitive disadvantage;
- (d) the attachment of conditions to the closure of contracts whereby the contractual partners accept additional services that bear no relation to the contractual item, either objectively or with regard to accepted practice.

When assessing merger plans, the EU Commission has, in accordance with the EU Merger Control Regulation of 20.1.2004, Art. 2, to take into account

- (a) the necessity to maintain and develop competition in the single market, especially in respect of the structure of all markets affected and actual or potential competition from companies based within or outside the Union;
- (b) the market position and the economic and financial strength of the companies involved, the options available to suppliers and customers, their access to procurement and sales markets, legal or actual barriers to market entry, the development of supply and demand with regard to respective products and

⁹ The full study has been published in German and English language [13]. In this paper it is referred to as “the study”.

services, the interests of intermediaries and final consumers and the development of technical and economic advances, insofar as these are to the consumer's advantage and do not obstruct competition.

...Mergers that would seriously interfere with effective competition in the single market or in a significant part thereof, in particular through the establishment or reinforcement of a dominant position, must be deemed incompatible with the single market.

Competition law, hence, has to make sure that market behaviors which could significantly reduce or abolish competition for the public good will not occur. There must be sufficient number of competitors in any market as to make monopolistic or oligopolistic behaviors by individual market participants impossible. No single player in a given market should gain power over the behavior of other market players.

This leads to three difficult questions which need to be resolved in any legal proceeding related to the effective protection of market competition, namely:

- How to appropriately define the boundaries of “relevant markets”, i.e., within which spatial, temporal, and object-related boundaries of a market can a potential restriction or abuse of competition be identified and prevented?
- How to determine what is “competitive” respectively “non-competitive” behavior in a specific situation: Which kinds of business behaviors are compatible with the idea of competitive markets, respectively—how are behaviors identified that are incompatible with the “free market premise”?
- How to assess the “workability” of competition, on a scale between the theoretical constructs of “perfect competition” and “perfect monopoly” in a market, how to determine the point when competition no longer functions—is becoming “unworkable”—and therefore open to potential abuse by individual players?

3.2 Critical dimensions for the description and definition of “relevant” logistics markets

The boundaries of market, at a conceptual, highly abstract level, may be described along three dimensions: the “object” dimension, the spatial dimension,¹⁰ and a temporal dimension, as Fig. 1 illustrates.

¹⁰ Bulletin C 372 of 09.12.1997 by the European Commission regarding the definition of a relevant market.

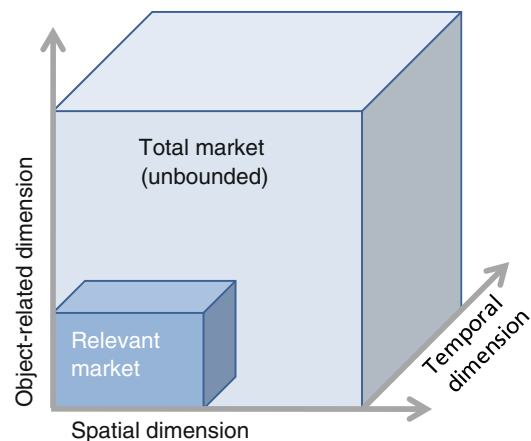


Fig. 1 Three principal dimensions to be considered in setting the boundaries of a “relevant market”

A “relevant market” in the context of assessing the workings and intensity of competition must be defined along these dimensions.

The object dimension—in the case of logistics and other service markets usually the most complex and difficult one to capture—relates to the type and characteristics of the objects upon which a certain logistics service is provided, the technology by which that service is applied, and the situational context within which the service is transacted:

- Market boundaries may be drawn around the physical properties of the objects which are being transported, stored, or otherwise handled in logistical operations. This leads to categorizations of markets such as “bulk cargo” logistics, “parcels services”, or “steel product logistics”. Often implicit in market segmentation approaches related to the physical properties of logistics objects are differentiations by the objects’ weight/volume characteristics (such as for “parcel” versus “less-than-truckload” versus “full-truckload” transport markets) or their physical shape and handling characteristics (“palletized freight”, “liquid goods”, “hazardous goods” logistics).
- Markets may alternatively be described by a specific “technology” applied in the logistical treatment of the objects, when certain means and methods of producing the logistics service are the primary characteristics defining a market, as in the case of “road transportation” versus “air transportation”, “(ISO) container logistics”, “or “E-logistics”.
- When markets such as “retail logistics”, “health care logistics”, and “military logistics” are referred to, it is the primary association, dedication, or ownership of the objects to a certain type of customer, industry.
- Another object-related descriptor of markets may be a certain phase in the process of value creation for a

product (as with “intra-plant-logistics” or “reverse logistics”).

- Another fundamental aspect often used in defining markets is the type and quality of logistics activity (or “function”) that is transacted upon the logistical object in order to increase its value to a customer—such as a “transfer in time” in the case of storage, a “rearrangement of objects” in the case of sorting, picking-packing, consolidation-deconsolidation activities, a “change of location” in the case of transportation. When market boundaries are set by the dominant logistical function, high-level segment descriptions are “transport logistics”, “warehouse logistics”, (or “just-in-time transport” when qualitative descriptors are considered in further differentiating markets).
- Last not least, logistical functions may be performed at various quality levels, which define sub-segments like “standard”, “expedited”, or “premium” logistics services.

Many combinations of object-related characteristics to describe and define logistics markets are being applied in actual logistics business practice. There is no apparent systematic in those definitions, as the review of current practices in Sect. 4 of this paper will illustrate.

But besides the object-related descriptions of markets, two other fundamental dimensions for their description need to be discussed briefly: the spatial and temporal dimensions.

Some logistics markets are global. But most are delimited to a certain geographical space. Because logistics providers are operating out of given locations, they are often restricted in their ability to offer services to a certain region or route.

The geographically relevant market area can be—in the case of, for example, bicycle couriers, taxi companies or in-plant contract logistics operations—a single city, or a narrowly confined economic region. In the case of logistical networks for postal and parcel services, for general cargo or the widespread distribution of consumer goods, the relevant area may be a country such as Germany, a continent such as Europe, or—in the case of the “integrators”¹¹ air-transport-based express freight networks—the world.

The inclusion or exclusion of a specific player to a market is influenced by the economically viable range of operations from the operations base of a certain service provider, and by other restrictions such as a legally assigned authority to serve particular routes, by cabotage regulations, linguistic barriers, by customs or other legal-administrative restrictions. Spatial market boundaries may

¹¹ This customary term refers to the globally active express freight carriers such as UPS, FEDEX, DHL and TNT.

also grow out of regional customer habits or buying preferences,¹² or from circumstances within a company such as the limitations of the range of sales channels.¹³

Precisely defining spatial boundaries, especially for the operations of transport companies, is difficult, because their primary production resources—i.e., vehicles and drivers—are mobile by definition, but practical limits to the geographic range of their operation exist nevertheless.

The European Commission defines a geographically relevant market as follows:

The relevant geographic market comprises the area in which—for those companies offering competitive products and services—there are sufficiently homogeneous competitive conditions, which can be distinguished from neighboring areas because the competitive conditions there are appreciably different.¹⁴

This means that national boundaries within Europe are no longer considered relevant for the identification of relevant markets in the context of competition law.¹⁵

The third fundamental dimension for the definition of a relevant market is the temporal one. Because competition is a dynamic process, the intensity of competition may vary over time.

Temporally defined dominance of a market by a logistics services provider may result from temporal limitations on the goods or services provided, such as the provision of logistics services at trade fairs, the Olympics or the Soccer World Cup.¹⁶

Temporary competitive advantage and market dominance may also exist for a product innovator and “first mover” onto a new market, when new kinds of services or new technologies are introduced. For example, the “inventor” and first operator of standardized ocean containers, Malcolm McLean and his company SEALAND, enjoyed a monopolistic position for some time. But the “ownership” of a market by a first mover is usually temporary and will be lost after a while by the actions of other competitors (as was the case in standardized container traffic, when other operators entered the new market and also utilized McLean’s innovation).

¹² Cf. Neiser [19].

¹³ Cf. Beckmann [3], also Arnheim [2].

¹⁴ See Form A/B to regulation No. 17 and Section V of Form CO to Regulation (EEC) Nr. 4064/89 on the control of mergers of companies with community-wide significance.

¹⁵ Cf. Neveling [20].

¹⁶ Cf. Neveling [20].

3.3 From static to dynamic definitions of markets: “Relevance” and “workability” of competition in logistics

The SEALAND example suggests that a one-time definition of market boundaries and resulting competitive positions will not be enough: Should not the assessment of competitive intensity have to consider the longer-term context of a whole product life cycle? With respect to spatial boundaries: where should these boundaries be set if services for specific customers are tied into wide-ranging service networks? And which are the object-related characteristics of a market that distinguish players who significantly affect the competitive intensity from those who do not?

The identification of meaningful, “relevant” market boundaries is a complex task which will not be met in formalistic, static ways, but needs to appropriately consider the markets’ dynamics. Some answers to the difficult questions raised by the dynamics of competition and market developments are offered in the literatures of Economics, Management, and Law;

In a classic contribution to the discussion on competition “The Meaning of Competition”, the Nobel laureate, von Hayek [9], made it clear that the task of influencing and controlling the behavior of market players in the interests of the community means more than just trying to regulate for “perfect competition”, as it is assumed in Economics textbooks. For the maintenance of competition, it is important, he argued, that temporary monopolies, which innovative and active innovators temporarily create by developing and offering superior new products or services,¹⁷ are not to be discouraged, but allowed to exist for some time and then “disappear as soon as someone else can more effectively satisfy the demands of the buyer” [9].

This means that boundaries of markets should be set in ways to motivate players in those markets to innovate and to be rewarded for offering unique, value creating solutions to their customers’ problems and demands. At the same time, competition should make sure that the dynamics of the creative destruction of temporary monopolies through competition are preserved. The challenge of meaningful regulation of competition is now in answering the question where the tipping point is between still-functioning competition and unacceptably restricted competition.

¹⁷ This corresponds well to the American management professor Bowman’s [5] definition of “Strategic Management”. He demanded that effective strategic management is “seeking for a time a “localized monopoly”, (which) “makes the market less perfect, disturbs the equilibrium, and earns for a time excess profits”... “Corporate strategy can be conceived of as continuing search for rent, where rent is intended in the sense of returns to a “unique place”.

It is the question about “Workable Competition” [6]. Competition is “not workable”, if buyers are captive—if they do not have alternative options for satisfying their needs. It is workable, when buyers have some freedom to switch to other sellers. This freedom is not depending on the availability of same or similar products and services offered by sellers who are in direct competition with each other. It is given as long as there is choice between products or services which are “functionally equivalent” (or “substitute products”!)—such as, for example an electronic email may be relative to a traditional letter mail message. Sellers’ market behaviors may be disciplined also by the mere possibility of the introduction of new products and services or the entry of additional suppliers (“potential competitors”) if the monopolist raises prices beyond a reasonable level.

To summarize: The intensity of competition in a given market depends not only on the number and attractiveness of directly competing products but also on the level of attractiveness of possible substitutes and the speed with which potential competitors are able to react to profitable market entry opportunities.

The recent discussion about the “More Economic Approach”¹⁸ is taking the argument of competition as a process which is dynamically and interactively taking place between the demand sides and supply sides of markets one step further: It is argued that competition law may allow degrees of monopolization even permanently in the interest of the overriding goal of increasing the “welfare” of the people and communities concerned. In pursuit of this broader goal, a trade-off between possible “allocative inefficiencies” by markets that are less than perfectly competitive and of “production efficiencies” should be considered. Production efficiencies may arise, for example, when a company is allowed to realize superior economies of scale from very high production volumes that could not be achieved in a competitive market, so that—on balance—positive contributions to the “welfare” of the community will be achieved.

3.4 The “demands and needs” perspective

Discussions regarding the definition of “relevant markets” and assuring “workable competition”, as they have been sketched out so far, describe the changing views of the role of competition in the economic literature from a rather static and narrow toward a more dynamic, broader perspective. This is accompanied by a change of perspectives from a provider- and supply side toward a customer needs and demand-side view.

¹⁸ Cf. Schmidtchen [21, 22] and sources quoted there.

Traditionally markets are defined from the point of view of providers of goods and services. The economist Marshall argued in his famous volume on “Principles of Economics” ([17], p. 383 ff.) that “a great city may contain as many markets as there are important branches of trade”—i.e., groups of providers who produce and sell goods that are physically and technically similar, based on the groups’ established methods and technologies of production. In today’s economic environment Marshall’s “branches of trade” would be referred to as “industries”. The related concept of market definition is referred to as the “industry concept”.

But if the ultimate aim of competition is the maximization of public welfare, as the “free market premise” suggests, a supply side “industry-focused” conception of markets is not appropriate. This has been argued impressively in one of the most quoted articles of modern management literature on “Marketing Myopia” by the American marketing professor Levitt [15]. He vividly demonstrated the fundamental weakness of the industry concept for assessing competitive situations in modern, dynamic markets through the example of the decline of the once mighty and highly profitable American railway companies. Because of their short-sightedness—“myopia”—they took a narrow industry approach to their market and competition as a “market for rail transport” for too long. Competitors they considered were other railroads only. This made them fail to recognize the growth of competition in cargo movements from trucks, buses, and aircraft, which rapidly developed since the 1920s and made the railroad lose much of their business over the following decades: “They (the railroads) let others take customers away from them because they assumed themselves to be in the railroad business rather than in the transportation business. The reason they defined their industry wrong was because they were railroad oriented instead of transportation oriented” ([15:138]).

An earlier rationale of a “demands and needs” approach in the literature on competition is attributed to the economist Abbott [1]. Anticipating Levitt’s argument against “Marketing Myopia”, it is based on the idea that the relevant definition of a market must be derived from the point of view and the needs of the buyer and customer. All products that can provide the desired satisfaction of need—which may be physically and technically very different should be considered as alternatives or substitutes and hence be included into the boundaries of a given market. It is not primarily the manufacturers and suppliers but rather the users and consumers who should be asked which available alternatives best meet their needs.

Today, Abbott’s and Levitt’s criticism of a myopic industry perspective has found broad acceptance—not only in business but also in the general antitrust practice. A

“demand and needs” oriented perspective on markets and competition has been suggested, e.g., by Germany’s Federal Supreme Court, the Bundesgerichtshof (BGH),¹⁹ who noted

All goods that are, according to their characteristics, their economic purpose and price, so close to one another that the rational consumer considers them both suitable for a particular purpose and interchangeable, should be integrated into a single market.

The German Federal Cartel Office also defines a buyers’ market in its “Information on Merger Control”:²⁰

Only those goods or commercial services that customers see as interchangeable in respect of their nature, purpose and price should be attributed to a market....

A decisive criterion for the inclusion of competitors into the boundaries of a market is the functional interchangeability of their products and services. The market for transportation and logistical services, hence, must be defined by the logistical function to be fulfilled—e.g., the movement or “transfer in space” of objects, their “transfer in time” through storage and buffering, and the change of the order and arrangement of objects by picking, consolidation, sorting, and deconsolidation etc., regardless of the means and methods of production and of the sense of identification which the producers and sellers may have with a “trade” or industry.

4 Survey of current practices in the definition of markets, market boundaries, and market shares

The study²¹ on competitive intensities in logistics markets—on the basis of the terminological and conceptual discussion summarized above—looked next at current actual practices in logistics market definitions. Four separate “snapshots” were taken in the research to illustrate the diversity of those practices.

4.1 Reporting structures of public institutions as a frame of reference for market definitions and assessments in current legal and business practice

Statistical offices, the authorities of public administration, the courts, and other institutions are active in collecting and

¹⁹ Cf. BGH, WuW/E BGH 2433, 2436f. “Gruner & Jahr: Zeit II, and WuW/E BGH 2150, 2153 “Stainless Steel Cutlery”.

²⁰ Leaflet on controlling merges by the German Cartel Office, Policy Directorate, July 2005, p. 14.

²¹ i.e. “the study” by Klaus et al. [13].

	Temporal Dimension	Spatial Dimension	Value Adding Service Activity			Type of Object			Qualitative Attributes	
			Mode of transport	Network structure	Other log. value adding activities	Type of goods	Weight category	Loading unit	Speed, reliability, etc.	Institutional Dimension
Bundesamt für Güterverkehr BAG/BMVBS	spring/fall	cross-border	road	—	—	○	○	○	—	third party/private fleet
	spring/fall	cross-border	rail	—	—	×	—	—	—	third party/private fleet
	spring/fall	national	water	—	—	×	—	—	—	third party/private fleet
Kraftfahrtbundesamt KBA	month	national	road*	—	—	○	○	○	—	third party/private fleet
Bundesnetzagentur	year	national	rail	—	—	○	—	—	—	third party/private fleet
	-	national	CEP	—	—	—	×	—	—	third party/private fleet
	year	national	mail	—	—	×	×	—	—	third party/private fleet
Destatis	month	national	road	—	—	○	○	—	—	third party/private fleet
	month	EU-wide	rail	—	—	×	○	—	—	third party/private fleet
	month	national	water	—	—	×	○	—	—	third party/private fleet
	month	cross-border	air	—	—	—	—	—	—	third party
	month	national	pipeline	—	—	—	—	—	—	third party

* BAG and Destatis both use road statistics gathered by the KBA.

Fig. 2 Structures and objects of transportation reporting by selected public institutions (Legend: x = true; O = conditionally applicable, — = not considered)

publishing data related to logistics markets. Their reporting structures and data have great influence on the way market assessments are being made by in legal proceedings and everyday business practice.

For example, Germany's Federal Office of Statistics, Federal Motor Transport Agency (KBA), and the European statistical agency Eurostat, due by statutory regulations, are required to collect and periodically publish information relevant to the transport and logistics industries.²² Their reporting structures typically are supply- and industry-oriented. At the highest level of aggregation markets and segments are distinguished primarily by “modes of transport”, i.e., rail, road, water, and air, sometimes by the types of logistical “objects”—distinguishing between “passenger” and “freight” transport—and by geographical criteria (usually “national” vs. “cross-border”).

The “Bundesamt für Güterverkehr” (BAG), which, as an independent federal agency, is responsible for a variety of tasks in the administration of the freight transport sector such as industry-wide market monitoring, the planning, coordination, and control of market entry procedures (including, since 2005, the management of the German truck highway toll system) also pays attention to the “institutional” dimension. It reports on “third-party” versus “in-house/private carriage” cargo operations.

Another important authority in Germany, the “Bundesnetzagentur”, is organized along the lines of an “industry” approach. There are organizational units responsible for regulating “postal” and “rail” network services.

The organizational and reporting structures and the data provided by these institutions influence strongly how the public, the media, and also the public authorities and courts think and act in regard to transportation and logistics markets. As a consequence, in their analyses, decisions and actions, market boundaries are assumed to correspond with “modes of transport” and related industry categories. Figure 2 gives a summary of the some of the most important public report structures related to transport.

Figure 2 proves that changes in the understanding of markets from a supply side and strongly transport-related point of view to a wider logistic and competitive demand-side perspective are not (yet) reflected at all in the institutional and reporting structures of key public authorities.

4.2 The practice of decision-making in the European Union's antitrust and competition-law procedures

For a preliminary overview of current decision practices related to transport and logistics markets in the European Union, an ad hoc Internet-based analysis of more than 200 publicly documented decisions of the EC Commission²³ on issues related to competition law was performed in

²² e.g. the VerkStatG, BStatG—a popular collection of statistical data relating to transport and logistics in is the annual “Verkehr in Zahlen” (Transport in Figures) published by BMVBSt (latest: BMVBSt 2009).

²³ Cf. <http://ec.europa.eu/competition/mergers/cases/index/m31.html>.

NACE-Code	Description	Analysed Cases
H	Transporting and storage	
H49	Land transport and transport via pipelines	36
H49.1	Passenger rail transport, interurban	1
H49.2	Freight rail transport	-
H49.3	Other passenger land transport	-
H49.4	Freight transport by road and removal services	8
H49.5	Transport via pipeline	1
H50	Water transport	-
H50.1	Sea and coastal passenger water transport	-
H50.2	Sea and coastal freight water transport	18
H50.3	Inland passenger water transport	-
H50.4	Inland freight water transport	-
H51	Air transport	1
H51.1	Passenger air transport	-
H51.2.1	Freight air transport	3
H51.2.2	Space transport	-
H52	Warehousing and support activities for transportation	7
H52.1	Warehousing and storage	16
H52.2	Support activities for transportation	2
H52.2.1	Service activities incidental to land transportation	26
H52.2.2	Service activities incidental to water transportation	3
H52.2.3	Service activities incidental to air transportation	-
H52.2.4	Cargo handling	4
H52.2.9	Other transportation support activities	-
H53	Postal and courier activities	1
H53.1	Postal activities under universal service obligation	-
H53.2	Other postal and courier activities	11
	Sum total	138

Fig. 3 Overview of the number of cases analyzed according to activity, carriers, and transportation “technology”

preparation in the study [13]. The thematic search grid used in the process is shown in Fig. 3. After eliminating decisions where the Commission had applied the “simplified procedure” in line with Regulation (EC) No. 139/2004 of January 20, 2004, on the control of company mergers (EC Merger Regulations), 138 logistics related cases were identified for the analysis. These are broadly based on the nature of the logistics service activities involved (“transportation”, “warehousing”, “support activities”) and the modes of transport and transport technologies used (“land”, “water”, “sea”, or “air”).

Each of the cases then was coded with respect to the market definition criteria that the Commission had applied explicitly or implicitly, using the terminological and conceptual categories developed in Sect. 3.2 above:

- Type of logistical “object” and weight class
- type of logistical service activity resp. the “function”,
- mode of transport,
- network structure,
- type of vehicle/loading unit,
- geographical horizon.

Figure 4 shows the result of the coding effort.²⁴

²⁴ Multiple coding was permitted.

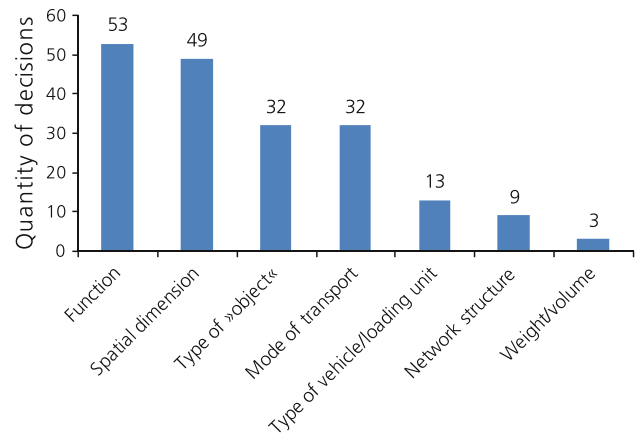


Fig. 4 The relative frequency of criteria identified from 138 decisions as actually used in logistics market demarcation

It indicates that decisions of the Commission are primarily based on an industry-oriented and supply side approach to market definitions, such as the function provided, the mode of transport, and the type of vehicle employed. The Commission does not seem to have consistently applied a demand-based perspective so far.²⁵ This is corroborated further by some decisions, where explicit statements about market boundaries are found:

In “Case Nr. COMP/M4746 (Deutsche Bahn/English Welsh & Scottish Railway Holdings of 2007, p. 3 ff.)” the Commission noted that

...the Commission has in previous decisions concluded that providers of freight forwarding services and of transport of goods do not directly compete with each other...

proving the Commission’s past practice of distinguishing markets primarily by the logistics service “production technology” and arrangements (i.e., in the case of “forwarders”, the use of sub-contractors and consolidation of shipments to provide efficient transport services, in the case of the “carriers” the operation of directly owned assets). The demands and needs of shippers and alternative options by shippers are not considered in the Commission’s market definition (while shippers in most situations expect the provision of a defined movement of cargo from a shipping to a receiving location with no regard to the means of production and organizational arrangements employed by the service provider, as actual logistics practice and the shipper statements reported in Sect. 4.2 suggest). Another explicit statement example emphasizing the supply-side-

²⁵ More details on the analysis of competition law related decisions by the European Commission are presented in “the study” [13, section 4.2.1].

oriented market view employed by the Commission is on p. 5, fig. 17 of the case:

... there are strong indications that a separate market for rail freight services may be distinguished²⁶

There is no explanation of the nature of the “strong indications” given. However, the Commission—somewhat contradictory—does acknowledge (p. 6 fig. 20) that

... for smaller consignments (i.e., smaller than full block train loads) there appears to be higher substitutability between rail and road.

Another example indicating explicitly a supply-side orientation in the Commission’s decisions, but some uncertainty and inconsistency in its application is in n Case No. COMP/M. 4786 (Deutsche Bahn/Transfesa of 2008):

In previous cases, the Commission has found that the provision of transport services could be considered a relevant market distinct from freight forwarding services ...

On the other hand, the commission states

the market investigation indicated that Finished Vehicle Logistics (FVL) could be considered a separate market from general freight forwarding and contract logistics because of the specific demand of customers....and partial substitutability between the different modes of transport ...

This confirms the assumption that motivated the study reported here: That there is an unmet challenge in providing a consistent and appropriate definition of relevant markets for antitrust decisions in the diverse European logistics markets!

4.3 Market definitions and assessments of current competitive intensities in the logistics industry by selected experts

To add to the review of current practices in the definition of logistics market boundaries and competition intensity, another mainly economic and business perspective, a series of interviews with senior experts from the logistics industry was conducted as part of the study.

Selected representatives of major buyers or clients and “shippers” from the logistics sector, namely BOSCH and REWE, and also with senior representatives of the major logistics service providers DB SCHENKER and KUEHNE & NAGEL, as well as three more knowledgeable “external” market experts, namely an American expert on logistics markets Dick ARMSTRONG, a representative of

the Federal Office for Cargo Transport (BAG), and a well-known stock market analyst for the logistics industry from bankers SAL OPPENHEIM were asked to give their views on most appropriate logistics markets definitions and assessments of current competitive intensities in important logistics market segments. The structure and results of these interviews—in condensed form and cleaned up slightly in places to remove statements made off the record—is documented in Appendix I of the study.²⁷

Insofar as the perspective of the interviewees relates to the logistical service activity of “transport”, the interview results showed a consensus that the nature of the transport object (“full-load”, “less-than-truckload”, “parcel/express freight”, “handling characteristics”) and the geographical horizon (“local”, “national”, etc.), as well as the degree of complexity and the capacities that a logistics service provider is offering do play an important role in their approach to defining markets.

All interviewees confirmed that today the “production technology” of rail, road, or other ways of “producing” the service employed by providers no longer plays a significant role. They are interested in the quality of the service, the fit of the service provided to their specific logistical demands, and competitive pricing regardless of which mode of transport and production system is used. Insofar as references to transport technologies or modes of transport were made by the interviewees, these quite clearly were reflections of the geographical characteristics of demand (“air” and “ocean” are without alternative for intercontinental transport needs, “road” and “rail” for continental and national routes), or they were indications of quality levels sought-after (“air” for fast, high quality but expensive transport services, “ocean” and “rail” for slower, cheaper transportation qualities).

Furthermore, a distinction between the services provided by “primary” providers—the “carriers” providing transport services using their own assets—or by “intermediaries” frequently active in logistics such as “freight forwarders”, “third-party/fourth-party service providers” were also seen as no longer relevant by all the interviewees. Most carriers today offer the range of services of forwarders, and forwarders use the full range of options to “carry” freight from operating own equipment, to leasing, contracting, and spot market purchases. The uses of certain production technologies and arrangements are no longer a useful differentiator. In some cases, the choices by shippers—beyond the criteria of price, logistical fit, and service quality—are determined by the focus versus broad range of services offered by a given provider. In some cases, the more focused, specialized provider will be preferred; in other, the highly diversified provider offering a large range of services (“one-stop shopping”) will be preferred.

²⁶ i.e. distinguished “from the road freight market”.

²⁷ cf. [13].

The results of the interviews clearly indicate that practitioners today—not surprisingly—are perceiving market boundaries from a “demands- and needs-oriented” perspective. It is the types of object which need logistical service, the type of logistical activity, and function that is sought for, and the levels of quality and price desired that determine market boundaries and competitive intensities—not primarily the means and technologies used by the providers of the service.

4.4 The “Top 100 in Logistics” studies as a reflection of current practice in the definition, segmentation, and measurement of logistics markets

Among practitioners involved in logistics in the German-speaking world—particularly the owners and managers in the logistics service provider industry and decision-makers in the shipping community, but also management consultants in the sector, representatives of the business associations, journalists and politicians—the “Top 100 in Logistics” studies by the authors of this study²⁸ have found broad acceptance. The leading logistics association in the German-speaking world, the Federal Logistics Association BVL, is the co-publisher of this study and regularly reports the results to its nearly 10,000 members. The logistics trade magazine with the largest circulation in Europe, “Deutsche Logistik Zeitung DVZ” reports regularly and extensively on the “Top 100” data and developments. Many companies use the survey and its prescribed market-segment structure to work out their position in the market. Last but not least, even the German government makes reference to market definitions and data from this source,²⁹ as did German and European ministries and courts in various proceedings.

The “Top 100” market segmentation structure, volume, and growth estimates for the logistics industry, which are published annually as part of the “Top 100”, became a de facto standard for logistics market research in significant parts of the German and European professional logistics community.

This is explained, for one, by the fact that there has been no other comprehensive³⁰ publication on logistics markets

in Europe that represents the current state of the entire transport and logistics industry. But it also appears to be accepted as a fair reflection of everyday market realities in the logistics industry today. It is widely compatible with the structure of the logistics industry’s professional associations,³¹ which have evolved over time. It also provides basic compatibility with the few internationally known logistics market studies, such as the annual “State of Logistics” report for the United States, which has been issued there since the 1980s.³²

The “Top 100” segmentation structure provides for the following 15 sub-markets:

- Domestic bulk and full-load freight transport markets the sub-segments:
 - Bulk logistics
 - General full-load transport through non-specialized (“dry van”) truck and railroad-car equipment;
- Heavy haulage and crane services;
- Tanker and silo specialized transportation;
- Other transport services with specialized equipment (e.g., automotive, flat-glass, hi-cube transports, etc.).
- Domestic markets for less-than-truckload cargoes and other logistics services with sub-segments:
 - Less-than-truckload cargo and value added services;
 - Consumer goods distribution and consumer goods contract logistics;
 - Industrial contract logistics, especially industrial procurement logistics, production supply and spare parts procurement;
 - Hanging garment logistics;
 - High-tech goods, trade fair and event logistics, new furniture transport and removals;
 - Terminal services, port, warehousing and other services not included in other logistical services;
 - CEP-parcel, real courier, and specialized express freight services;
- Markets for border-crossing transport:
 - International land-based transport and forwarding services;

²⁸ First published in 1997 from Deutscher Verkehrs-Verlag, Hamburg: the latest English-language edition published is “Top 100 in European Transport and Logistics Services 2009” [12], the latest German-language “Top 100—2010” [13].

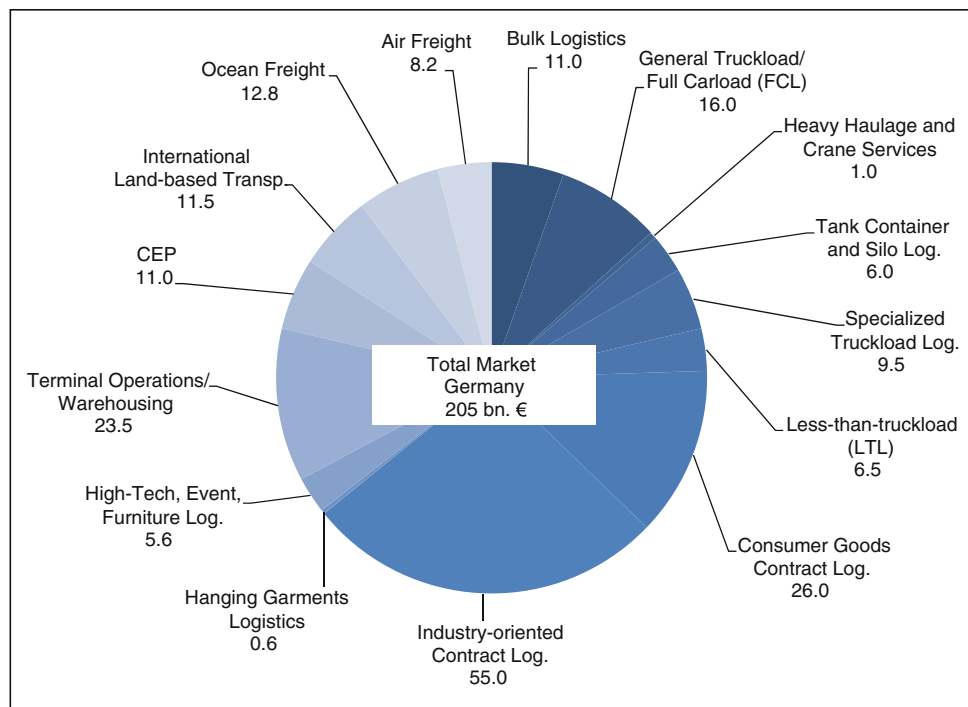
²⁹ Cf. e.g. the comments on “Gueterverkehr und Logistik” on the homepage of the Federal Ministry of Transport, Building and Urban Planning and the remarks of the German Chancellor on the importance of logistics to Germany as a business location during her inaugural address to the 24th BVL Congress in Berlin in 2007.

³⁰ There are numerous studies of specific market segments and aspects, such as those by the business consultants MRU Manner-Romberg [16] for the CEP markets, and the commercial market research reports by British transport and logistics market research companies Datamonitor and Analytica, as well as Ehmer et al. (2008).

³¹ The German transport industries’ associations such as “Bundesverband Güterverkehr, Logistik und Entsorgung BGL”, the former “Bundesverband Spedition und Lagerei BSL”, now “Deutscher Spedition -und Logistikverband DSLV”, “Verband Deutscher Eisenbahnunternehmen”, “Bundesverband internationaler Express- und Kurierdienste”, “Verband Deutscher Reeder” especially for the interests of industry and carriers, “Bundesverband Materialwirtschaft und Logistik” BME.

³² The current edition is Wilson [24]. Its elementary logistics definition was originally suggested by Heskett [10]. Other international work using similar definition is Davis [7] or Bowersox et al. [4].

Fig. 5 The 15 “Top 100” Market Segments estimated in billion Euro potential market volumes, data as of 2007



- Intercontinental transport and forwarding services, focus on ocean and sea port operations;
- International air cargo carrier and airfreight forwarder services.

The relative economic weight of the 15 segments is illustrated in Fig. 5.

In light of the considerations in this study, it is clear that the “Top 100” current pragmatic segmentation of the logistics markets—although widely accepted in practice—is not entirely consistent from the perspective of a clear structure and hierarchy of criteria. In particular, it cannot fully satisfy the requirements of a competition-oriented market view.

5 Reconstruction of an improved framework for the definition of market boundaries and measuring market volumes

5.1 Current practices in the definition of market boundaries—critical review and consequences for an improved framework

The review of current views and practices in defining logistics market boundaries, as summarized in the preceding section, illustrated how heterogeneous these are and which kinds of questions should be answered in efforts to improve this situation:

- The practice of market segmentation through direct market participants in the economy, such as the regulatory authorities and courts dealing with relevant issues shows that, although a broadly shared body criteria for setting market boundaries is available (see Sect. 3.2 above!), there is no consensus on the relative relevance and the order at which these criteria should be applied. This makes it necessary to

design a consistent framework for ranking and applying the dimensions along which market boundaries should be set and relevant markets be defined!

- Current market segmentation approaches are not balanced with respect to Euro volumes. The absolute sizes and economic “weight” of logistics markets segments is extremely varied (cf. e.g., for the “Top 100” segment size in Fig. 5!). They range from annual sales volumes for the German logistics market of a macro-economically negligible € 0.6 bn for the small “hanging garment” logistics segment clothes, to the very large “industrial contract logistics” segment at € 55 bn:

A new segmentation structure should form market segments whose sales volumes are more in balance. They should represent a measurable minimum volume relative to the € 900 European logistics market, as well as allow for appropriate differentiation and sub-segmentation of the very large segments!

- The relatively wide acceptance of the pragmatic market segmentation of the “Top 100” and related international studies, including many years of time series data collected there, provides a solid—if not perfect—starting platform for an improved framework for the definition of market segments and their assessment:

A new framework should not diverge unnecessarily from the concepts and structures accepted in practice in order to maintain as far as possible the comparability of results over time.

The design of an improved segmentation framework, as a consequence of the insights gained from the study so far, should incorporate the following recommendations:

- Primacy of a longer-term demand-and-needs-oriented market perspective

The arguments of Hayek [9], Levitt [15], and others (in particular those summarized by Mueller [18], cf. 3.4!) show that market shares in markets that are defined according to the “industry perspective” do not permit valid assessments of competitive intensities in logistics markets. In order to judge whether there is sufficient (i.e., “workable”—see Sect. 3.3!) competition, the options to substitute certain types of logistics by other offerings and the likelihood of entries by potential competitors must be taken into account.

It follows that “relevant markets” should be determined primarily from the point of view of needs and demands of specified “customer groups”. The prioritization of market segmentation criteria and standardized sequence of applying those criteria in setting market boundaries must consider this point, as provided in the “generic grid” for the description of logistics markets in Sect. 3.3 above.

- Consideration of resource flexibility and appropriate scaling of market segments

In the field of logistical services—especially the transportation markets—there is a high degree of flexibility with respect to the resources used by service providers. This flexibility allows them to substitute and relocate service production resources relatively quickly from one geographical location to another (such as by redirecting and repositioning vehicles and staff to other routes and service areas), or substituting and mixing their production technologies (i.e., especially various modes of transport) relatively freely to satisfy new market needs.

An appropriate level of “granularity” in defining segments and subsegments of logistics markets should be set, considering the fact that most European logistics services are now offered in a widely open € 900 bn relevant logistics market. Segmentations should consider a

minimum volume of any lane-, service area, or otherwise specialized market—for practical purpose of at least more than € 1 bn in annual business volume.

- Data and verifiability

A final pragmatic restriction on the definition of relevant market segments comes from the availability and validity of data sources that are required for their quantitative assessment. If data cannot be gathered that are of sufficient accuracy and objectively verifiable on a segment, relevant markets cannot be defined.

5.2 Generic grid for the description and segmentation of logistical markets

On this basis of these considerations, in the study [13], a simple conceptual grid for generic descriptions of logistics markets was constructed.

Figure 6 shows the grid, first in aggregated graphical form. A path of gradual differentiation of the total market for logistical services is shown in the grid by the emphasized arrows (illustrated for the case “time definite express freight market” segment).

The claim is that this “generic” grid allows for detailed and consistent descriptions of any logistical service markets at increasing levels of detail.

Figure 6 also shows a process, in principle, suggesting a standardized sequence of steps in setting and quantifying the boundaries of a “relevant” market segment for a given problem:

- In Step 1 (see Box 1 in the left sidebar in Fig. 6), the “object-related” boundaries are identified and categorized. Types of logistical objects are usually related to specific shipper and “customer group” industries. Quantitative information about shipper/customer industries, the flows of requiring logistical services are—at least partially—available in public statistical reports.³³
- In Step 2, market boundaries are narrowed to the type of logistical service activity that is relevant in a given context.³⁴
- In Step 3, further narrowing of market boundaries may apply by taking into account the qualitative differentiation features of the logistical services under consideration and the required nature of the relationship between buyers and sellers.

³³ Such as Eurostat and the Statistisches Bundesamt of Germany. See. Klaus et al. [12] for detailed explanations and references.

³⁴ There is deliberately no account of “alternative technologies” here because a needs- and demand-based perspective of market assessment should include the substitution options based on the availability of alternative technologies).

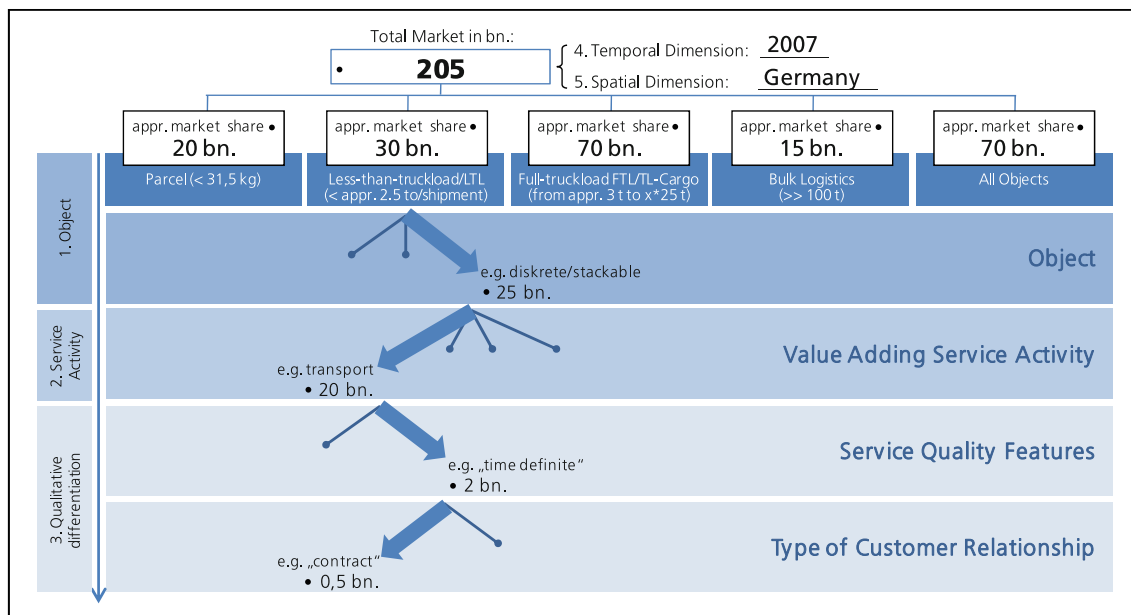


Fig. 6 A generic description and segmentation grid for logistics markets—illustrated for the “time definite express freight” market segment

- Steps 4 and 5 conclude the stepwise process of setting the boundaries of a relevant market by establishing temporal and geographical horizons, to which an assessment and analysis of the intensity of competition should refer.³⁵

5.3 Reconstruction of an integrative market segmentation structure and standardized measurement process

A standardized logistics market segmentation structure, which is consistent with the considerations discussed above, has been suggested in the study [13] as follows:

I. Markets for Bulk and Full Load Cargoes:

1. Bulk Commodity Transport

- 1.1 Short Haul/Short Line³⁶
- 1.2 Long Haul
- 1.3 global/maritime “specialized Bulk”
- 1.4 global/maritime “standardized—Container”

³⁵ According to this demarcation, the total annual volume for the geographical area under consideration can be calculated (in this case € 200 billion for all logistical services in Germany in 2009). The other data presented are the orders of magnitude taken from Klaus et al. [12] and consolidated for the purposes of Illustration.

³⁶ Short-haul transport refers to local and regional operations where vehicles typically operate from a local basis to which they return within one shift. Short-Haul/Short-Line operations are quite distinct organizationally and with respect to equipment used from Long-Haul operations.

2. General freight transport with standardized truck, wagon and container equipment
 - 2.1 Short-Haul/Short-Line
 - 2.2 Long-Haul
 3. Freight transport with specialized vehicle equipment
 - 3.1 Tank and silo transportation
 - 3.2 Miscellaneous freight transport with specialized equipment (e.g., automobile, flat glass, refrigerated, or jumbo transportation)
 4. Logistical integration and value-added services for bulk and full-load cargoes
- #### II. Markets for standardized and non-standardized Less-than-Truckload (LTL) cargo
5. LTL networks for standard “dry” freight
 6. Consumer goods distribution transport (“neo-bulk”)
 7. Specialized LTL networks (garments, hi-tech, furniture, etc.)
 8. Warehouse and terminal services, port, storage, and other supplementary services not included in other logistical services
 9. Integrated consumer goods contract logistics
 10. Integrated industrial contract logistics

- 10.1 industrial procurement and production logistics
- 10.2 industrial distribution and spare parts logistics

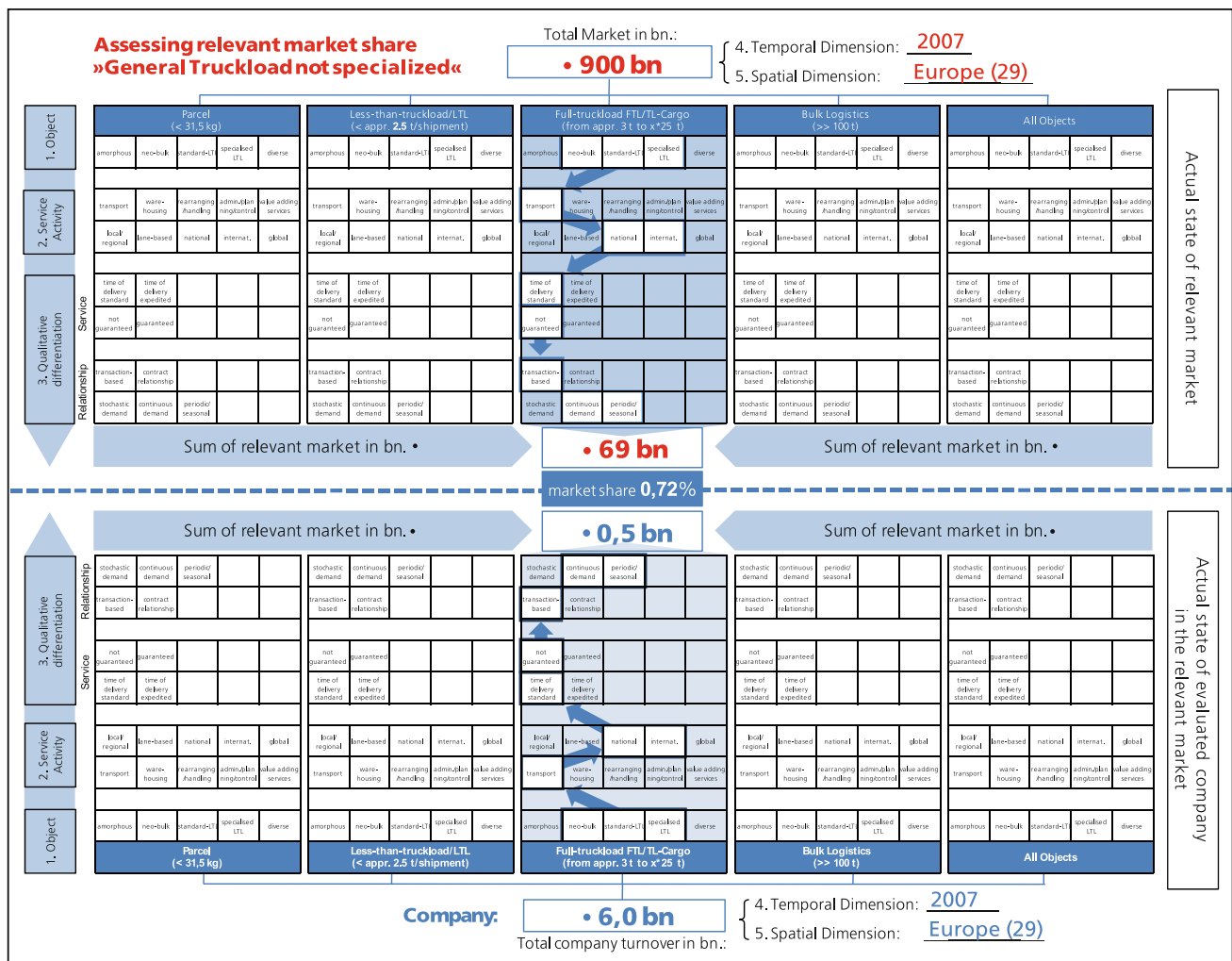


Fig. 7 Illustration of Systematized Market Share Assessment—European Full-Truckload Market

III. Markets for CEP—parcel, courier, and specialized express freight logistics

- 11. Regional, national, and European CEP services
- 12. Global integrator and airfreight services

IV. General integration and value-added logistics services activities

- 13. International forwarding
- 14. “4PL” and “non-asset based” contract logistics

This structure is widely compatible with the data histories and consolidation methods which have evolved in the “Top 100” studies ([12], 2010).

5.4 Toward a systematic process of assessing market shares and intensities of competition in logistics

The study [13] reported in this paper, as its final, practically useful result, suggests a systematic, standardized process of

calculating market shares and providing a consistent quantitative basis for the assessment of intensities of competition.

1. Illustration of the Reconstructed Market Measurement Concept Using a Selected European Logistics Market as an Example

This process and the results it delivers are illustrated through the following five-step procedure and through two representative examples in Figs. 7 and 8:

- 2. As a first step, a qualitative profile and description of the boundaries of a “relevant market” is established by highlighting the relevant cells in the grid (following Fig. 6).

For the purpose of illustration the market for non-specialized, standard full-load transportation is highlighted in Fig. 7 in both the upper and the lower section of the grid.

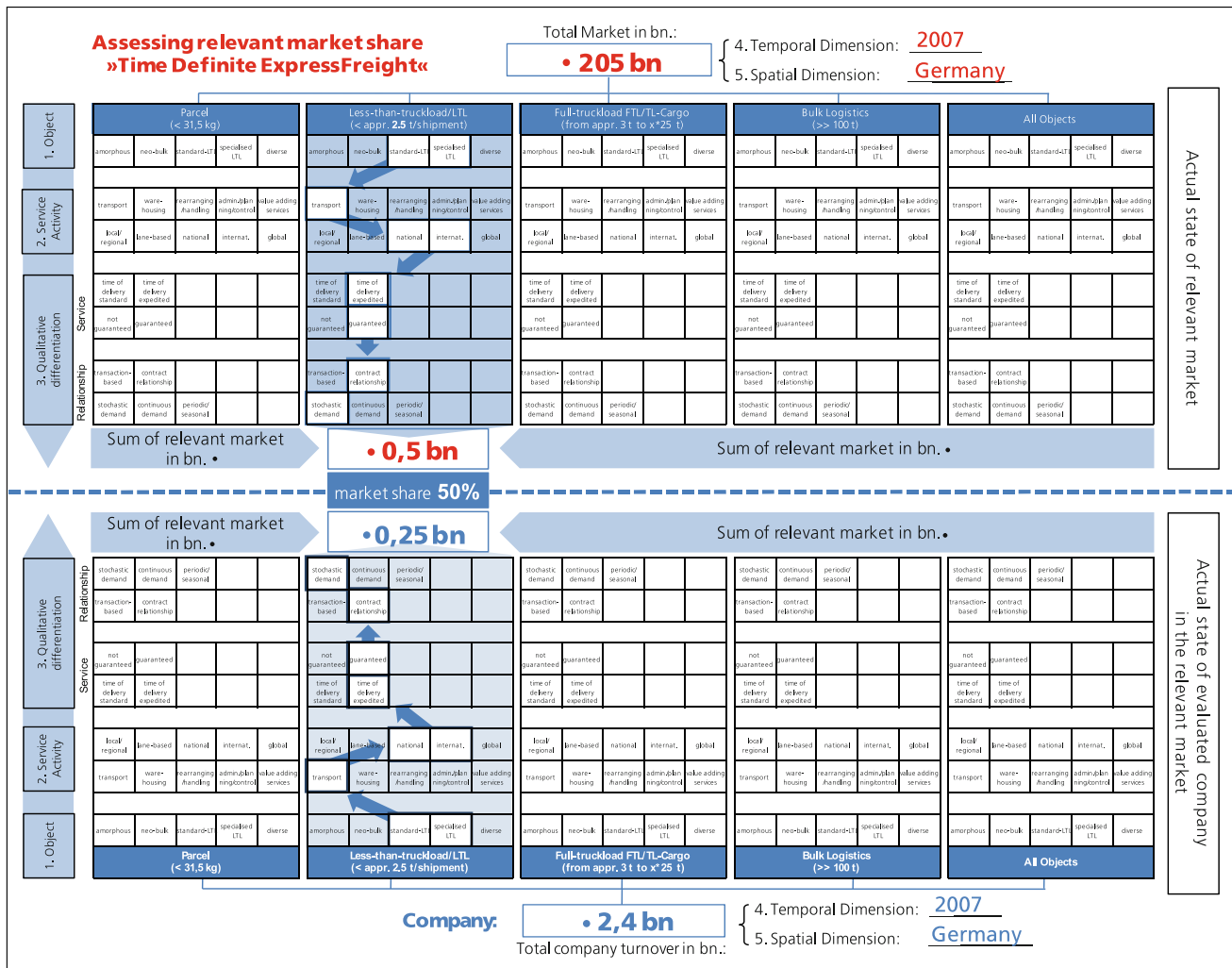


Fig. 8 Illustration of Systematized Market Share Assessment—German “Time-Definite Express Freight Market”

3. Quantitative assessment of sales volume of the “relevant market”:

Next, the total sales volumes of the relevant market—for the observation period and geographical horizons selected—will be entered in the upper section of the grid in Fig. 7. Data are drawn from the annual “Top 100” survey of the European logistics markets, showing a total volume of sales. For non-specialized truckload moves in Europe of € 69 bn per year.³⁷

4. Assessment of the relevant sales volume of the company whose competitive position is to be analyzed (for example under consideration of an assumed merger):

In Fig. 7, this company’s revenue after the assumed merger is assumed at € 6 bn.

5. Determining the market share of the company to be considered from a competitive point of view:

The comparison of the sales volumes of the “relevant market” of € 69 b. and of the company under consideration of € 6 b. results in a market share estimate of 8.7%.

6. Case-Related qualitative assessment of the intensity of competition

If the examination of market shares identifies a potentially anti-competitive constellation, more extensive qualitative assessment of the case will be necessary. This will have to take into account whether any high market share can be considered as temporary or permanent, whether there is potential competition or specific reasons justifying an

³⁷ The data used here are drawn from a recent study of the European full truckload market [11].

unusually high markets based on the arguments of the “more economic approach”.

Figure 8 illustrates a second example where an imaginary merger between two companies would achieve a dominant market position.

The systematic process of defining and measuring markets and, ultimately, assessing the intensities of competition in a given case is believed to be “generic” in the sense that it could help the companies and authorities to better and more consistently act and control today’s and tomorrow’s logistics markets in Europe.

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