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PILOT SURVEY IN THE FIELD OF PARCEL, EXPRESS, AND COURIER SERVICES

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SESSION 2

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Introductory note

Currently there are major gaps in official statistics with regard to the service sector and in particular business services (section K and divisions 63 and 64 of section I of the Classification of Economic Activities, 1993 edition (*Klassifikation der Wirtschaftszweige - WZ93*)). Since this area has gained significantly in importance for the overall economy, it has been considered for some time already to cover it regularly in terms of statistics.

To prepare surveys for relevant federal statistics, the Federal Statistical Office conducted a pilot survey late in 1994 in a sub-sector, i.e. for enterprises providing parcel, express, and courier services. According to the Federal Statistics Law (Art. 7 para. 2), conducting such surveys without an obligation to provide information is allowed for examining scientific-methodological issues.

There were mainly three sets of issues to be settled by the pilot survey: The suitable statistical unit to be chosen, the institutional breakdown according to the WZ 93, and the possibility of covering the major characteristics which are also contained in the EU Council Regulation concerning structural business statistics.

This contribution informs about the conduct and the results of the pilot survey. It consists of three parts. The first section focuses on the survey preparation and conduct, while in the second section selected results are presented. The third part deals with issues of methodology and classification of economic activities, including the experience acquired in conducting the survey with regard to the possibility of covering the major characteristics.

1. Preparing and conducting the survey

1.1 Methodological bases

The increasing importance of parcel, express, and courier services in highly industrialized national economies is due to changes in the demand regarding goods transport which have occurred since the 1970s. The main reason were structural changes in trade and industry. To cut capital cost, producers and traders reduced their stocks and switched to the transport of small quantities. Such quantities have to be tailored to the demand of those receiving the goods and be available just at the time of use. This "just in time" concept requires an increased supply of quick and especially reliable transport services. This market gap was filled by private parcel service enterprises which emerged in Germany at that time. Additional demand for transport was created by the international division of labour and the increasing interpenetration of national economies. Today, major suppliers of parcel, express, and courier services are *Deutsche Post AG* (privatized German postal services) with their subsidiaries, and private businesses most of which are small and medium-sized enterprises.

There are overlaps between parcel, express, and courier services. Parcel service generally refers to the transport of goods whose weight is between that of letter-post items (up to 1 kg) and that of freight items (31.5 kg and over). Express and courier services usually refer to the transport of all kinds of goods which is more rapid than the "normal" transport. For the pilot survey, these terms were used in a comprehensive sense; this means that enterprises were examined which mainly perform and/or negotiate transports of documents (written information such as letters, printed matter, plans, etc.) and smalls (i.e. small packets, parcels and the like, with a maximum weight of 31.5 kg), irrespective of the transport time (standard or express) and the means of transport (vehicle, courier).

By defining that parcel, express, and courier services should be the **main** activity of the enterprises to be covered, a delimitation was made that is common in German official statistics. This means that those enterprises were deliberately

disregarded which provide parcel, express, and courier services just "as a by-product", for instance forwarders. Including such enterprises would mean following a survey approach that is not suitable for including enterprises for the first time in a new field of survey. This is because kind-of-activity units can be covered only if the business accounting systems of the enterprises meet much more exacting requirements.

The general survey characteristics included data identifying the enterprises, such as year of foundation, number of branch establishments, legal form, and economic activities performed. These were followed by data on turnover, persons employed, staff costs, purchases of goods and services, investments, and newly rented or leased tangible fixed assets. What was particularly asked for in the context of purchases of goods and services was *intermediate consumption* for transports. This includes mainly the expenditures made for transports performed by third parties.

The specific survey characteristics for the field of parcel, express, and courier services included questions about (parcel-)accepting agencies, transport vehicles, and items transported. When compared with the postal service of the former German PTT Administration, the accepting agencies correspond to the traditional post office counters/post agencies; their number provides information about the extent to which an enterprise is active on the overall market and in specific regions. The size and the radius of action of the enterprises can be derived indirectly from the kind and number of transport vehicles used, which are the most important basis of the production process in this sector. By combining that information with data on intermediate consumption for transports, conclusions can be drawn regarding the involvement of third parties. The number of items transported is an important quantitative indicator of the services provided and, in combination with the relevant turnover figures, may give information on the main activities.

1.2 Conducting the survey

The survey was conducted as a questionnaire-based enquiry in October 1994 for the reference year 1993.

Preparing the survey was complicated by the fact that in German official statistics a business register for statistical purposes is still in the phase of being set up. Therefore, addresses had to be compiled from various sources, i.e. from the Federal Courier Association, the Chambers of Industry and Commerce, and also from directories, annual reports, information from the business press, press releases of associations and the like.

Out of 2,878 enterprises contacted, just 1,494 could be covered in terms of statistics. Among the questionnaires returned, just 142 could be evaluated (= 9.5%). 1,352 questionnaires had to be classified as non-response (see table below).

Non-response			
Total	of which		
	not belonging to the economic branch of parcel, express, and courier services	new address unknown	deregistrations and bankruptcies, refusal to respond, new foundations, etc.
1,352	862	323	167

As a conclusion, it must be said that, for a survey with voluntary response, the number of 142 questionnaires suitable for evaluation (that is 4.9% of the enterprises contacted) is a result that is worse than for any other pilot survey conducted in the last few years in the field of services. For such surveys, average response rates of 25% were achieved. Nevertheless, the survey result turned out to be sufficiently informative for analysing the branch, in particular with regard to the scientific-methodological aspects. The statistical results obtained for the enterprises can be represented only as percentages and relations, which is due to the lack of a

suitable population. They show a structure of private suppliers of parcel, express, and courier services that seems plausible, judging by the experience acquired. The data regarding the postal service of the German PTT Administration were not included since this would possibly have biased the average values.

2. Selected results

2.1 Types of enterprises

The starting point for classifying the enterprises was their main economic activity as indicated by the respondents. This permitted to employ a breakdown by enterprises which indicated their business activity to be either

- transports only, or
- transports and procurement of transports in the sense of Art. 84 of the Commercial Code (HGB).

A subsequent detailed analysis of the data material showed that each of these groups could be subdivided into three subgroups by the kind of performing the transports. The relevant criterion was whether the transports were performed with the enterprise's own means of transport or with third-party means of transport (self-employed drivers with/without their own vehicles). The characteristics of the three groups of enterprises are shown in table 1.

Among the 142 enterprises evaluated, 118 performed transports only, while 24 indicated transports and the procurement of transports as their main business activity. In the following, only the results for those enterprises will be examined which performed transports only. Of this group, 35 enterprises used their own means of transport only, while 40 enterprises cooperated with third-party self-employed drivers. 43 enterprises used both their own and third-party means of transport for their business activity.

2.2 Enterprises performing transports with their own means of transport only

These were mainly smaller enterprises with 2 to 9 persons employed, while just some of these enterprises employed 20 to 49 persons. They operated only on a regional scale. Among the persons employed, 80% were persons in dependent employment almost all of whom worked as drivers. Many of the working proprietors worked as drivers too. Most of the employed drivers worked part-time, in small enterprises some of them did even marginal part-time work[1]. Data on the enterprise size and their structure of persons employed are shown in table 2 and chart 1.

Vehicles used were mainly passenger cars and lorries with a payload of up to 3.5 t, while in smaller enterprises cycles and motorcycles were used, too. On average, 3 passenger cars and 1 lorry with a payload of up to 3.5 t were used per enterprise (see table 3).

The average turnover attained per enterprise was DM 327,000 in 1993. With a small number of exceptions, transport turnovers resulted from domestic transports. The turnovers of document and parcel transports had roughly the same share in the total turnover (see chart 2).

Fuels accounted for 60% of the purchases of goods and services. The average ratio of purchases of goods and services to turnover was 19%, i.e. value added was very large (see table 1).

Investments per enterprise amounted to about DM 30,000 per year, which is rather small; 60% of the amount regarded vehicles (see chart 3). The value of newly

[1] Persons doing marginal part-time work are persons who are not subject to social insurance contributions because they either work only for a short time or receive low wages only (up to DM 540 per month in 1993).

rented tangible fixed assets (vehicles) per enterprise was insignificant (DM 5,000). Out of the total acquisition value of the purchased and rented transport vehicles, nearly one fourth (22.9%) regarded rented vehicles (see chart 4).

2.3 Enterprises performing transports with third-party means of transport only

Enterprises of this group outsource important operational functions by cooperating with self-employed drivers and using in part third-party vehicles. The entrepreneurial function essentially consists in acquiring transport orders and in establishing and ensuring a presence on the market (in many cases national) through principal and branch establishments which serve as accepting agencies, too. Where own vehicles are used, particular importance is attached to a uniform company image (logo, etc.). Performing transports with their own vehicles but with third-party drivers only is typical of the large parcel service enterprises operating on a national (or even international) scale.

Most of the small and medium-sized enterprises (SMEs) covered by the survey employed 1 to 9 persons, while just some of them employed 20 to 49. However, this group also included 6 enterprises with 100 persons employed and over, all of which operated on a national scale. Nearly all of the persons employed were in dependent employment, including most of the working proprietors (as salaried employees of a limited liability company). Just every fifth person worked part-time (see table 2 and chart 1).

The vehicles used were mainly lorries with a payload of up to 3.5 t and passenger cars. The average number of lorries with a payload of up to 3.5 t per enterprise was 125 for all enterprises, 1 for SMEs, and 557 for large enterprises. Further results are shown in table 3.

The turnover per enterprise was DM 5.4 mn for SMEs and DM 200 mn for large enterprises. The transport turnover of large enterprises (98%) was attained mainly

through domestic transports (three quarters), the majority of which were parcel transports (74%). For SMEs, domestic turnover accounted for 93%, four fifth of which were parcel transports. Among cross-frontier transports performed by large enterprises, parcels and documents had about the same share. With a few exceptions, the small number of cross-frontier transports performed by SMEs were transports of smalls (see chart 2).

The ratio of purchases of goods and services to turnover generally was very high: 83% for SMEs and 65% for large enterprises (see table 1). It is determined by the large amount of intermediate consumption for transports performed by third-party drivers and vehicles (91% for SMEs and 83% for large enterprises).

Investments were made mainly by the large enterprises (DM 4 mn per enterprise); 79% of them regarded office and plant equipment. A share of 72% of the comparatively small investments made by SMEs (DM 140,000 per enterprise) concerned vehicles (see chart 3).

As regards the procurement of vehicles, the decision as to whether vehicles are purchased or rented is of fundamental importance for financing. Large enterprises generally rented vehicles, while SMEs usually purchased their vehicles (see table 1 and chart 4).

2.4 Enterprises performing transports with their own and third-party means of transport

Among enterprises performing transports both with their own and third-party means of transport, there are in part considerable differences with regard to their production process, depending on how the production process is distributed between own and third-party means of transport. Among the enterprises examined here, however, there was a majority of enterprises using mainly third-party means of transport. For just one quarter of the generally smaller enterprises, the main activity were transports with their own means of transport.

More than 90% of the enterprises covered employed less than 50 persons and half of these employed less than nine (SMEs). In four enterprises, more than 500 persons were employed. Nearly all persons employed were persons in dependent employment and just every seventh person worked part-time. For transports performed with their own drivers, SMEs also employed persons doing marginal part-time work (see table 2 and chart 1).

The vehicles used were mainly lorries with a payload of up to 3.5 t, while large enterprises used mainly lorries with a payload of over 3.5 t. The average number of lorries with a payload of up to 3.5 t per enterprise was 112 for all enterprises, 60 for SMEs and 626 for large enterprises. Further results are shown in table 3.

The average turnover per enterprise was DM 1.3 mn for SMEs and DM 429 mn for large enterprises. Transport turnovers of large enterprises (95%) resulted mainly from domestic transports (about 90%) and, more specifically, from transports of parcels. Also for cross-frontier transports performed by these enterprises, parcel transports had the largest share (about 80%). SMEs performed almost only domestic transports (97%), most of which were parcel transports (see chart 2).

The ratio of purchases of goods and services to turnover generally was very high, although slightly lower than for enterprises using third-party means of transport:

64% for SMEs and 54% for large enterprises (see table 1). This was due mainly to the large intermediate consumption for transports (72% for SMEs and 47% for large enterprises), although purchases of fuels were of some importance too (10% for SMEs and 4% for large enterprises).

In this group too, investments were made above all by the large enterprises. Amounting to DM 67 mn per enterprise, they were considerably larger than for enterprises using only third-party means of transport; 94% of them concerned land and buildings. SME investments were very small (DM 89,000); transport vehicles accounted for 65% of them (see chart 3).

As regards the procurement of vehicles, large enterprises generally rented them (99% of the acquisition value of all vehicles), while for SMEs the purchase of transport vehicles was (still) prevailing (see table 1 and chart 4).

3. Scientific-methodological issues

3.1 The enterprise as a statistical unit

The unit used for the survey was the unit generally applied for economic statistics, i.e. the enterprise. It is defined as the smallest legal unit which, for reasons of commercial and/or fiscal law, keeps books and prepares annual accounts. In the case of small and medium-sized enterprises, this approach of the smallest "unit preparing a balance sheet" generally is equivalent to the managing unit (= decision-making unit), which decides about the kind and extent of the activity, the hiring of employees, investments, etc. Sometimes, this does not apply to large enterprises where, for internal, fiscal or other reasons, parts of their activities are transferred to legally independent units, e.g. the separation of production and sale. However, such developments were not observed for enterprises providing parcel, express, and courier services.

The results of future surveys in the service sector - including parcel, express, and courier services - will not only serve purposes of governmental economic policies (structural, SME, research, labour market policies) but also provide information to the enterprises themselves regarding structures and developments of their economic branch, in particular for comparisons with their own results. The existing enterprise concept used in official statistics is suitable for the above purposes; applying it in the pilot survey confirmed its suitability. Another argument supporting the use of that concept is that the business accounting systems are the data source that is particularly well developed and most reliable in terms of data coverage.

A special problem is the activity of individual drivers (with or without their own vehicles). They cooperate particularly with large enterprises which entirely or in part "outsource" such transport functions. In many cases, the activity of such individual drivers does not meet the criteria of self-employed activity according to Art. 84 Commercial Code (HGB). This legal provision stipulates that self-employed persons can independently organize their activities and, in particular, determine their working hours. In the survey, individual drivers were often referred to as "subcontractors" or "self-employed drivers under contract". In terms of fiscal and trade laws, however, they are considered as enterprises and in the pilot survey they were covered as such (that is, where they were recognized as such).

3.2 Issues of economic classification

The national Classification of Economic Activities (*Klassifikation der Wirtschafts-zweige - WZ 93*), in line with the international classifications (ISIC Rev. 3 and NACE Rev. 1), distinguishes between the classes *Postdienste* (64.11 - National post activities) and *private Kurierdienste* (64.12 - Courier activities other than national post) within group 64.1 (*Postdienste und private Kurierdienste* - Post and courier activities). Post activities refer to public providers only, while private courier activities is a superordinate comprising all enterprises of a private legal form. The two classes (64.11 and 64.12) contain subclasses with the same contents (letter mail service, newspaper service, parcel service, other). This breakdown was established in the late 1980s, when the public postal administration still was a separate institution existing parallel to the private companies (that is, where private companies did have the authorisation to perform similar activities). In the meantime, two reform laws were adopted in Germany (*Poststrukturgesetz* 1989, *Postneuordnungsgesetz* 1994), reforming the activity of the letter and parcel services of the postal administration. In view of the expected changes, the *WZ 93* breakdowns of economic activities were not used for the pilot survey. Instead, a special classification by types of enterprises was developed to represent the enterprise-related results (see 2.1).

The experience acquired in conducting the pilot survey has shown that for a future new version of the German *WZ*, the following aspects will have to be considered:

a) Denominating division 64 just as *Nachrichtenübermittlung* (in the sense of transmitting information) appears anachronistic, considering the fact that only letter mail services, whose importance is diminishing, and telephone services are *Nachrichtenübermittlung*. The transport of parcels of any kind, the operation of networks, the transmission of data and other things are not *Nachrichtenübermittlung*.

b) The distinction between a public and a private part of *Nachrichtenübermittlung*, which is still included in the WZ 93 both for postal

activities and telecommunications, is no longer applicable in Germany even today. The term "courier activities" as a superordinate comprising all private postal activities is misleading because today this term usually refers to the transport of documents including letters and smalls by special transport enterprises which employ persons as couriers.

c) When defining subclasses (5-digit items of the national classification), their delimitation should be reconsidered. Letter mail services refer to the transport of documents of any kind (letters, printed matter, plans, etc.). Parcel services include express transport (express service). Moreover, the delimitation against normal freight service should be reconsidered. So far, a weight threshold of 31.5 kg is used in most cases. Below this weight, parcel service enterprises who are specialized in the transport of smalls employ production technology which is characterized by a high degree of automation; this has led to some standardization of the parcels to be transported with regard to size, weight, and content.

3.3 How can the major characteristics be covered?

Settling the issue of how characteristics can be covered is of great importance for setting up service statistics. The purpose is to judge the reliability of statistical data and, at the same time, to acquire experience that will permit to minimize the responding efforts of the enterprises. The data have to meet both the requirements in terms of economic policy, including national accounts, and the requirements of associations of enterprises as well as of the enterprises themselves, which wish to use the data for their own purposes.

The list of characteristics of the pilot survey comprised data concerning the bases of production (persons employed, vehicles, accepting agencies), the services provided (transports and related services) the costs (intermediate consumption and staff costs) and the investments including the value of newly rented tangible fixed assets.

Among the bases of production, the data on persons employed are particularly important. For persons in dependent employment, the data are available from payroll accounting records kept according to the legal provisions regarding income tax and social insurance. During the survey, it turned out that it is not sufficient to apply a breakdown by full-time and part-time employees. According to the relevant definition, part-time employees comprise all persons working less than the customary working hours in the establishment; that may be just a few hours per week (e.g. in the case of persons doing marginal part-time work) or weekly working hours which are just slightly below the customary working hours in the establishment. Since part-time employment is desirable and supported in terms of employment policy, the group of part-time employees will have to be further broken down for future surveys. Since for populations of persons as a survey characteristic, individual coverage of characteristics is ruled out, a more detailed breakdown would be required. In the statistics of employees subject to social insurance, for instance, a differentiation is made between working hours of less than 15 hours per week - this would include persons doing marginal part-time work - and weekly working hours of 15 and over. Also, for service branches where working proprietors and family members as persons employed guarantee the very existence of the enterprise - e.g. the small businesses providing parcel, express, and courier services -, the work performed by such persons must be covered in more detail.

Collecting the number of vehicles by given categories did not pose particular problems. This was also true of the number of accepting agencies, whose information value for analytical purposes is however limited because many enterprises collect documents and parcels directly from the consignor.

As regards the coverage of services provided (transported items, broken down by types as well as domestic/abroad), the experience acquired in conducting the survey was heterogeneous. Small and medium-sized enterprises cannot take these data directly from their accounting records; if they have any data at all, they were roughly estimated. Although such information is available from the transport

documents, these would have to be evaluated individually, which cannot be expected of the enterprises for purposes of official statistics. For large enterprises, the situation is different. They monitor the process of transportation until the items transported are received by the consignee and have the desired data, even with a more detailed breakdown, e.g. by Länder.

Another problem was the delimitation of smalls by the weight threshold of 31.5 kg. Some larger enterprises now draw the line between this category and the normal goods transport at 70 kg. Undifferentiated statistical coverage of parcels without weight information is doubtful anyway, because averages - e.g. turnover per parcel - can vary considerably, depending on the volume of items transported.

For the coverage of the services in terms of value (turnover data), the overall value of all deliveries and services can easily be collected with a breakdown by type (transport turnover, commissions for transport procurement, etc.). What poses considerable problems, however, is a breakdown of transport turnover by domestic and foreign turnovers and, at the same time, by documents and smalls, even as an estimate (except for some large enterprises).

Among the cost items, the collection of the total value of purchases of goods and services did not pose any problems. From the business point of view, this figure is the most important deductible expenditure item for the determination of profit; at the same time, it is the most important intermediate consumption item for the determination of gross value added.

Determining the individual cost types, however, posed problems particularly to smaller enterprises whose accounting system is not much developed. The level of intermediate consumption for transports varies considerably, depending on the different contractual agreements made with the "subcontractors". The remunerations paid always cover the work performed by third-party personnel; in addition, they also cover, for instance, the use of third-party vehicles, motor fuels invoiced separately for using the vehicles of the responding enterprise, etc.

Therefore, without detailed knowledge of the contracts, checking the completeness of the information provided was not always possible.

The collection of data on commissions paid for transports procured as well as leases and rents for business premises etc. turned out to be easy.

The wages and salaries collected as staff costs and the statutory social security expenditure were available from payroll accounting records. Social security expenditures based on collective or establishment agreements were indicated in very few cases because such benefits generally are not granted. However, the information value of staff costs - in particular the average of wages and salaries per employee - is limited because of the great number of different employment relationships.

Where investments were made, the data broken down by vehicles, land and buildings, as well as office and plant equipment did not pose any problems. This was also true where tangible fixed assets of this kind were newly leased and the acquisition value had to be indicated as an estimate.

Conclusions

The experience acquired has shown that for the field of parcel, express, and courier services a special questionnaire is required. To obtain complete and reliable data, it is necessary to conduct a survey with the obligation to provide information. Additional workload on the part of the enterprises can be minimised by defining the survey characteristics entirely on the basis of data which are recorded anyway as part of business accounting according to legal provisions of business, fiscal, and social security laws. This is confirmed by enterprises which participated in the 1994 pilot survey. Nearly 70% of them indicated that responding to the survey took 30 minutes or less, while 9% of the enterprises indicated more than one hour. Such times can be further reduced when the surveys will be conducted regularly and be integrated into business accounting.

Table 1: Major characteristics of the field of parcel, express, and courier services by kind of

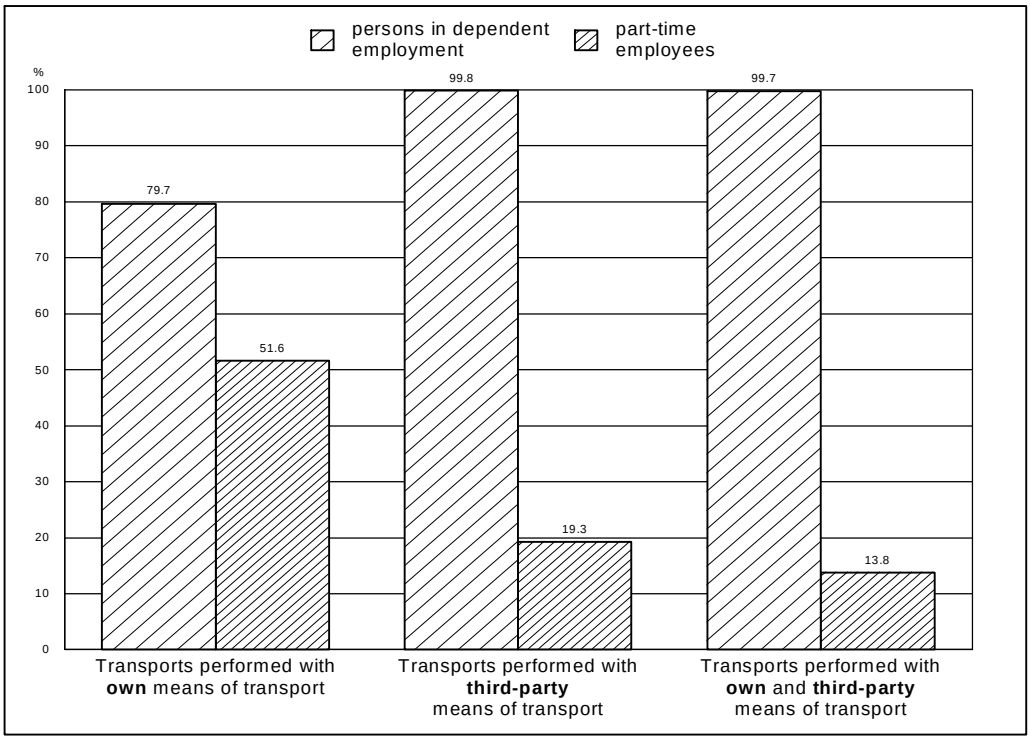
Kind of activity	Drivers	Vehicles	Persons doing marginal part-time work	Turnover per enterprise	Purchases of goods and services to turnover	Interme consum for trans to purcha goods servic
				1 000 DM		
Transports are performed						
- with **own** means of transport	own only	own only	available	327	19	5
- with **third-party** means of transport		own and third-party		34 608	67	84
- SMEs	third-party only	largely third-party	none	5 431	83	91
- large enterprises		largely own		199 948	65	83
- with **own** and **third-party** means of transport	own		almost none	41 086	55	51
- SMEs	and	largely own	available	1 305	64	72
- large enterprises	third-party		none	428 952	54	47

Table 2: Persons employed*) per enterprise in the field of parcel, express, and courier services by kind of activity, 1993

Kind of activity	Persons employed per enterprise	Viz.	
		persons in dependent employment per enterprise	part-time employees per enterprise
Transports are performed			
– with **own** means of transport	6.4	5.1	3.3
– with **third-party** means of transport .	181.2	180.9	35.0
– SMEs	7.9	7.4	2.3
– large enterprises	1 163.7	1 163.7	220.2
– with **own** and **third-party** means of transport	288.3	287.4	39.8
– SMEs	13.0	12.0	6.5
– large enterprises	2 972.8	2 972.8	364.0

*) Persons in dependent employment, working proprietors, and unpaid family members.

Chart 1: Structure of persons employed*) in the field of parcel, express, and courier sevices, 1993



*) Persons in dependent employment, working proprietors, and unpaid family members.

Chart 2: Tranport turnover in the field of parcel, express, and courier services for domestic and cross-frontier transports and by type of items transported, 1993

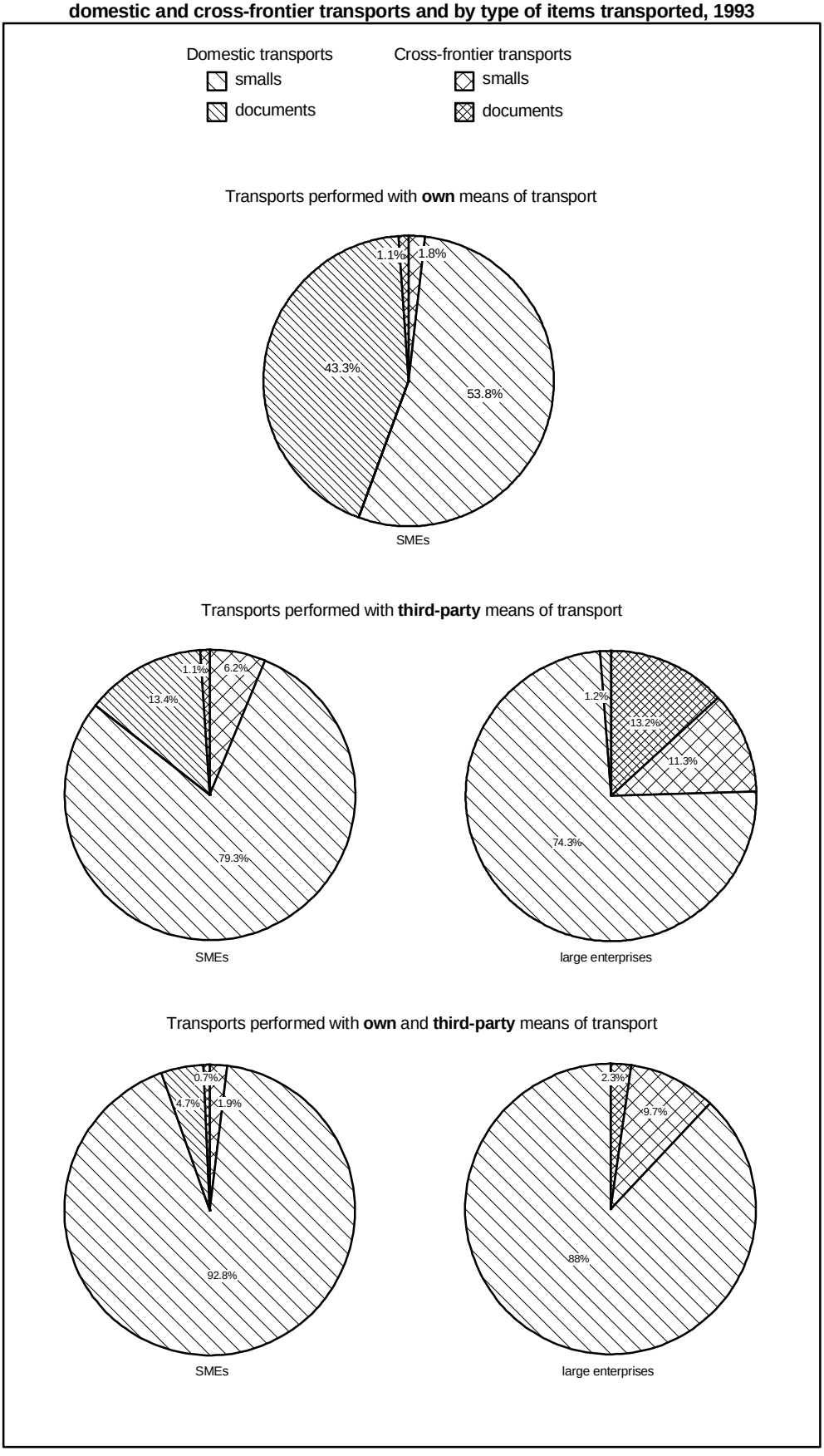


Table 3: Selected transport vehicles per enterprise in the field of parcel, express, and courier services by kind of activity, 1993

Kind of activity	Selected transport vehicles, total	Passenger cars incl. station wagons	Lorries with a payload of up to 3.5 t	Lorries with a payload of over 3.5 t
Transports are performed				
– with **own** means of transport	4	3	1	0
– with **third-party** means of transport .	209	58	125	27
– SMEs	38	36	1	0
– large enterprises	808	133	557	118
– with **own** and **third-party** means of transport	166	6	112	48
– SMEs	67	6	60	1
– large enterprises	1 133	7	626	500

Chart 3: Type of investments in the field of parcel, express, and courier services, 1993

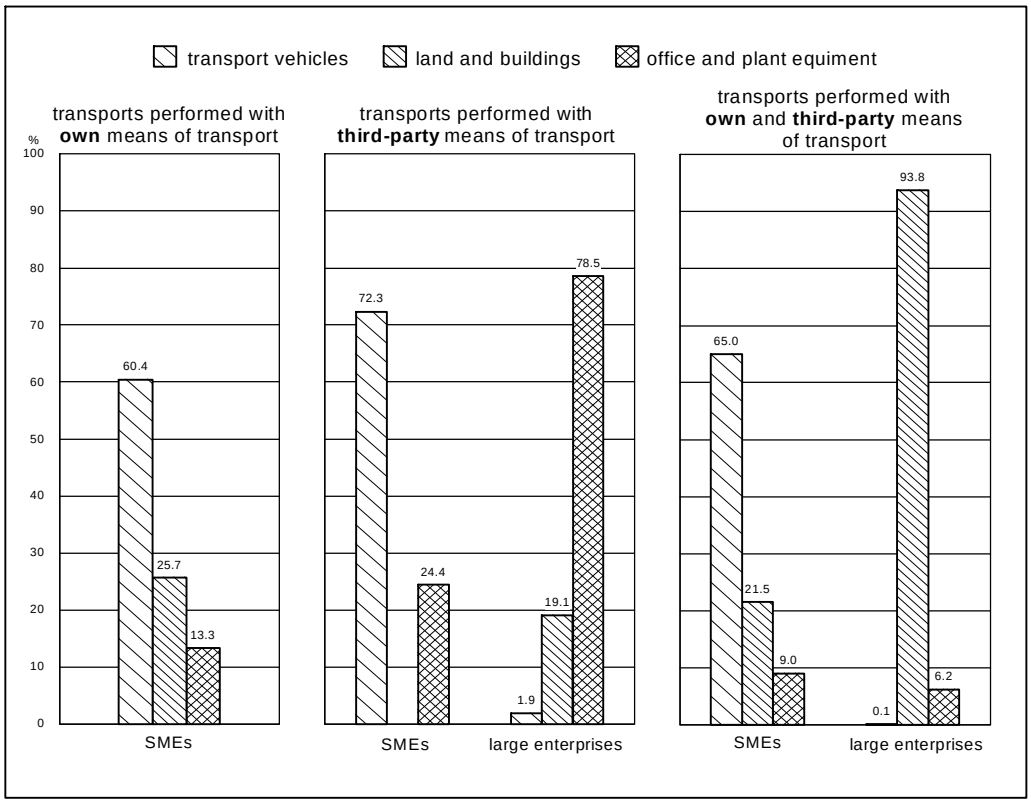


Chart 4: Acquisition value of the transport vehicles purchased and rented in 1993 in the field of parcel, express, and courier services