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SPPI for Leasing Intellectual Property and Similar Products (ISIC 7740)

In Hungary

Hungarian Central Statistical Office

Ildikó Hamvainé Holocsy with contribution: Bertilla Bognár

Ildiko.Holocsy@ksh.hu

The views expressed in this paper are those of the author alone and do not necessarily represent the position of HCSO or any other organization with whom the author may be affiliated.



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1. INTRODUCTION

Due to the special rights concerning the "Leasing Intellectual Property and Similar Products" industry, a special attention must be paid to handle new legal rules and market conditions. It is particularly difficult to classify various services, thus the production of appropriate statistics seems to be a real challenge for statisticians.

The activities include allowing others to use intellectual property and similar products for which a royalty payment or licensing fee is paid to the owner of the product. The leasing of these products can take various forms, such as permission for reproduction, use in subsequent processes or products, operating businesses under a franchise etc. The current owners may or may not have created these products. Services are provided typically for business clients.

It should be noted, that companies beside the main activity may offer secondary activities, primarily linked to the operations authorized by the license.

The overall objective of this paper is to contribute to the conceptual development of price statistics in the division "Rental and leasing activities" with adequate reflection to the real economic developments. The availability of an appropriate deflator (i.e. which satisfies the conditions of methods "A" or "B" described by National Accounts) allows to produce a real gross value added (GDP) as well as an Index of Services Production (ISP) for this area.

The production of short-term statistics indicators for Rental and leasing activities actually is not compulsory by the STS-regulation. However in Hungary turnover data are available for experimental calculations.

Hungary started to develop SPPIs for this industry within the frame of the European Grant project "Development of a methodological basis for new service producer price indices (SPPI) and deflators for value data" – according to the expected requirements of the short term statistics package being amended in the context of the Framework Regulation for the Integration of Business Statistics (FRIBS) – at the end of 2013. The main reason of selecting of this industry was the need to have accurate deflators because of the relatively high turnover share inside of the division "Rental and leasing activities" (NACE 77). On the other hand it is important to have information about the economic trends concerning this special service group.

In Hungarian Central Statistical Office (HCSO) the price collection for producing of SPPIs is carried out as a pilot survey by experts of the *Services and Foreign Trade Statistics Department* staff. According the current plans, the related price indices will be published at the division level – as parts of the total SPPI for the Rental and leasing activities.

2. MARKET CONDITIONS AND CONSTRAINTS

According to the available data on Rental and leasing activities the most important European countries in this industry are presented by Figure 1.

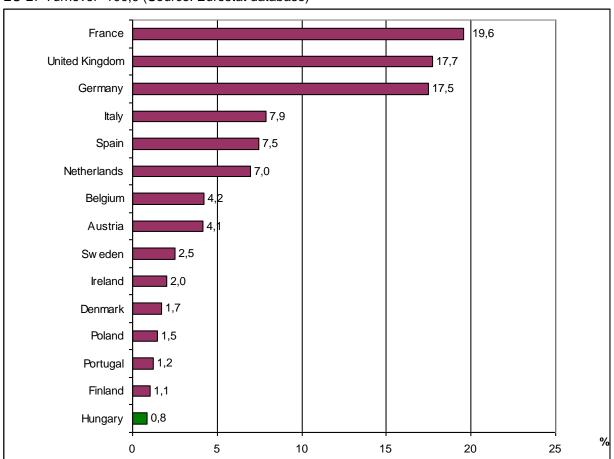


Figure 1

Rental and leasing activities

The turnover share of European countries compared to the total community turnover

EU-27 Turnover=100,0 (Source: Eurostat database)



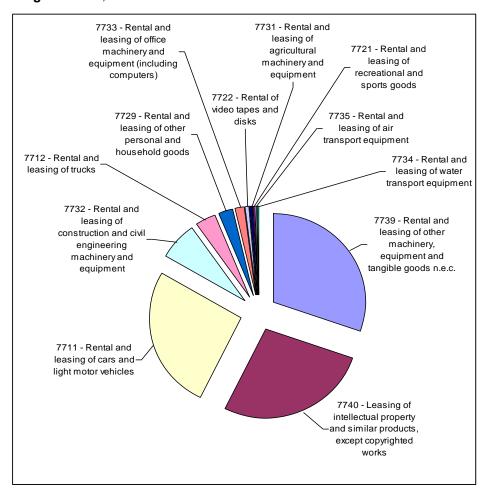
To establish a cost efficient sample for an experimental data collection with sufficient share from the total turnover of the related division we have analyzed the Hungarian Business Register as well as the current statistical and administrative information systems of Hungarian service enterprises to select the most important businesses.

This division is dominated by operations of three classes: Rental and leasing of cars and light motor vehicles (7711), Rental and leasing of other machinery, equipment and tangible goods n.e.c. (7739) and Leasing of intellectual property and similar products, except copyrighted works (7740). The first two cover 30-30% from the total turnover, the latter of 27%. The other areas have less importance according to the he performance indicators.

As already mentioned, in Hungary the survey frame is based on the national Business Register and the reporting units are enterprises.



Figure 2
Net Turnover Structure in Hungary by the SBS (industry-based) statistics
Rental and leasing activities, 2011



Source: website of the HCSO

3. STANDARD CLASSIFICATION STRUCTURE AND DETAILS

Hungary, as a member of the European Union (EU), for producer price observation system applies harmonized national versions of the following main economic classification systems:

- > NACE Rev 2 / TEÁOR'08 (the statistical classification of economic activities in the European Communities / in Hungary).
- > CPA'08 / TESZOR'08 (the European/ Hungarian Classification of Products by Activity).

The structure of the above mentioned classifications is the following:

CPA 2008 is fully harmonized with NACE Rev.2. Namely, from the 6 digits (XXXX.YY) the first four are the same as those for the NACE Rev. 2. This consistency and the hierarchical structure of the CPA make easier to calculate of higher level indicators from the lowest level of CPA.



4. EVALUATION OF STANDARD VS. DEFINITION AND MARKET CONDITIONS

Hungarian national versions of the classification systems NACE Rev 2 and CPA 2008 are fully harmonized with the European classification systems.

It should be noted that enterprises, beside the primary activity also provide secondary activities or bundled services for their clients. On the other hand companies classified beyond this industry may also offer services related to the "Rental and leasing activities". One of the main challenges seems to classify special services and handle the international transactions of services.

In Hungary the main areas of secondary activities of companies classified to the division "N77" are "Manufacture of computer, electronic and optical products" (C25), "Wholesale and retail trade and repair of motor vehicles and motorcycles" (G45), "Wholesale trade, except of motor vehicles and motorcycles" (G46), "Land transport and transport via pipelines" (H49), "Other professional, scientific and technical activities" (M74) and "Other personal service activities" (S96).

5. DEFINICION OF THE SERVICE

According to the European classifications (NACE Rev.2, CPA 2008), activities related to the rental and leasing activities are concentrated in section "N" ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES under division "77", which includes twelve classes for classification of several kind of rental and leasing services for business clients as well as for household classes (see Annex).

Industry classification

NACE Rev.2

N ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES

77 Rental and leasing activities

77.40 Leasing of intellectual property and similar products, except copyrighted works

This class includes the activities of allowing others to use intellectual property products and similar products for which a royalty payment or licensing fee is paid to the owner of the product (i.e. the asset holder). The leasing of these products can take various forms, such as permission for reproduction, use in subsequent processes or products, operating businesses under a franchise etc. The current owners may or may not have created these products.

This class includes: - leasing of intellectual property products (except copyrighted works, such as books or software)

- receiving royalties or licensing fees for the use of:
- patented entities
- · trademarks or service marks
- brand names
- mineral exploration and evaluation
- franchise agreements



This class excludes:

- acquisition of rights and publishing, see divisions 58 and 59
- producing, reproducing and distributing copyrighted works (books, software, film), see divisions 58. 59
- leasing of real estate, see 68.20
- leasing of tangible products (assets), see groups 77.1, 77.2, 77.3

Product Classification

The central product classification CPC (Rev. 2) is the main product classification system applicable to this industry.

The CPA 2008 (Statistical Classification of Products by Activity in the European Economic Community) includes three subcategories with a direct link to the NACE industry classification (details see in Annex).

77.40.11 Licensing services for the right to use research and development products;

77.40.12 Licensing services for the right to use trademarks and franchises;

77.40.19 Licensing services for the right to use other intellectual property and similar products, except copyrighted works.

Due to the improvement of technologies and organization frames used, operations of companies may rapidly change accommodating to the market needs. For this reason it may be a challenge to divide specific activities into classes to determine the primary activity, especially concerning areas where it may be difficult to identify copyrighted works.

5.1. Size of the industry

The main macroeconomic statistics according to the annual structural indicators at section level are shown in the Table 1.

Macroeconomic indicators for Hungary by employment category

Table 1

NACE_Rev. 2: Rental and leasing activities

Macroeconomic indicators, 2010

SIZE_EMP / INDIC_SB	Number of enterprises		Turnover or gross premiums written		Value added at factor cost		Number of persons employed	
		%	mio EUR	%	mio EUR	%	persons	%
Total	3 375	100,0	1 255	100,0	703	100,0	9 245	100,0
250 persons employed or more	0	0,0	0	0,0	0	0,0	0	0,0
From 50 to 249 persons employed	22	0,7	212	16,9	106	15,1	2 087	22,6
From 20 to 49 persons employed	32	0,9	179	14,2	108	15,3	1 028	11,1
From 10 to 19 persons employed	79	2,3	392	31,3	255	36,2	1 076	11,6
From 0 to 9 persons employed	3 242	96,1	473	37,7	235	33,4	5 054	54,7

Source: Eurostat database

Looking at the data in Table1, the share of the number of enterprises in the lowest employment category is more than 96%, and in the employment band with 50 employees or more, this proportion is only 0.7%. In addition, the share of turnover and number of persons employed is the highest also in the lowest employment size



category (37.7% and 54.7%). The highest rate of the value added (36.2%) was registered in the category between 10 and 19 persons employed.

Macro-economic data for service groups NACE "N", "77" and "7740" are presented in Table2.

Table 2

Number of enterprises and performance indicators NACE Rev.2: B-J, L-N, P-S

(2011)

	Indicators							
NACE Rev.2	Number of enterprises	%	Turnover (1000 EUR)	%	GDP (1000 EUR)	%		
Total NACE'08								
05-63;68-82;85-96	690 375	100,0	247494115	100,0	46659285	100,0		
N	37 590	5.4	6396990	2,6	2194402	4,7		
77== Rental and leasing	3 426	0,5	1242617	0,5	648069	1,4		
7740 Leasing of intellectual								
property and similar								
products, except copyrighted								
works	72	0,0	393877	0,2	238752	0,5		

Source: website of the HCSO

The Number of enterprises by staff categories is summarised in Table 3.

Table 3

Number of enterprises

Total Staff categories; Total NACE Rev. 2; 77.4

	Period of time									
Staff categories	2011. year	%	2012. year	%						
Unknown and 0										
1-4	67	93,1	69	90,8						
5-9	2	2,8	5	6,58						
10-19	2	2,8	2	2,63						
20-49	1	1,4								
50-249										
250-x										
Total	72	100,0	76	100						

Source: website of the HCSO

Based on SBS data, enterprises with less than 10 employees account about half of the total turnover and close to the 40% of the total GDP. The rest is produced by enterprises with the employment size between 10 to 19 employees.



Table 4

Annual structural indicators by size class

Enterprises classified in national economic sections B to J, L to N, P to S

(2011. year; 774= Leasing of intellectual property and similar products, except copyrighted works)

	Accounts							
Size class	Number of employees (capita)	%	Turnover (thousand HUF)	%	Value-added at factor cost (thousand HUF)	%		
Total Size class	110	100	118163154	100	71625632	100		
1-9 employees	57	52	58412671	49	26852183	37		
10 to 19 employees								
20 to 49 employees		48		51		63		
50 to 249 employees								
250 and more				•				
employees								

It should be noted, that more than 95% of the enterprises is operating in the size category of 1-9. However, the number of employees per enterprise (57/69) is less than the one people (0,8%).

According to our experiences based on the pilot survey, in Hungary this industry is dominated by operating businesses under a franchise or similar organization structure.

Scope of the Survey

Rental and leasing activities in Hungary regarding turnover data are fully covered.

To calculate high quality volume indicators, for deflation of the output/turnover appropriate SPPI's are needed. To meet this needs, a feasible price observation system is under development, taking into account the structure of the total yearly turnover (business to all, B-All¹), the aggregation level and frequency of production.

Turnover structure

The turnover structure could be described as follows (with limited coverage and quality):

- Main activity + secondary activities based on data of enterprises with more than 19 employees;
- Domestic + non-domestic/export (by residency) based on data of enterprises performing dual accounting;
- Data from survey + administrative data (e.g. for enterprises with less than 5 employees) + imputation of data (concerning missing data).

¹ B-All: business to All; B-B: business to business; B-C: business to consumer



6. Prices

Industry-based vs. product-based SPPI (deflator) data

Many data suppliers classified to the division 77 (as well as to the class 7740) account a relevant turnover share regarding secondary activities.

For calculation of an industry-based volume index is proposed using an industry-based SPPI. For this reason, the estimation of a appropriate quality weighting structure may be necessary. For national accounts purposes it could be more appropriate a product-based SPPI. However, when the total turnover is dominated by the share of primary activity, a product-based SPPI could be used as proxy for the industry-based SPPI.

Table 5

The estimated turnover structure and proposed deflators, as proxies for division N77 (MA: main activity, SA: secondary activity)

Activities CPA 2008	Total	N77 MA	G45-46 SA	H49 M74 SA SA		S96 SA	Other SA
Turnover share, %	100	82	5	SPPI _{H49} SPPI _{M74}		8	
Deflator (s)	Def _{N77}	SPPI _{N77}	PPIc			SPPI	

Business to business vs. business to all SPPI

According to the European STS Regulation for SPPIs B-B indices were required, however, for deflation of the total output, B-All indices are needed. Hungary produces primary B-B indices, but has developed B-All indices as well for division level – (as weighted average of B-B and B-C indices). However B-B SPPI for the class 7740 could be proposed as proxy for a B-All SPPI.

6.1. Record keeping practice

In Hungary the experimental data collection is based on a statistical survey. Price data has been collected quarterly, within the frame of the regular SPPI survey since Q1 of 2014.

A census of units was taken above a size threshold (companies with more than a given turnover value). A reduced sample was selected for the most important areas, including the Leasing of intellectual property and similar products, except copyrighted works (7740). Enterprises classified to different industries may be also selected for inclusion in the survey of this industry, if they generate significant turnover from the secondary activity related to the operations of Rental and leasing activities.

The data collection media is questionnaire by electronic data collection. The main source of information is national Business Register. Reporting units are legal units considered as enterprises.

Sample design

In Hungary generally B-B prices are collected directly from the service providers.



General questionnaires are available for respondents on the website of HCSO at the end of the reference quarter. New respondents are asked to complete a quite open general questionnaire specific to the observed rental and leasing activities.

To obtain market information and change experiences regarding this division, we have organized meetings with the experts of Hungarian Leasing Association and Hungarian Rent a Car Association. A "customized" questionnaire for each respondent is under development with the help of telephone or face to face interviews. As a result, pre-printed questionnaires will be used in the future regular data collection. In order to follow the methodological development and ensure the quality of reported data, follow-up calls are made (for example on how to deal with new clients, new or replacement products, new market conditions). Respondents are required to provide an average price over the reference period for each specified service transaction.

In Hungary, according to the general framework of SPPI observation system, domestic prices of services (sold to the resident customers) and export prices of services (sold to the non-resident customers) are collected on separate pages. Turnover data are also collected for the previous year at CPA 4 and 6 digit-level on the SPPI questionnaire.

6.2. PRICING UNIT OF MEASURE

In Hungary for the selected price representative items as the pricing unit of measure one license (agreement, trademark, brand, know how for a given period, amount ect.) is considered.

6.3. DISCUSSION OF PRICING METHODS

Basically prices are (will be) collected for a detailed set of price specifications of products, for which the prices refers to a level of detail, where there are no further varieties of the products.

The choice of an adequate pricing method is based mainly on:

- pricing mechanism;
- easy identification of the service specification (e.g. in the business accounting system);
- repeatability of the price specification;
- · response burden for businesses;
- resources in the NSI;

Recommended pricing methods for Rental and leasing activities are as follows:

- The most appropriate pricing methods be may be the following:
 - Contract prices of the large and representative customers: prices for standardized and repeated activities, for the same type of right (license trademark, brand, ..., with the same price determining factors);
 - Unit values/average prices for the strictly defined type of license, amount..., (e.g. per/license, per/time period, per service package);
 - Percentage fee method (mainly for rights related to the trade of properties);
 - Model pricing for unique or complex services;

Second best.

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- Averages prices per unit of measure for the relatively openly defined type of service:
- Direct use of prices of repeated;
- Using available price indices as proxies (CPI, PPI, other).

The price of provided service basically depends on transaction partners, type of the right(s), time period and/or the amount of the item and on additional criteria.

In Hungary, information based on the pilot survey for leasing of intellectual property and similar products, the main fields of operations are as follows: wholesale and retail trade off various products (food, textile, clothing, medicine, sport equipment), rights related to the accommodation and catering, rental and leasing of cars in the frame of a franchise.

Unit value method

The units have to be defined clearly for each product or service. The units should be as homogenous as possible, e.g. licenses classified by type, area of the field of economy, time period. In defining the unit, detailed information about turnover/output and quantity of sold units have to be available.

If the services are homogeneous and can be quality adjusted if any changes occur, then the unit value method is an optimum choice. A drawback is that information about the quantity of products sold is often not available at the required homogeneous level. Otherwise the unit value method should not be used.

Contract pricing

Each firm in the sample chooses some of their clients (representative clients) and prices of the same services (representative services) provided to the same clients on an ongoing basis. Contract pricing is the ideal method, due to the fact that it measures the price of real services. One of the disadvantages is that it is difficult to apply to the full range of services provided by the industry, in particular when enterprises produce unique services. Quality adjustment should be also ensured (e.g. when replacing an old license for a new).

Direct use of prices of repeated services

List prices for some type of licenses are often available via web sites. However, transaction prices reflect the relatively abundant on-line information. List prices can only be used if it is known that a sufficient quantity of services is actually sold at the list price.

Using available price indices as proxies

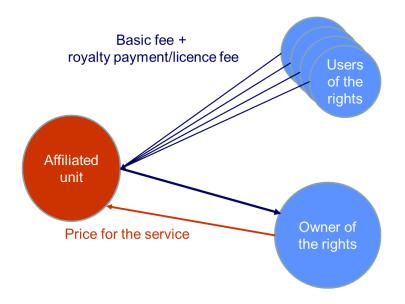
Based on Hungarian experimental survey, this industry is dominated by operation of enterprises in the frame of franchise. Market-players are usually affiliated units of a multinational company. Services are mainly provided for non-resident companies.

One of the typical organization structure is illustrated by Figure 3

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Figure 3



Resident in Hungary

Non-resident in Hungary

One of the fundamental issues is as follows:

What pays the user of the rights?

Example for a franchise agreement (e.g. for retail trade)

Price = (Entry fee) + License fee

Licence fee = X% of the retail sales (turnover) accounted for the previous time period (year/quarter).

How to deflate the licence fee?

Deflator = index of % * deflator for retail sales

= index of % * proxy for SPPI for retail trade

= index of % * HICP-CT (PPI, ... for the related product groups).

Services producer price indices (SPPIs) in Hungary

Hungary primarily produces product-based SPPIs, which reflect the average price development of sold services produced/performed by domestic enterprises. Industry-based SPPIs are actually under development.

Weighting and aggregation

Hungary employs two sources of turnover data for weighting. For aggregation of company-level and higher-level sub-indices of "big" companies Hungary uses "product-based" turnover data one year prior to the actual year collected by the SPPI survey. For industry-based SPPI, turnover data from two years prior is obtained at the 4-digit and higher levels from the Structure Business Statistics (SBS) survey. Weights are updated annually.

Lower level (CPA 6-digit) indices for the Rental and leasing activities are first calculated as a weighted arithmetical average or as un-weighted geometrical means.



Next, the company's class level (CPA 4-digit) aggregates are computed as a weighted arithmetical average, continuing by calculation of national-level indices.

7. QUALITY ADJUSTMENT AND METHODOLOGY

In Hungary, generally the recommendations of international organizations and methodological guidelines are followed. Concerning the quality adjustment methods the main used practices are the overlapping method, applying prices of previous periods, imputation of averages of similar categories or higher level aggregates as well as comparable adjustment – taking into account the nature of the service and the relationship between statistical office and data suppliers.

Further possibility to ensure appropriate quality of reported prices can be to compare product-level average price of an enterprise with the average price at the national level.

8. EALUATION OF COMPARABILITY REGARDING TURNOVER/OUTPUT MEASURES

For estimation of the real productions of services as well as of the GDP at constant prices – as the most appropriate deflators – the producer price indices (SPPIs) are recommended.

Industry-based vs. product-based SPPI (deflator) data

In Hungary the methodology for producing of a industry based-based SPPI for this industry including experimental calculations is under development.

Regarding **export** (non-domestic) and international services, Hungary follows the residency approach. The non-domestic part of the SPPI index is under development.

9. SUMMARY

In Hungary SPPI collection of data started from Q1 2014 by a quarterly experimental questionnaire. The general formula was prepared by experts of the NSI, however, a customized product list was developed by close contribution of companies – taking into account specifications of services provided. B-B for domestic and non-domestic transactions as well as turnover data are received. Industry is dominated by services within the frame of a franchise provided for businesses. For this reason a B-B SPPI may be an adequate estimation for a B-All SPPI.

The main fields of operations are as follows: wholesale and retail trade off various products (food, textile, clothing, medicine, sport equipment), rights related to the accommodation and catering, rental and leasing of cars in the frame of a franchise.

Services are mainly provided for non-resident companies.

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APPENDIX

Methodology:

- Methodology of short-term business statistics interpretation and guidelines, European Communities, 2006
- Handbook on price and volume measures in national accounts, European Communities, 2001
- Methodological Guide for Developing Producer Price Indices For Services, OECD-Eurostat, 2005

Voorburg papers

- Measuring Quality Change in Producer Price Surveys for Rental and Leasing Services, Loranger, André – Gallais, Alain, Vienna, 2010 http://www4.statcan.ca/english/voorburg/Documents/2010%20Vienna/Papers/2010%20-%2010.pdf
- Revised Revisited Sector Paper on: Rental and Leasing Services, Barzyk, Fred Mazin, Yana, Oslo, 2009
 http://www4.statcan.ca/english/voorburg/Documents/2009%20Oslo/Papers/2009%20-%2060.pdf

International studies

- Ulrich Eidman, 2010. A comparison of methods used to compile PEEIs in short-term business statistics, Statistics in Focus 52/2010, Eurostat;
- Isabelle Rémond-Tiedrez, 2008. Service producer price indices (SPPIs): a new European economic Indicator, Statistics in Focus 103/2008, Eurostat;



ANNEX

NACE Rev. 2 - Structure and explanatory notes

Statistical Classification of Economic Activities in the European Community

N ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES

77 Rental and leasing activities

77.1 Rental and leasing of motor vehicles

77.4 Leasing of intellectual property and similar products, except copyrighted works

77.40 Leasing of intellectual property and similar products, except copyrighted works

This class includes the activities of allowing others to use intellectual property products and similar products for which a royalty payment or licensing fee is paid to the owner of the product (i.e. the asset holder). The leasing of these products can take various forms, such as permission for reproduction, use in subsequent processes or products, operating businesses under a franchise etc. The current owners may or may not have created these products.

This class includes:

- leasing of intellectual property products (except copyrighted works, such as books or software)
- receiving royalties or licensing fees for the use of:
- patented entities
- trademarks or service marks
- brand names
- · mineral exploration and evaluation
- franchise agreements

This class excludes:

- acquisition of rights and publishing, see divisions 58 and 59
- producing, reproducing and distributing copyrighted works (books, software, film), see divisions 58, 59
- leasing of real estate, see 68.20
- leasing of tangible products (assets), see groups 77.1, 77.2, 77.3



CPA 2008 - Structure and explanatory notes

Statistical Classification of Products by Activity in the European Economic Community

N ADMINISTRATIVE AND SUPPORT SERVICES

77 Rental and leasing services Detail

77.4 Licensing services for the right to use intellectual property and similar products, except copyrighted works

77.40 Licensing services for the right to use intellectual property and similar products, except copyrighted works

77.40.1 Licensing services for the right to use intellectual property and similar products, except copyrighted works Detail

77.40.11 Licensing services for the right to use research and development products <u>Detail</u> *This subcategory includes*:

Licensing services for the right to use the outcome of research and development activities, i.e. inventions, such as constitutions of matter, processes, mechanisms, electrical and electrical circuits and devices, pharmaceutical formulations and new varieties of living things produced by artifice.

77.40.12 Licensing services for the right to use trademarks and franchises <u>Detail</u>

This subcategory includes:

Licensing services for the right to use trademarks and to operate franchises in respect of other non-produced asset.

77.40.13 Licensing services for the right to use mineral exploration and evaluation <u>Detail</u> *This subcategory includes*:

Licensing services for the right to use mineral and evaluation information, such as mineral exploration for petroleum, natural gas and no-petroleum deposits.

77.40.19 Licensing services for the right to use other intellectual property and similar products, except copyrighted works <u>Detail</u>

This subcategory includes:

Licensing services for the right to use other kinds of intellectual property products such as architectural and engineering plans, industrial designs etc.