Division Prices
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PRODUCER PRICE INDEX FOR WIRED, WIRELESS, SATELLITE AND TELECOMMUNICATIONS SERVICES IN GERMANY

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1. Definition of the sector

According to NACE rev.2 Telecommunications includes the activities of providing telecommunications and related service activities that is transmitting voice, data, text, sound and video. The transmission facilities that carry out these activities may be based on a single technology or a combination of technologies. The commonality of activities classified in this division is the transmission of content, without being involved in its creation.

2. Structure of the German market

The market structure for telecommunications according to the German regulation authority is as follows:

63.6 Bill. EUR turnover in 2006, thereof..

- 20.5 Bill. EUR for fixed line telephony,
- 22.1 Bill. EUR for mobile phone services,
- 0.8 Bill. EUR for leased lines,
- 7.4 Bill. EUR for interconnection,
- 3.0 Bill. EUR for cable TV,
- 9.8 Bill. EUR for other services.[1]

3. Challenges of the Telecommunications market for price statistics

Telecommunications (TC) is characterised by rapid changes in technology and the permanent introduction of new services. The market structure is (semi-)oligopolistic with a few leading market actors, several medium size companies and various small companies. The market is supervised by a regulator to assure competition. Between companies there is a hard fight for market shares.

Major challenges for statistics are

- good timing for the introduction of new services and the dropout for old services,
- changes in the condition of services,
- quality adjustment,
- bundling of services,
- changes in the market position of the company.

4. The development of the SPPI for telecommunications activities in Germany

[1] E.G. services for data communication (Internet), services for the transmission of radio/TV, not specific TC services provided by TC companies.

The working programme for SPPI in Germany is determined by the EU regulation 1158/2005 on short term statistics (STS) [2] which foresees, among others, the provision of an SPPI for telecommunications activities (NACE $_{rev.2}$ 61). According to the STS regulation the SPPI should be based on the year 2006=100 and be produced on a quarterly basis.

Compared to other countries the situation for the Federal Statistical Office of Germany, Destatis, is different. In many other countries a regulator collects quarterly statistical data at companies and these data are passed to the statistical office for compiling an SPPI. In Germany in contrast to other countries this procedure is not allowed by law. Thus the Statistical office has to do the collection work on its own without access to individual data from the regulator.

The German price statistics is organised in such a way that SPPI and specific CPI for services are collected by the same organisational unit. The common production of CPI for services and SPPI within one unit offers operational advantages such as expertise of the markets, good contacts to companies and the confidence of partners within these companies. In data collection a dual use of information for CPI and SPPI is sometimes possible. The dual use may refer to price quotations or to information relevant for the weighting structure. On the other hand methodological differences between CPI and SPPI and separate calculation procedures must be taken into account.

Methodological work for the development of a SPPI for TC in Germany started in 2004. At that time work was hindered by the fact that the STS regulation concerning SPPI was not yet adopted and the pilot surveys were undertaken on a voluntary base. Thus in TC only few companies volunteered in the pilot study. The main reasons for refusing participation were the lack of legal obligation, the burden for companies and the sensitiveness of data. In consequence it was not possible to obtain sufficient information to develop the SPPI for TC.

In 2006 Destatis started coordinated work to revise the weighting structure for the CPI and to develop the concept of the SPPI. It was a work in two stages: First obtaining the weighting information for CPI and SPPI, in a second stage developing the current surveys for SPPI

The existence of a legal obligation to reply to surveys for CPI and SPPI made the work easier than in 2004. International cooperation also proved very valuable, Destatis received methodological information from the Voorburg-Group, the OECD, Eurostat and several countries. Last but not least the advice of the German regulation authority[3] facilitated work in several ways.

For the first stage of work Destatis used regulators questionnaires to develop its own statistical questionnaires. To facilitate the survey the statistical questionnaires were reduced versions of the regulators questionnaires, but they also contained some additional information for the CPI and SPPI.

As detailed data on turnover by activities were asked, the confidentiality of data was a major concern. But due to the good cooperation between Destatis and the companies in the past it was possible to overcome the reservations of the companies and to receive the required data.

[2] Council regulation No 1165/98 of 19 May 1998 concerning short term statistics amended by the regulation NO 1158/2005 and further amendments concerning the Revision of the NACE; Annex D.
[3] Bundesnetzagentur, see web site : http://www.bundesnetzagentur.de/enid/2.html

In 2007 after the rebasing of the CPI the second phase of the SPPI work started. For the quarterly surveys a draft questionnaire was developed. As recommended in previous Voorburg meetings a unit value approach was chosen.

For the discussion with German TC companies the survey programme of the Austrian regulator[4] to monitor the price development served as a basis. Certain amendments to the survey programme proved advisable as -at this time- the Austrian concept dated from 2004.

At the end of various discussions with companies a rather ambitious survey programme was agreed upon. An extension in the German reporting system referred to flat rates and bundled products (fixed line telephony and Internet use). For bundled products a permanent change from "low-standard" tariffs to tariffs with higher data transmission standards can be observed over time. Thus for quality adjustment in price statistics it was convened that companies provide additional information on the turnover of the most important bundled products by type.

The proceeding for installing a reporting system in the mobile phone sector was similar to the proceeding in the fixed line telephony/internet sector.

5. Discussion on the Business to Business- and Business to all-approach

Although the services in focus of the SPPI programme are mainly business services, the scope of SPPI as defined by the OECD/Eurostat task force[5] is wider than the provision of goods and services from business to business. It also comprises deliveries to all sectors including the public sector or private households (Business to all-concept). The scope chosen by the Task Force constitutes a more general approach consistent with the International PPI manual and national accounts.

On the other hand the STS regulation takes a more restrictive position. According to the regulation the SPPI only covers services delivered to customers that are enterprises or persons representing enterprises (Business to Business-concept).

After the adoption of the STS regulation discussions within EU working groups started whether the Business to Business concept is too restrictive and whether the Business to all concept should be preferred.

Germany therefore decided to apply a Business to all approach for TC.

6. Sample design and the collection of information for the SPPI

In Germany a cut-off sample of all companies with a turnover of 100 Mill EUR and more is applied, smaller companies are not included in the survey. The survey comprises 30 companies covering 95 % of the whole turnover of TC.

Details of the survey programme are given in tables 1 and 2 of the annexe. The survey programme is divided into two categories:

- fixed line telephony and internet use,

[4] See the web site http://www.rtr.at/de/tk/TKStartseite

[5] For more detail see „Methodological guide for developing producer price indices for services, p.15 ff.

- mobile phone telephony.

Pricing method is the unit value approach in a breakdown for several activities. Units observed are turnover, number of x (e.g. participants), minutes of telephone call and GByte of data transmission.

Mainly the following activities are observed:

Fixed line telephony/Internet:

- Private final clients

  (minute prices by type of call, base price, call by call, preselection, VoIP, flat rates, bundled products fixed line/Internet by type)

- Business final clients

  (minute prices by type of call, base price, call by call, preselection, VoIP, flat rates, bundled products fixed line/Internet by type)

- Wholesale of phone calls (specific breakdown per company)
- Leased lines
- Internet

  (provision of access by type, Internet access via broad/narrow band, flatrates)

Mobile phone:

- Private and business final clients

  (basic fees, phone calls into different nets, flatrates, home zones, minute tariffs, SMS, MMS, data transmission, prepaid cards)

  Wholesale (contract clients, prepaid cards, language, SMS, MMS, data transmission)

  National roaming (language, SMS, MMS, data transmission)

  International roaming (language, SMS, MMS, data transmission)

In order to reduce burden for companies the survey programme is split down into specific questionnaires for companies according to their activities in TC. Thus companies receive simplified questionnaires which form a subset of the complete survey programme.

In the introduction phase of the SPPI companies asked for a longer continuity of the survey programme. Changes in the survey programme should be held restrictive as companies had installed special computation programmes for the SPPI and costly amendments of their programmes should be avoided.

7. Calculation procedures

Because of the innovative structure of the TC market (see chapter 2) the classic Laspeyres type index with constant weightings for e.g. 5 years cannot be applied for the calculation of the SSPI. Instead a regular examination of the weighting structure and the introduction of new products/dropout of old products in the calculation process are necessary. In Germany for adapting the weighting structure of the SPPI not only changes of weights for products but also changes of the market shares of companies are taken into account. The index computation follows a company specific calculation. Thus variations of the market share of individual companies can easier be taken into account.

The computation according to the unit value approach is separate for fixed line telephony/Internet and for mobile phone.

- Per company the service output is subdivided into homogeneous subsets for which value and quantity data are available. Prices are estimated by dividing the value of the service outputs by the corresponding output quantities, indices are calculated.
- In a second step indices per service output are aggregated at the level of the company.
- -In a third step indices for companies are aggregated to the sectoral indices fixed line telephony/Internet and for mobile phone and
- in a forth step indices are aggregated to telecommunications (total).

8. Results

Results for the SPPI on TC are given in the table below.

SPPI for Telecommunications
2006=100

Reference period	Telecommunications total	Fixed line/ Internet	Mobile phone
2006 year	100,0	100,0	100,0
2007 year	91,5	93,3	89,1
1. Qu. 2006	101,3	100,7	102,0
2. Qu 2006	100,9	100,7	101,1
3. Qu. 2006	100,7	100,9	100,5
4. Qu. 2006	97,1	97,7	96,4
1. Qu. 2007	93,6	95,0	91,8
2. Qu. 2007	92,3	93,9	90,2
3. Qu. 2007	92,0	93,9	89,5
4. Qu 2007	87,9	90,4	84,7
1. Qu. 2008	86,0	89,1	82,1
Percent change from same quarter previous year			
2007 year	-8,5	-6,7	-10,9
1. Qu. 2007	-7,6	-5,7	-10,0
2. Qu. 2007	-8,5	-6,8	-10,8
3. Qu. 2007	-8,6	-6,9	-10,9
4. Qu. 2007	-9,5	-7,5	-12,1
1. Qu. 2008	-8,1	-6,2	-10,6

Annexe

Survey programme (main categories)
Fixed line telephony/Internet use-

Business sector	Characteristics			
	turnover	number[6]	Minutes	GByte
1. Services for private users				
1.1. Fees based on minute tariffs				
1.1.1 basic fees für access	X	X		
1.1.2 fees for phone calls (local, distance, abroad)	X		X	
1.1.3 Call-by-Call, Preselection, VoIP	X	X		
1.2 Flatrates	X		X	
1.3 Bundled products (fixed line telephony/Internet)				
1.3.1 Breakdown for the most important products	X	X	X	X
Services for business final users				
Breakdown as for private users				
3. Business users: Wholesale company specific breakdown e.g.				
3.1. Tariff zones	X		X	
3.2 fees for phone calls (local, distance, abroad)	X		X	
4. leased lines	X	X		
5. Internet				
5.1Provision of broad/narrow band access				
5.1.1. Turnover total	X			
5.1.2 turnover by type of access	X	X		
5.2. Internet access services				
5.2.1 Turnover total	X			
5.2.2 Access via narrow band	X		X	
5.2.3 Access via broad band	X			X
thereof Flatrates	X	X		

[6] Of participants etc.

Survey programme (main categories)
Mobilephone telephony-

Business sector	Characteristics			
	Turn-over	number[7]	Minutens	GByte
1. Final users (business and private)				
1.1 turnover total	X	X		
1.2. basic fee for access	X	X		
1.3 fees for phone calls, by nets	X		X	
1.4 use of a „Flatrate“	X	X		
1.5 use of a „Homezone“	X	X		
1.6 use of minute tariffs	X	X		
1.7 short messages (SMS, MMS)	X	X		
1.8 data transmission (UMTS/GPRS)	X			X
1.9 PrePaid cards: Sellings of cards, of capacities	X	X	X	
2. Wholesale				
2.1 turnover total	X			
2.2 basic fees contract clients	X	X		
2.3 PrePaid-cards	X	X		
2.4 phone calls, by nets	X		X	
2.5 short messages (SMS, MMS)	X	X		
2.6 Data transmission	X			X
3. National Roaming				
3.1 turnover total	X			
3.2 language	X		X	
3.3. short messages (SMS, MMS)	X	X		
3.4 Data transmission	X			X
4. International Roaming				
Breakdown as for national Roaming				

[7] Of participants, of cards etc.