Mini-presentation on Turnover/Output

Turnover and Output Measurement for Technical Testing and Analysis in Germany

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1. Definition of the service technical testing and analysis

In Germany technical testing and analysis services are defined according to the statistical classification of economic activities in the European Community (NACE). The NACE classifies industries on the basis of their productive economic activities. The companies classified in technical testing and analysis offer very heterogeneous services: the testing of technical installations and plants, the certification of products, the periodic safety testing of vehicles, physical as well as chemical testing and more.

In NACE rev. 2, the group technical testing and analysis (71.2) consists of only one class. The class technical testing and analysis (71.20) includes the performance of physical, chemical and other analytical testing of all types of materials and products, such as:

- acoustics and vibration testing,
- testing of composition and purity of minerals etc.,
- testing activities in the field of food hygiene, including veterinary testing and control in relation to food production,
- testing of physical characteristics and performance of materials, such as strength, thickness, durability, radioactivity etc.,
- qualification and reliability testing,
- performance testing of complete machinery: motors, automobiles, electronic equipment etc.,
- radiographic testing of welds and joints,
- failure analysis and
- testing and measuring of environmental indicators: air and water pollution etc.

Furthermore, the class comprises the certification of products, including consumer goods, motor vehicles, aircraft, pressurised containers, nuclear plants etc. Likewise periodic road-safety testing of motor vehicles as well as testing with use of models or mock-ups (e. g. of aircraft, ships, dams etc.) belong to this class. In addition, the class technical testing and analysis has included theoretically the operation of police laboratories since the revision of the standard classification.[1]

However, testing of animal specimens and diagnostic imaging, testing and analysis of medical and dental specimens are excluded from the class technical testing and analysis.

2. Output measurement in technical testing and analysis

In Germany two surveys collect information on turnover of technical testing and analysis according to the European legislation and the corresponding national law. Structural business statistics are produced annually, short-term statistics quarterly. Information is collected on the enterprise level. A detailed methodological description of these statistics is given in the following chapter.

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[1] See chapter 5 and 6.

Short-term statistics of technical testing and analysis have been produced since the first quarter of 2003. The turnover is measured as an index, currently on base year 2005, and indicates trend rather than level information. Since the second quarter of 2006 the results have additionally been published in working-day adjusted and seasonally adjusted form.

In the structural business statistics turnover of technical testing and analysis is measured in Euro. These statistics have been produced since 2000. According to the current legislation turnover is collected by product breakdown every two years, for the first time in technical testing and analysis for the reference period 2009.

3. Turnover/output data methods and criteria for choosing various output methods

In the service sector short-term business statistics and structural business statistics are both relatively young statistics, induced by the growing economic importance of the services sector in comparison to the industrial and agricultural sectors. The statistics have to take into account that the service sector down to the class of technical testing and analysis contains a variety of service activities carried out by diverse enterprises of different sizes and that it underlies a "constant change". The statistics should thoroughly monitor structure and development of the services without putting too much burden on the enterprises.

Short-term statistics aim to monitor short-term economic trends, whereas structural business statistics describe the structure and performance of economic activities to show elementary structural shifts. Therefore the short term statistics only monitor turnover and number of persons employed 60 days after the end of the reporting quarter, while the structural business statistics survey collects data on a broader range of services in a greater level of detail as well as more variables annually, 18 month after the end of the reporting year. Due to the fact that a lot of companies in the service sector are small or medium-sized the short term statistics are carried out only quarterly. Administrative data is used where feasible. Smaller companies only have to answer to a reduced number of questions in the structural business survey. The product breakdown in the technical testing and analysis structural business survey is needed to monitor the diverse market structure in this class, but is only carried out bi-annually.

3.1. Short-term business statistics

German short time statistics on turnover in the services sector are produced according to Council Regulation (EC) No 1165/98 and (EC) No 1158/2005 of the European Parliament and of the Council. Preliminary results are available 60 days after the end of reporting quarter. The indices are made available to the public in unadjusted as well as in working day and seasonal adjusted form. In the period from the first quarter of 2003 to the first quarter of 2007, the quarterly indices of turnover in short-term statistics were produced with the help of a 7.5 % stratified random sample survey. Since the second quarter 2007, turnover data in short-term statistics are obtained through a multiple-source mixed mode design. The latter combines a primary survey conducted among large enterprises (i. e. with an annual turnover of at least 15 million Euro or with at least 250 employees) with administrative data for small and medium-sized enterprises. Enterprises are obligated by

national law[2] to provide information. Turnover administrative data are provided by the tax authorities of the 16 German states *(Länder)*, the data stemming from value added tax (VAT) prepayment notice and payment procedure. The multiple-source mixed mode design was introduced in order to reduce the respondent burden. To ensure the quality of the results this was only possible for small and medium-sized enterprises. The survey among the large enterprises ensures the quality of the results.

Minor drawbacks of the administrative data, which do not fully meet the demands of short-term statistics, involve the definition of turnover within the tax prepayment notice that differs in some respects from statistical definition of turnover. For instance some extraordinary receipts such as rental income for company-owned machinery, dwelling or land used by third parties or sales of land or used machines are not included in the statistical definition. However, they are included in the tax prepayment notice under the same heading as the statistically relevant services. In addition, in tax legislation a number of enterprises can be combined in an integrated VAT group. Internal turnover between members of a VAT group is not taxable. In the case of the already mentioned VAT groups the breakdown of turnover is difficult because only the controlling company reports the total group turnover to the fiscal agency without providing any information about the division of the total turnover among the different enterprises in the VAT group. Another problem is that the activity code in VAT data does not entirely meet statistical requirements. This is less a problem of standardisation as the classifications are very similar, but an allocation problem. A methodological test showed that the allocated codes for a single unit differ depending on the source.[3]

The problems mentioned are treated according to their effect on the quality of the results. Destatis improves the data quality with respect to short term statistics needs by editing procedures and using estimates and additional information from the Business Register. Owing to a legislation amendment concerning the use of administrative data for statistical purposes[4] Destatis and the Federal Statistical Offices of the *Länder* are authorized now to clarify inconsistencies in the VAT data directly with the enterprises and to correct the data accordingly.

The implementation of the multiple-source mix model involves a clear reduction of the statistical reporting duties of small and medium-sized enterprises. For instance, to produce short-term statistics at the present year only 1.0 % of the population in technical testing and analysis had to be surveyed directly. At the time, when first results are published (60 days after the end of the reporting quarter) genuine non-responses are approximately 5-6 % in the whole other services sector.

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[2] *Gesetz über konjunkturstatistische Erhebungen in bestimmten Dienstleistungsbereichen (Dienstleistungs-konjunkturstatistikgesetz – DLKonjStatG)*

[3] Lorenz, Robin (2010): The integrated system of editing administrative data for STS in Germany, ESSnet Administrative data, Seminar in Rome

[4] *Gesetz über die Verwendung von Verwaltungsdaten für Zwecke der Wirtschaftsstatistiken (Verwaltungs-datenverwendungsgesetz - VwDVG)*

3.2. Structural business statistics

Since reference period 2000 structural business statistics are carried out annuallyin the other services sector according to Council Regulation (EC, EURATOM) No 58/97, the following European regulations and the national legislation requiring a survey.[5] The recast of the SBS Regulation (EC) No 295/2008 of the European Parliament and the Council is applicable starting from reference period 2008 data.

Sample selection is based on information from the Business Register which contains identifier, activity code, beginning and end of economic activity, turnover and number of persons employed. Those enterprises that are drawn are obliged to provide information about their principal economic activity, their legal form, the number of local units, the number of persons employed, wages and salaries, social security costs, *turnover*, material expenses, stocks, taxes, subsidies, investments and so on. To reduce response burden small enterprises with an annual turnover of less than 250,000 Euro in the reporting year are surveyed only with a shortened questionnaire. To take into account the federal structure of Germany those enterprises that have establishments in several *Länder* have to itemise turnover, wages and salaries, investments and number of persons employed by *Länder*. Thus, results of structure and economic performance for each *Land* can be observed by the statistical offices of the *Länder*. The survey is conducted decentralized by the Statistical Offices of the *Länder* in close cooperation with the Federal Statistical Office. Final results are available 18 months after the end of the reporting period.

Concerning technical testing, since reference period 2009 turnover is collected by product breakdown every two years from enterprises having at least 20 persons employed. Turnover is broken down according to the statistical classification of products by activity (CPA).[6] The products are: the composition and purity testing and analysis, the testing and analysis services of physical properties, the testing and analysis services of integrated mechanical and electrical systems, the technical inspection services of road transport vehicles and other technical testing and analysis services. In Germany, turnover of testing and analysis services of integrated mechanical and electrical systems is subdivided into technical testing and analysis of large-scale plants (such as power plants and chemical plants), technical testing and analysis of machinery and small plants (such as pressure vessels and lift systems) and technical testing and analysis of products and prototypes (such as GS marking[7] and CE marking). This distinction is required in order to obtain the producer price index of technical testing and analysis.[8]

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[5] *Gesetz über Statistiken im Dienstleistungsbereich (Dienstleistungsstatistikgesetz – DlStatG)*

[6] See chapter 5.

[7] The GS marking *(Geprüfte Sicherheit)* is a voluntary certification mark for technical equipment in Germany. It means that the compliance with safety requirements has been tested and inspected by a state-approved body. The CE marking (Conformité Européenne) is a mandatory conformance mark on many products placed on the market in the European Economic Area. With the CE marking the manufacturer ensures that the product is compliant with the essential requirements of the applicable EC directives.

[8] See chapter 8.

The active enterprises in the other services sector with an annual turnover of more than EUR 17,500 (until 2002 above EUR 16,620) are surveyed by the help of a stratified random sample, not exceeding 15 % of the total number of enterprises. The mentioned quota is stipulated in the national statistical act concerning structural business statistics in the services sector. Due to the number of enterprises in a stratum and the statistical spread in turnover classes the sample size varies between service activities. In technical testing, 17.5 % of enterprises in the branch were surveyed for structural business statistics in 2008. Stratification criteria are: the *Länder*, the economic activity and size classes of turnover or number of persons employed.

Table 1:   False and genuine non-responses in technical testing and analysis in 2008

WZ 2008	Kind of business	False non-responses	Genuine non-responses	Change of economic activity as share of false non-response
71.2	Technical testing and analysis	15.6 %	5.8 %	45.2 %

According to table one in the reporting year 2008 approximately 6 % of the sample units in technical testing and analysis refused to respond. The quota of false non-responses, meaning units which are not part of the survey population and hence not obliged to provide information in this field, was about 16 %. The share of nearly 45 % of these that were due to a change in their field of economic activity is quite high. Possible reasons for this lie with the dynamic of the market, but also with the allocation of an incorrect code of economic activity, when the business is registered in the first place.

4. Market conditions and constraints

In 2009, approximately 5,500 German enterprises were engaged in technical testing and analysis. These enterprises employed approximately 79,000 persons and achieved an annual total turnover of 8.1 billion Euros – see table 2.

Table 2: Technical testing and analysis in Germany 2003 – 2009

Code of economic activity	Reporting period	Enterprises*		Turnover		Persons employed	
		Number	Growth rate**	in million Euros	Growth rate	Number	Growth rate
74.3 (WZ 2003)[9]	2003	5,257		4,515		52,833	
	2004	5,665	7.8 %	4,703	4.2 %	56,545	7.0 %
	2005	5,561	-1.8 %	4,881	3.8 %	52,870	-6.5 %
	2006	5,865	5.5 %	4,982	2.1 %	51,323	-2.9 %
	2007	6,348	8.2 %	5,600	12.4 %	56,770	10.6 %
71.2 (WZ 2008)	2008	5,540	-12.7 %	7,019	25.3 %	68,584	20.8 %
	2009	5,512	-0.5 %	8,094	15.3 %	78,961	15.1 %

* Only establishments with an annual turnover of at least 17,500 Euros
** Growth rate compared to the previous year; growth rate in 2008 of bounded validity due to conversion of classification (WZ)

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[9] This is the previous German classification of economic activity – see chapter 5.

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The domain of technical testing and analysis is quite concentrated. Nearly one third (35 %) of its enterprises generated an annual turnover above 250,000 Euros. Accumulated they realised approximately 96 % of the total annual turnover with 90 % of all persons employed. The market is dominated by large enterprises, for instance circa 12 % of all enterprises realised each of them more than one million Euros and together round about 88 % of the total turnover. The biggest establishments, circa 1 % of all enterprises, generated each an annual turnover of more than 25 million Euros and had a total turnover market share of nearly 60 %. These enterprises employed circa 46 % of the total number of persons employed in technical testing and analysis. Moreover, enterprises with at least 100 persons employed, covering approximately 2 % of all establishments, generated nearly 65 % of the total branch turnover. These figures even underestimate the importance of big players, since many small companies are only subcontractors of bigger companies which again belong to a holding.

Technical testing and analysis is a growing sector. Between 2003 and 2009, revenues increased continuously, especially during the last years. Since 2007, the number of persons employed rose steadily as well, while the number of enterprises went down in 2008 and 2009 (see table 2). Owing to the change of the statistical classification the data classified by WZ 2003 and WZ 2008 are in general of bounded comparability. NACE 2008 theoretically contains a new added economic activity in comparison to the previous version of the standard classification, but in practice the sector remains unaltered.[10]

In Germany, the most important market players are the Technical Inspection Agencies (TÜVs). According to former statutory regulations, these private organisations had a governmental mandate to conduct a lot of technical tests, e. g. periodic safety testing of vehicles and industry facilities. Their monopoly partially ceased about 30 years ago, when first licenses for periodic car testing were also given to competitors. During the last decades more and more testing monopolies of the TÜVs were brought down. Since the beginning of 2006, accredited supervisory boards can as well inspect all new plants in the market. Since 2008 the liberalisation applies also to recurring inspections of existing plants. Summing up, in nearly all fields of technical testing and analysis the TüVs are now facing competition, but they still are the biggest market players.

Figure 1 (please turn page) shows the Lorenz curves of technical testing and analysis between 2003 and 2009. It indicates a consolidation process during the period of these last three years. A specific cumulative share of the number of enterprises generated a higher cumulative share of turnover in comparison to the previous year. For instance, 2.5 % of all enterprises (each with an annual turnover of more than 5 billion Euros) generated together 61.9 % of the total branch turnover in 2007. Compared with this, only 1.5 % of all establishments realised 64.0 % of the total turnover in 2008 and generated 69.4 % of the total branch turnover in 2009. Each of these enterprises had an annual turnover of more than 10 billion Euros.

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[10] For more details concerning classification see chapters 5 and 6.

Figure 1: Lorenz curves of technical testing and analysis in Germany 2003 – 2009
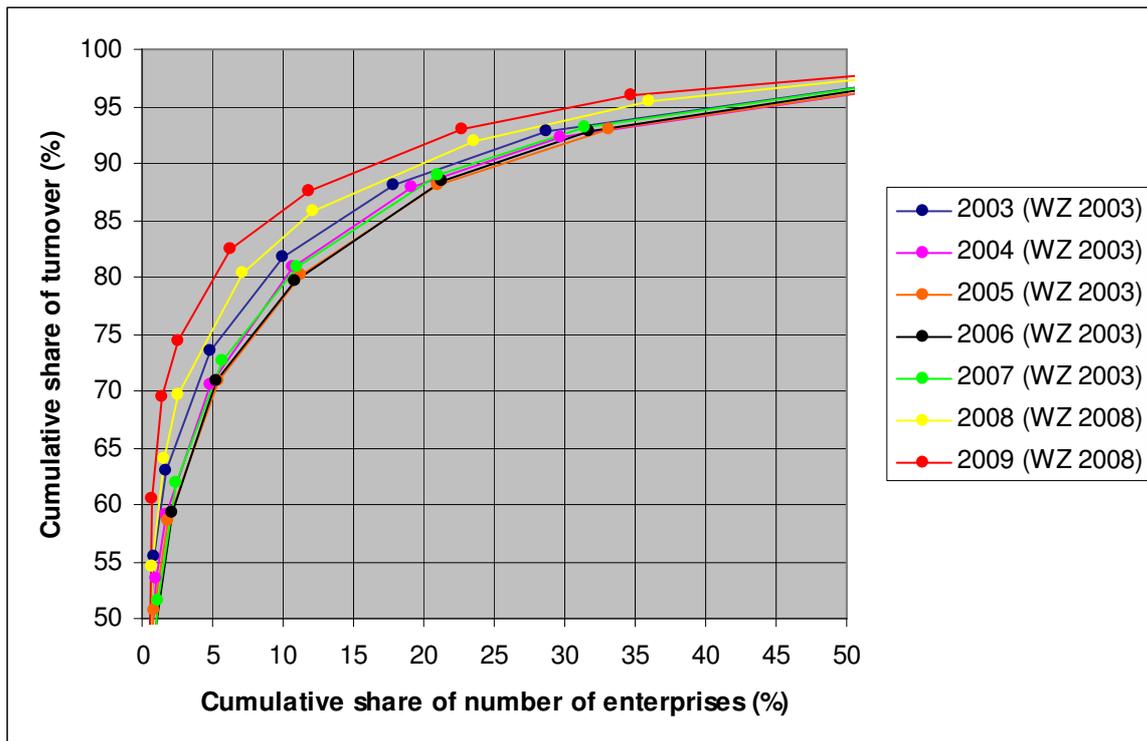
In the former version of the German classification of economic activities (WZ 2003) technical testing and analysis was subdivided on the class level.[11] Table 3 gives an overview of how the market was split into different activity fields.

Table 3: Data by classes of technical testing and analysis in Germany in 2007

WZ 2003 Code	Description	Enterprises*		Turnover		Persons employed	
		Number	Share	in million Euros	Share	Number	Share
74.3	**Technical testing and analysis**	**6,348**	**100.0 %**	**5,600**	**100.0 %**	**56,770**	**100.0 %**
74.30.1	Engineering control and analysis	4,547	71.6 %	4,189	74.8 %	35,607	62.7 %
74.30.2	Physical testing and analysis	587	9.2 %	463	8.3 %	4,429	7.8 %
74.30.3	Chemical testing and analysis	1,103	17.4 %	904	16.1 %	15,945	28.1 %
74.30.4	Operation of monitoring systems and stations	112	1.8 %	44	0.8 %	789	1.4 %

* Only establishments with an annual turnover of at least 17,500 Euros

In 2007, circa 72 % of all enterprises in the technical testing branch operated in the field of engineering control and analysis and reached nearly 75 % of the entire turnover with roughly 63 % of all persons employed. About 17 % of all enterprises were engaged in the

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[11] For more details see chapter 5.

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area of chemical testing and analysis and generated 16 % of the total branch turnover with 28 % of all persons employed. Chemical testing and analysis is a more labour intensive field in comparison to the other classes of technical testing and analysis. The remaining enterprises were engaged in the field of physical testing and analysis and in operation of monitoring systems and stations. Detailed employment and turnover data is displayed in table 3.

Table 4: Turnover by product breakdown in technical testing and analysis services in 2009

CPA 2008 Code	Description	Turnover
71.20.11	Composition and purity testing and analysis services	8.3 %
71.20.12	Testing and analysis services of physical properties	5.0 %
71.20.13	Testing and analysis services of integrated mechanical and electrical systems	33.8 %
71.20.14	Technical inspection services of road transport vehicles	26.8 %
71.20.19	Other technical testing and analysis services	17.4 %
	Other	8.7 %
	Total	**100.0 %**

For 2009 turnover has been collected by product breakdown. 452 enterprises generated a turnover of 6,146 billion Euros in the reporting period 2009. These enterprises realised nearly 91 % of their turnover by technical testing and analysis services and about 9 % by other products. Circa one third of the turnover is realised by testing and analysis of integrated mechanical and electrical systems. In Germany, this product is subdivided for producer price index purposes, but the more detailed results are not yet available. Technical inspection services of road transport vehicles generated 27 % of the turnover, followed by other technical and analysis services with 17 % (see table 4).

5. Standard classification structure and product details/levels

The standard of the German classification of economic activities now in use is the *Wirtschaftszweigklassifikation* 2008 (WZ 2008)[12] – see table 5. It is based on NACE rev. 2 which is derived from the international standard industrial classification ISIC rev. 4. Due to national peculiarities of several sectors the German classification of economic activities comprises an additional hierarchical level of sub-classes (five-digit level) in comparison to NACE rev. 2. In WZ 2008 technical testing and analysis is not subdivided at the five-digit-level.

Table 5: Technical testing and analysis in the German classification of economic activities – WZ 2008

WZ 2008 Code	WZ 2008 – Description	NACE Rev. 2	ISIC Rev. 4
71.2	**Technical testing and analysis**	71.2	
71.20	**Technical testing and analysis**	71.20	7120
71.20.0	Technical testing and analysis		

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[12] The previous German standard classification was WZ 2003.

The requirements for an implementation of WZ 2008 for statistical purposes arise from Regulation (EC) No 1893/2006 of the European Parliament and the Council. Statistics referring to economic activities performed from 1st January 2008 onwards (reference period) shall be produced using NACE rev. 2. Therefore, WZ 2008 was implemented in structural business statistics by the reference period 2008.

By way of derogation, short-term statistics governed by Council Regulation (EC) No 1165/98 shall be produced using NACE rev. 2 from 1 January 2009 using back-casted data for the time-series. The rule on usage from 2008/2009 onwards shall not apply for the production of several statistics such as National Accounts statistics under Council Regulation (EC) No 2223/96. WZ 2008 will be implemented in these statistics from reference period 2011 onwards. Until then WZ 2003 is used – see table 6. It is based on NACE rev. 1.1 which is derived from ISIC rev. 3.1. The table shows that technical testing and analysis in WZ 2003 comprises of four subclasses. These are engineering control and analysis, physical testing and analysis, chemical testing and analysis and operation of monitoring systems and stations. These four subclasses and the operation of police laboratories which appertained to public security, law and order activities (75.24.0) of WZ 2003 form technical testing and analysis of WZ 2008.

Table 6: Technical testing and analysis in the German classification of economic activities – WZ 2003

WZ 2003 Code	WZ 2003 – Description	NACE Rev. 1.1	ISIC Rev. 3.1
74.3	**Technical testing and analysis**	74.3	742x
74.30	**Technical testing and analysis**	74.30	7422
74.30.1	Engineering control and analysis		
74.30.2	Physical testing and analysis		
74.30.3	Chemical testing and analysis		
74.30.4	Operation of monitoring systems and stations		

Enterprises that are active in more than one economic activity will be classified under their principal activity, normally the one that generates the largest amount of turnover. Turnover is taken as a substitute for the value added which should be the basis for classification according to the NACE regulation, but is in most cases not available.

Table 7: Technical testing and analysis services in EU classification of products by activity – CPA 2008

CPA 2008 Code	CPA 2008 – Description
71.2	**Technical testing and analysis services**
71.20.11	Composition and purity testing and analysis services
71.20.12	Testing and analysis services of physical properties
71.20.13	Testing and analysis services of integrated mechanical and electrical systems
71.20.14	Technical inspection services of road transport vehicles
71.20.19	Other technical testing and analysis services

The standard of product classification is the European version of the central product classification (CPC) called statistical classification of products by activity within the

European Economic Community 2008 (CPA 2008) whose elements are related to activities as defined by NACE rev. 2. In technical testing and analysis there are five items at the detailed product level – see table 7.

6. Evaluation of standard definition and market conditions

The market of technical testing and analysis, respectively its submarkets show a variety of small and middle-sized companies. Even in the areas, where they are dominated by a set of larger companies, the total number of enterprises implies a functioning market. The output of the German technical testing and analysis sector is very heterogeneous. There are nuclear-technology experts regularly checking power plants, laboratories examining the viscosity of crude oil, offices that check the eligibility of Chinese electronic irons with respect to EU-Norms, car-testing stations and many more. NACE rev. 1.1, the former version of the German classification of economic activities (WZ 2003) had already taken into account the diversity of the branch by using four subclasses. The output of the sector technical testing and analysis of WZ 2003 was roughly equivalent with the types of products described by CPA. As the classification requires the allocation of companies to the subclasses according to their principal economic activity, the information about potential other economic activities of the enterprise was lost. The new classification with no sub classes, but a product breakdown of the turnover in the structural business statistics better reflects the CPA and is – in the German national version – even more detailed than the CPA. Another interesting aspect of the technical testing and analysis class is its affinity to the public sector, which also comprises technical testing and analysis activities, but not to the same purpose. This relatedness is shown for instance by the fact that the operation of police laboratories has been transferred from the public sector to technical testing and analysis by WZ 2008. In fact, the German police laboratories are subordinated to the forensics departments of State Offices of Criminal Investigation *(Landeskriminalämter)*. So, by the criteria of main economic activity, they are in turn classified as public order and safety activities (WZ 84.24) of WZ 2008.

7. National Accounts concepts and measurement issues for the area related to GDP measurement

In German National Accounts, the results are broken down and systemised using a variety of classifications. Most of them are internationally harmonised. Of particular importance is the breakdown by economic activities. It is based on the national classification of economic activity. The most detailed breakdown of economic activities available in National Accounts is the so called A60 by 60 industries which up-to-date corresponds to the two-digit items of the classification of economic activity, WZ 2003/NACE rev. 1.1. Price indices are used to deflate output.

Value-added tax statistics are the main basis to calculate **output** in business services not classified elsewhere (WZ 74). Additionally, service statistics data (produced since reference period 2000) are used more and more in spite of some incongruencies such as an inadequate time base. In general; the calculation of National Accounts is performed in comparison with business register data. And here in turn; some constraints have to be taken into account. The turnover data in the business register is derived from data of the fiscal authorities, which have not been collected according to the statistical demands. This concerns the reflection of VAT groups mentioned above. Another problem is that

movements among economic activities since the birth of enterprise are often not represented in the fiscal data.

Since National Accounts revision 2005 the information from service statistics is used to calculate **intermediate consumption** figures. In order to do so, ratios based on the relationship between turnover and surveyed expenses for material are calculated. The content of material expenses surveyed, however, does not fully comply with intermediate consumption according to national accounting demarcation. Material expenses surveyed comprises items not affecting intermediate consumption such as travel costs, provision etc. For this reason, the source value is reduced by approximately 10 %. This correction supported by further results and conclusions drawn by analogy from earlier national cost-structure statistics which contain a considerably greater level of detail. The intermediate consumption ratio is calculated from reduced material expenses of service statistics divided by gross turnover of service statistics. [13]

The table below shows production value (output), intermediate consumption and gross value added in technical testing and analysis in 2008.

Table 8:   Production value (output), intermediate consumption and gross value added in technical testing and analysis n 2008 according to National accounts

WZ 2003 Code	Production value (output)	Intermediate consumption	Ratio of intermediate consumption to production value	Gross value added
	Million Euros	Million Euros	%	Million Euros
74.3	6,967	2,585	37.1 %	4,381

8. Evaluation of comparability of turnover/output data with price index practices

According to Regulation (EC) No 1158/2005 of the European Parliament and of the Council that amends the regulations concerning short-term statistics the Federal Statistical Office of Germany is obliged to supply producer price indices of NACE rev. 2 group 71.2 technical testing and analysis on a quarterly basis. Beside the producer price index of technical testing and analysis the three indices of periodical inspection of road transport vehicles, of machinery and plants as well as of chemical and similar testing are published.[14]

Producer price indices are calculated according to the Laspeyres formula. To determine the weighting pattern and the content of price data collection for technical testing and analysis at first a study was carried out. For that reason nearly 120 enterprises were surveyed. Top-selling enterprises were progressively incorporated in the random sample. The weighting pattern is derived from the turnover shares of the selected services in the

[13] Statistisches Bundesamt (2009): National Accounts – Gross domestic products in Germany in accordance with ESA 1995 – Methods and sources – New version following revision 2005, Subject-matter series 18, Series 22

[14] Statistisches Bundesamt (2008): Erzeugerpreisindizes für Dienstleistungen: Informationen zum Teilindex technische, physikalische und chemische Untersuchungen (WZ 2003 74.30/ WZ 2008 71.2)

current base year 2006 – see table 9. Important ancillary services, such as driving tests or non-technical certification, were segregated.

Table 9: Weighting pattern of producer price index in technical testing and analysis in base year 2006

Field of activity	Share
Composition and purity testing and analysis services	25.1 %
Testing and analysis services of physical properties	4.3 %
Technical testing and analysis of large-scale plants	8.0 %
Technical testing and analysis of machinery and small plants	13.0 %
Technical testing and analysis of products and prototypes	7.6 %
Technical inspection services of road transport vehicles	35.5 %
Other technical testing and analysis services	6.5 %
Total	**100 %**

The weighting pattern of the producer price index in base year 2006 shown above differs from the turnover by product breakdown in technical testing and analysis in 2009 represented in table 4. Apart from the different reporting period, this has methodological reasons such as differing samples sizes and thresholds. Turnover by product breakdown was collected from nearly 450 enterprises having at least 20 persons employed whereas about 120 enterprises where surveyed to determine the weighting pattern of the producer price index in the base year 2006.

In technical testing and analysis two kinds of payment arrangements exist, fixed flat charges (i. e. price per inspection) and price calculation using time-based fees (i. e. hourly rates). In periodic safety testing of vehicles as well as in chemical testing simple fixed flat charges are applied. In the other submarkets both payment arrangements are common. For producer price statistics in the area of recurrent safety testing of vehicles fixed flat charges are gathered from price lists of the most important service provider using data of consumer price statistics as secondary source. Further relevant price data are regularly collected from reporting units. The price collection, processing and index calculation are performed centrally by the Federal Statistical Office.

In technical testing and analysis producer price indices are coherent with service statistics due to a matching of large enterprises being in the sample and a well defined and surveyed turnover. In the future, the turnover by product breakdown stemming from structural business statistics will be used to adjust the weighting pattern of the new base year 2010.

9. Summary

In Germany, information on turnover in technical testing and analysis is gathered by the help of short term and structural business statistics. Administrative data is used where feasible. Technical testing and analysis is a heterogeneous, growing German branch with historically developed structures and national particularities, inter alia stemming from a liberalisation process. The previous German classification of economic activity had already taken this into account. Up-to-date, turnover by product breakdown replaces this detailed information level in order to even better reflect the diversity or the branch.

10. References

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