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Mini presentation on

“Leasing of intellectual property and similar products, except copyrighted works” in France (turnover and SPPI)

**ISIC 4.0 : 7740
NACE rev.2 : 77.40**

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Introduction

The purpose of this paper is to give an overview of the manner the French statistical institute (Insee) measures the activity of “licensing services for the right to use intellectual property and similar products” (77 40), and how it calculates the price indices relating to these products.

1 Classification

1.1 Nace rev2 / CPA 2008

Table 1 : official European economic classifications at 4 digits level

NACE	CPA
<p>Description: Leasing of intellectual property and similar products, except copyrighted works</p>	<p>Description: Licensing services for the right to use intellectual property and similar products, except copyrighted works</p>
<p>This item includes: 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.</p> <p>This class includes:</p> <ul style="list-style-type: none"> - leasing of intellectual property products (except copyrighted works, such as books or software) - - receiving royalties or licensing fees for the use of: <ul style="list-style-type: none"> • patented entities • trademarks or service marks • brand names • mineral exploration and evaluation • franchise agreements 	<p>This item includes: This category includes</p> <ul style="list-style-type: none"> - permitting, granting or otherwise authorising the use of intellectual property products and similar products <p>This covers rights to exploit these products, such as licensing to third parties; using patented designs in production processes to produce new goods and so on.</p> <p>Limited end user licenses, which are sold as part of a product (e.g. packaged software, books) are not included here.</p>
<p>This item excludes: This class excludes:</p> <ul style="list-style-type: none"> - 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 	<p>This item excludes: This category excludes:</p> <ul style="list-style-type: none"> - licensing services for the copyrighted works (books, films, music, software, computer games), see corresponding subcategories in 58, 59 - drafting, certification and legal services concerning intellectual property products, see 69.10.15 - management services for rights to industrial property (patents, licences, trademarks, franchises etc.), see 74.90.20 - management services for copyrights and their revenues, except for motion picture and artistic rights, see 74.90.20

Table 2 : Fine products in CPA 2008 (six digits level)

77.40.11	Description: Licensing services for the right to use research and development products	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 electronic circuits and devices, pharmaceutical formulations and new varieties of living things produced by artifice
77.40.12	Description: Licensing services for the right to use trademarks and franchises	This subcategory includes: - licensing services for the right to use trademarks and to operate franchises in respect of other non-produced assets
77.40.13	Description: Licensing services for the right to use mineral exploration and evaluation	This subcategory includes: - licensing services for the right to use mineral exploration and evaluation information, such as mineral exploration for petroleum, natural gas and non-petroleum deposits
77.40.19	Description: Licensing services for the right to use other intellectual property and similar products, except copyrighted works	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. This subcategory excludes: - licensing services for the right to use compilations of facts/information (databases), see 58.12.30

1.2 borderline cases

a/ The copyright and related rights, which apply to literary and artistic works are not part of the activity 7740. Their place is in publishing (divisions 58, 59, 60).

b/ If the market for patent licenses is the core of the activity 7740, the market for patent acquisition is not part of it but should be linked to products “72.1 - *Research and experimental development services in natural sciences and engineering*” on the GFCF side. A patent is an exclusive right granted by the Government for an invention that is new, involves an inventive step (or is "non-obvious") and capable of industrial application (or "useful"). It confers on its holder the exclusive right to prevent third parties from making, using, offering for sale, selling or importing the patented invention without its permission. A patent is a powerful commercial instrument that allows enterprises to obtain exclusivity on the market of a new product or process, to occupy a position of strength on the market or to obtain new sources of income through the grant of licenses.

A patent is conferred by the national or regional patent office. Its period of validity is limited, usually to 20 years from the date of filing. This system works by example in the field of pharmaceuticals, IT technology!

A lot of companies, which possess patents, receive significant revenues from the trials they sue to firms that they suspect to use, without any right, the-so-called patents. These revenues can also be the results of agreements or arrangements between these companies, before going through the trial, which is often long and expensive.

c/ On the other hand, hunting the companies that want to use wrongly patents that they have not paid for legally, is the core of the activity of companies called "patent trolls": they are companies almost exclusively centred on the patents, they have acquired not in order to exploit them industrially but financially, by threatening the third companies of a

trial for counterfeiting, if they do not accept to buy their licenses at a certain price (concept of “stick licensing”). It is clear that this type of activity close to extortion exists mainly in the United States, due to a special legal system (very high level of damages and interest, system of remuneration of lawyers, etc.) and also in emerging technology areas, where the patents are often of dubious quality and can accordingly be purchased by mass and at low prices by unscrupulous buyers. This activity can happen in Europe, especially in the “mobile telecommunications technology”. Formally, if their income relies on “stick licensing”, they belong to activity 77.40.

d/. The exploration permit *stricto sensu* (e.g.: right of search of shale gas on a delimited territory), granted by a State according to the Mining Code of that State, does not match in itself with a production that falls under activity 7740, but could be connected with product “71.12.3 - *Geological, geophysical and related prospecting and consulting services*” on the GFCF side, similarly as patents in 72.1.

e/ However the classification of products and activities may, in some cases not correspond to the accounting practices of companies. When there is a negotiation between two independent companies, the values and prices of services sold correspond perhaps to well defined standards, but it can be different when the two enterprises are affiliated. First, the returns of patent licenses to the parent company can very often be recorded with “costs of headquarters” (“management fees”) and so, classified in class 7010, and on the other hand, the valuation of these services depends only on tax considerations (localization of the benefit in some countries (tax paradises?) to aim a lesser taxation.

1.3 definitions

The revenues of the intellectual property are identified here as revenues from placing on the market rights to exploit patents, utility models, trademarks, industrial designs, trade secrets, rights of breeders of new plant varieties, geographical indications for exploration permits, sometimes know-how.

The rights granted by a given patent can be licensed under the terms of a contract in which the holder of the licence is appropriate to allow, to a third party, certain specific uses of the patented invention, in general in exchange of the payment of a lump sum or regular royalties. A licence may be limited, depending on the purpose, field of use, geographic coverage and other conditions.

- **a patent** : is often granted for a given country, for 20 years, but the license of use of the patent is necessarily shorter: often 5 years. Often when a patent is filed, it does not give rise to license that several years after (7 to 8 years in the pharmaceutical industry, when a molecule has led to an effective drug and is allowed to be placed on the market;

The protection of plant varieties, also known as “plant breeder's rights”, is a form of intellectual property law granted to breeders of new plant varieties. Under these rights, certain acts relating to the exploitation of the protected variety require the prior authorization of the breeder;

- **A trademark** (a brand) is a sign capable of distinguishing the goods or services produced or provided by a company from those of other companies. In a general way, the words, letters, numerals, drawings, colors, images, forms, logos, labels, or

combination of these elements which allow you to distinguish the products or service may be considered as a brand;

- **A franchise** is a system of marketing products, services or technologies based on a collaboration between companies legally separate and independent, the franchisor and its franchisees, in which the franchisor grants to its franchisees the right, and imposes the obligation to operate a business in conformity with the concept of the franchisor. The deductible is the origin of much of distribution networks (textiles, food *etc.*)
- **An industrial design** is the ornamental or aesthetic aspect of an object. It may consist of three-dimensional features, such as the shape or texture of an object, or two-dimensional features, such as patterns, lines or the color. In most countries, the industrial designs must be registered in order to be protected according to the legislation in force. As a general rule, in order to be registered, the drawing or model must be "new" or "original", sometimes both.
- **An exploration service** (ex: a database of geophysical exploration of a coastal African zone) can be licensed for an exploration phase (oil, gas), when the previous phases have attested the probability of exploitable resources. Not to be confused with the exploration permit itself.

It is possible that in some cases the royalty of patent is cumulated with the royalty of brand, when the license encompasses both the right to produce and the right to use a trademark, when the latter is known (example in the pharmaceutical activity when the brand is more known than the name of the active molecule, or for certain dairy products.

2 Market characteristics

2.1 Motivations

In theory, the motivations to license technology are diverse:

- Traditional explanations for licensing build on the idea that firms license if they are less able (or unable) to exploit the innovation than the potential licensees, or they aim at establishing their technology as a *de facto* standard, for instance when network externalities are important.
- Licensing can be used strategically to influence competition and stimulate market demand.
- Licensing can induce quality competition within providers and expand supply through licensing; which in turn, increases industry demand.
- Licensing is also motivated by the "choosing competitors" motivation, that is, to choose rivals after the patent expires and extend a dominant position, or to deter new entrants from inventing competing products by offering them a licence that is less costly than doing R&D¹.

¹ WHO LICENSES OUT PATENTS AND WHY? LESSONS FROM A BUSINESS SURVEY / OECD/ 2009
Maria Pluvia Zuniga and Dominique Guellec

2.2 General points

From an activity point of view, but also according to the presentation in private accounting, there are two main groups of companies concerned by these kinds of income:

- First, the industrial groups (automobiles, pharmaceuticals, parapharmaceuticals, chemical etc.) which have a large research and development activity and who receive amounts more or less important of licenses as the result of the assignment of rights to other units. One notes in particular that many of these companies assign licenses to units of their own group, that these units are in France or in other countries. If the main activity of these companies is the industrial activity, revenue from licenses are not always accessories;
- Second, the groups who manage networks of brands or franchises (in the distributive trade, in the textile industry, in the marketing of luxury products, or of ordinary consumer goods, in the catering industry etc.). The objective of these groups is the management of networks and the main income is the perception of licences from their franchises.

2.3 Patents

Table 4 : Patent applications recorded by the 10 main offices in the world (2012)

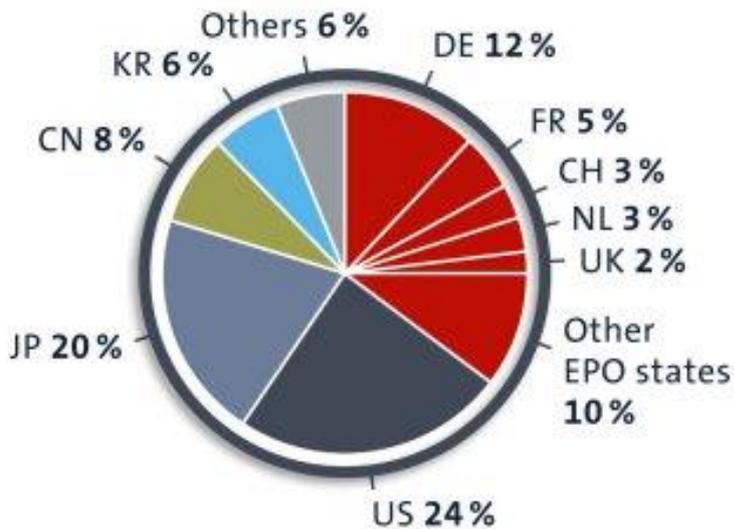
Office	Number of patents		
	2011	2012	growth (%) 2011-12
China	526 412	652 777	24,0
United States of America	503 582	542 815	7,8
Japon	342 610	342 796	0,1
Républic of Korea	178 924	188 915	5,6
EPO (European Patent Office)	142 793	148 560	4,0
Germany	59 444	61 340	3,2
Russian Fédération	41 414	44 211	6,8
India	42 291	43 955	3,9
Canada	35 111	35 242	0,4
Brasil	28 649	30 435	6,2

Source WIPO/ May 2014

The number of patents filed has considerably increased since the 1990s (doubling between 1990 and 2007). This growth corresponds, in the US and in Europe, to the increase of the R&D recorded on the same period.

It is in China that this practice develops the most at the moment: China became in 2011, according to the World Intellectual Property Organization, the country that records the most numerous patents in the world..

Chart 1 : Origin of patents filed in European Union

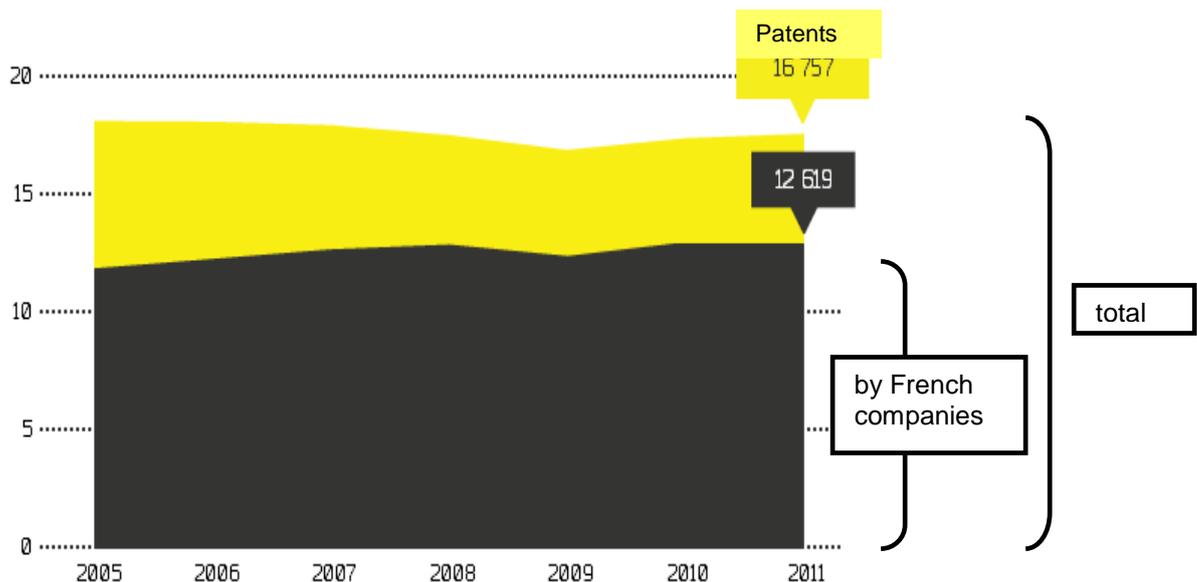


source : European Patent Office

Roughly a third (35 %) of the total filings in 2013 came from the EPO member states and two-thirds (65 %) from outside Europe. The top five countries of origin were again the US, Japan, Germany, China and South Korea.

In Europe, after Germany, the top filing nations were France, Switzerland, the Netherlands and the UK.

Chart 2 : Patent applications recorded in France



source INPI (National Institute for Intellectual Property)

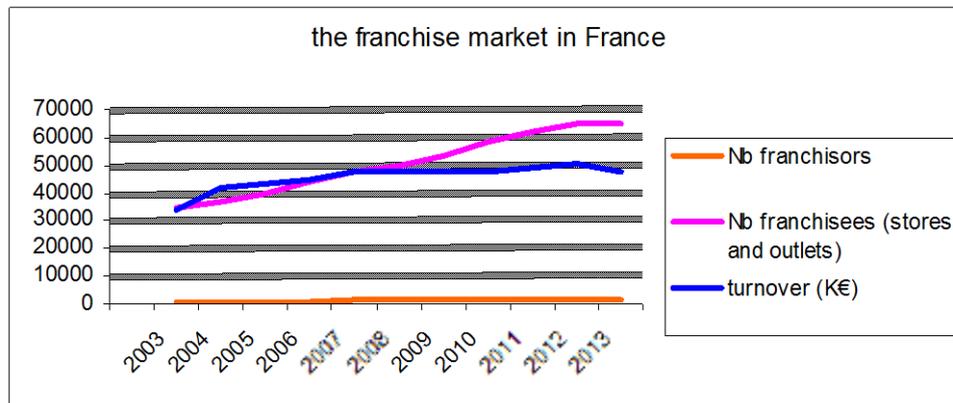
The about 12 000 patents recorded by year in France by French companies has remained quite stable on recent years.

Unfortunately, there are few serious statistics (or even no statistics at all) on the market of patents licensing.

2.3 trademarks and franchises

The market of the French franchise has recorded a doubling of networks number these past ten years, and is experiencing a steady progression. In 2013, the number of networks is estimated at 1,719 and represents 65,133 stores or outlets, 308,993 employees and a turnover of 47.4 billion euros (source FFF).

Chart 3 : Development of the franchise market in France



source :FFF (French Federation of Franchise)

3 Measure of turnover/output

3.1 Strong difference between turnover and output

The calculation of the national production of services “7740” is a real issue. The sector turnover (reported by the companies of which the main activity is 7740) is very low compared to the amount of production displayed by national accountants:

- **Esane 2012: sector turnover 2 200 k€ only;**
- **National Accounts : product output : > 15 000 k€**

The first phenomenon reflects only the fact that the activity of collecting royalties is rarely the main activity of the enterprises, as the largest share of the royalties collected is logically concentrated in industrial enterprises (patents) or industrial and other tertiary enterprises (trademarks) that have produced the asset licensed.

But the turnover of other sectors in product 7740 is still very low:

Table 4 : Turnover 7740 according to Structural Business Survey

	product	7740	other
sect			
manufact.		341 061	
construct.			
trade		12 182	
services without 7740		178 581	
	7740	2 059 691	147 236
transport		2	
Total		2 591 517	

Source: ESANE (SBS) 2012

The second phenomenon, capital for this product, is that industrial and tertiary companies not specialized in licensing do not consider this income as turnover, but as “other revenues”, “accessory” to their main activity:

Chart 4 : SBS questionnaire on turnover and output in France

Compte d'exploitation (K€)	
Produits	
Chiffre d'affaires [F]	288 835.611
Production stockée [FM]	0.000
Production immobilisée [FN]	0.000
Subventions d'exploit. [FO]	0.000
Repr. amort. & prov. [FP]	63 378.968
Autres produits [FQ]	2 171 447.709
Total des produits	
Total calculé	2 523 662.288
Total des charges	
Achat marchandises [FS]	46.200
Variation stock march. [FT]	0.000
Ach. mat. pr. & aut. appr. [FU]	0.000
Var. stock mat. pr. & appr. [FV]	0.000
Autres achats & charges ext. [FW]	2 004 276.787
Impôts & Taxes [FX]	35 865.150
Salaires & Traitements [FY]	33 081.379
Charges sociales [FZ]	10 937.199
Dotation aux amort. [GA]	43 327.315
Dotation aux prov. [GB+GC+GD]	34 878.364
Autres charges [GE]	249 569.762
Total des charges	
Total calculé	2 411 982.156
Brevets et licences (K€)	
751 : income of licences	2 167 912.422
651 : expenses in licences	246 979.205

In the questionnaires of ESA (providing French Structural Business Statistics), as well as in businesses tax declarations, royalties collected can be reported in two different locations:

- A sales of services 7740 2 592 k€ in 2012
- B “other revenues” or “other operating incomes”, more precisely in account “751 - Royalties for concessions, patents, licenses, trademarks, processes, software” for more than 12 000 k€ in 2012. They are recorded as production (output) by the national accountants.

3.2 Estimation of output in French National Accounts

National accounts distribute "other operating income" (code 75 in French bookkeeping classification) in the following products:

- 40% in real estate activities (6820)
- 20% operating headquarters (7010)
- 40% in royalties from patents (7740)

Table 5 : Commodity flow of product 77.40 in French National Accounts

commodity flow - 7740						
		2009	2010	2011	2012	2013
supply	L18_sales	2 812	3 145	3 993	3 674	3 681
	L27_other operating revenues	12 780	12 964	12 939	12 551	12 576
	L125_import from EU	2 772	3 934	3 908	3 826	4 089
	L126_import from non-EU	3 491	2 973	3 460	3 157	3 374
use	L151_intermediate consumption	11 897	13 061	13 153	13 899	15 075
	L187_exports EU	3 779	3 551	3 774	2 830	2 628
	L188_exports non EU	6 179	6 404	7 373	6 479	6 017

We can note that the domestic market has recently increased, while the amounts of exports have decreased, particularly within European Union.

4 Price mechanisms

A typical example of patent royalty formula is a fixed amount plus a percentage of turnover achieved by the patent. The "cross-licensing" makes exception (and will not be the subject of a price measurement attempt) when companies mutually agree mutual access to their inventions (cases in the ICT, in the car industry...) with a "netted" price or no price at all.

In some cases, the right to use a patent is accompanied by a fee payable per unit produced. For example, in IT, whose production requires the use of a large number of different patents, the producers (of mobile phones, television decoders *etc.*) pay a fixed commission for each unit produced. An important task of patent holders is to check each year that the number of units produced corresponds to the commissions collected.

Regarding royalties franchises (first subsample), the revenues of licensing take several forms:

- 1 a right of entry into the network (payable only once in general);
- 2 a percentage of sales as a direct charge ;
- 3 a percentage of sales as royalty or indirect advertising fee.

(which brings us back to similar formulas for patent royalties)

But the turnover of the franchisors may very well include other revenues, in conjunction with the franchise, but which are not directly royalties: these are

- revenues of training;
- revenues related to the delivery of goods to franchise stores, and that the franchisee is forced to buy (clothes, chocolates, various equipment, etc.);
- revenues related to sales from stores that the group has in its own. Indeed, very often coexist in the same distribution network or under the same name, franchisees and direct affiliates of the franchisor.

Chart 4 : tariff for licensees of “planet sushi” in France

Durée du contrat (en année)	7
Droits d'entrée (en €)	40 000 à 50 000 euros HT (selon le format)
Redevances directes	5 % du CA
Redevances publicitaires	2 % du CA HT
Autres obligations	Néant
Formation	12 semaines franchisé, 12 semaines chef cuisinier

Franchisors may have franchised units abroad, in which case the royalty revenues are exports and price collected will be used to calculate an index of export prices. But the price mechanism remains similar (percentage of sales generated by the licence).

Chart 5 : number of French and foreign licensees of “brioche dorée”

	France	Etranger
Unités propres	210	270
Franchises	142	287

5 Service Producers Price Indices

5.1 Sampling

Sampling was conducted in accordance with the division into two accounts (turnover / other revenue) on the one hand, the division of the business into two parts and two “fine products” in CPA 6-digits (patent royalties, trademark licenses and franchises) on the other hand.

The first sub-sample was selected on the base of sales of 77.40 product and of royalties generated by patents and licenses according to ESA (40 companies).

The second sub-sample on brand royalties or franchise was extracted from the membership file of the trade union concerned, the FFF (French Franchise Federation). This trade association surveys annually existing networks in France and comprises in 2013 about 1 700 different networks representing 65 000 stores and a total turnover (performed by all

franchisees of these networks) to 50 billion € in 2013. The federation business represents 45 % of the franchisees (stores) but 10 % of the networks. (many networks are created without reaching a sufficient number of franchisees to weigh on markets). 40 companies (networks) were selected for this second sample: the most important members of this association networks according to FFF.

5.2 Main pricing methods

The pricing methods for SPPI reflect exactly the price mechanisms: a fixed entrance fee, and above all a rate of licence usage applied to a turnover generated by the licence. This last “commission” formula is very common in trade or in real estate, and the price development is considered as originating from the level of the rate (from 3% to 4% for instance) or from the price development of the products sold used as a basis in the formula: we then use the corresponding CPI or PPI in a “model pricing” formula (the scope of the price index is larger than the fine product of the enterprise). For foreign licensees, we have to consider the corresponding country CPI or PPI but also the development of the exchange rate:

Table 6 : 3 sources of price development in exportation of licences

Price index =	Rate of « commission »	* PPI (or CPI) of the corresponding product in the corresponding country (1)	* exchange rate of the currency unit in which CPI and PPI are expressed vs. €
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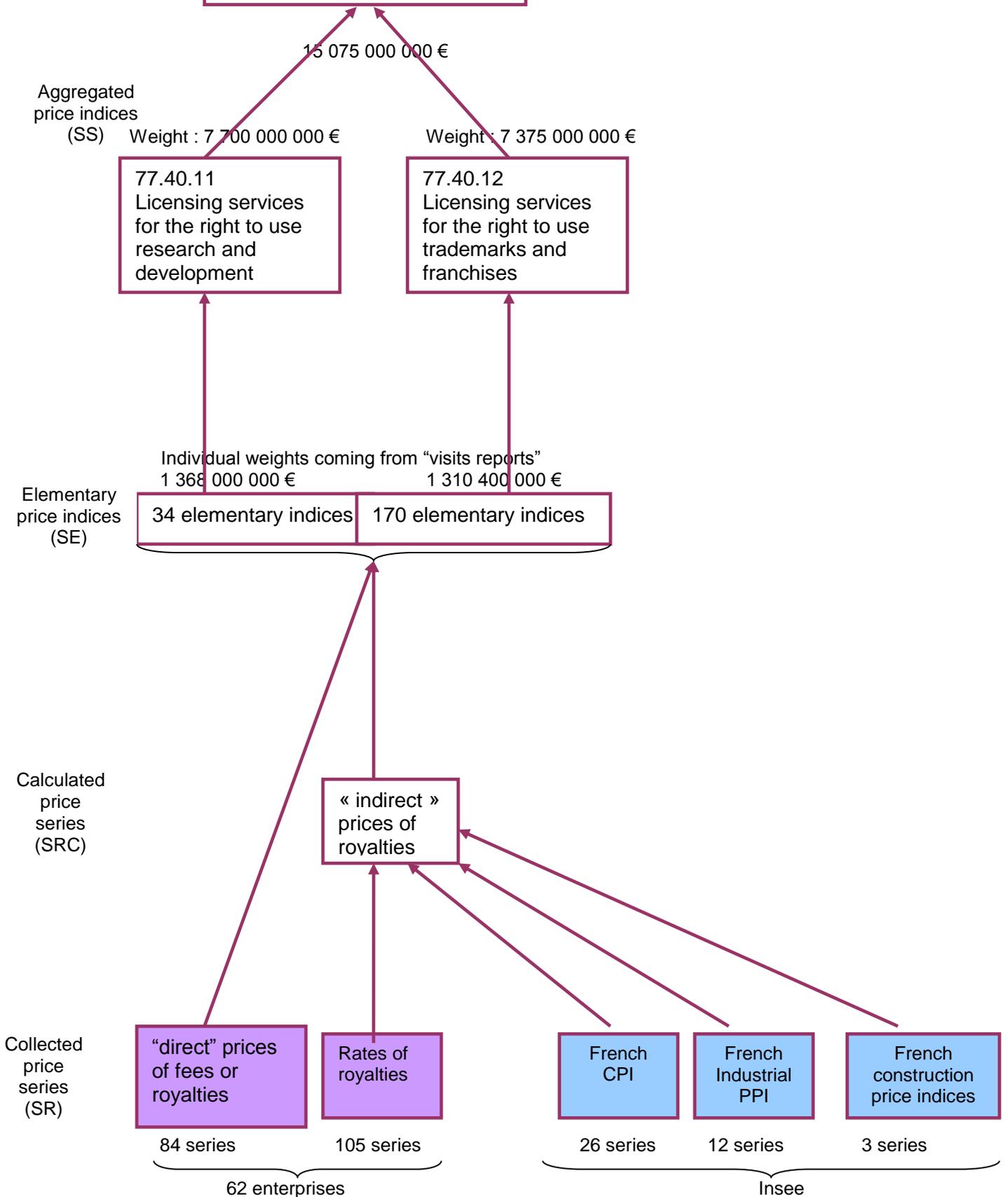
- (1) if the fee is based on the amount of production, the best index to use is obviously the production price index in the country. If the royalty is based on the turnover of sales to consumers (network of shops of textiles, hairdressers, hotel networks, retail distribution ...) it would be better to follow the most adapted consumer price indices in the concerned countries

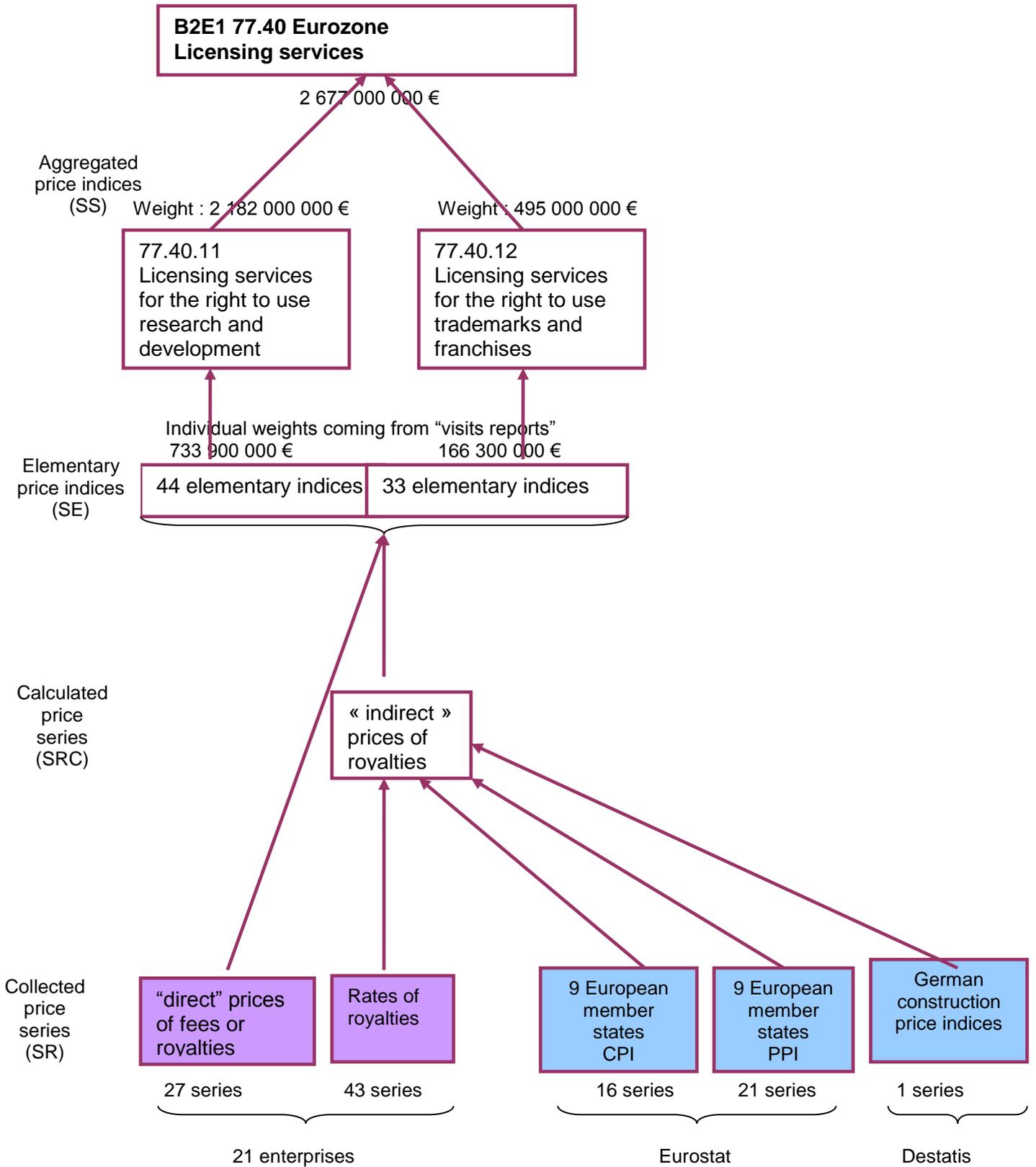
5.3 Monitoring price indices corresponding to basis

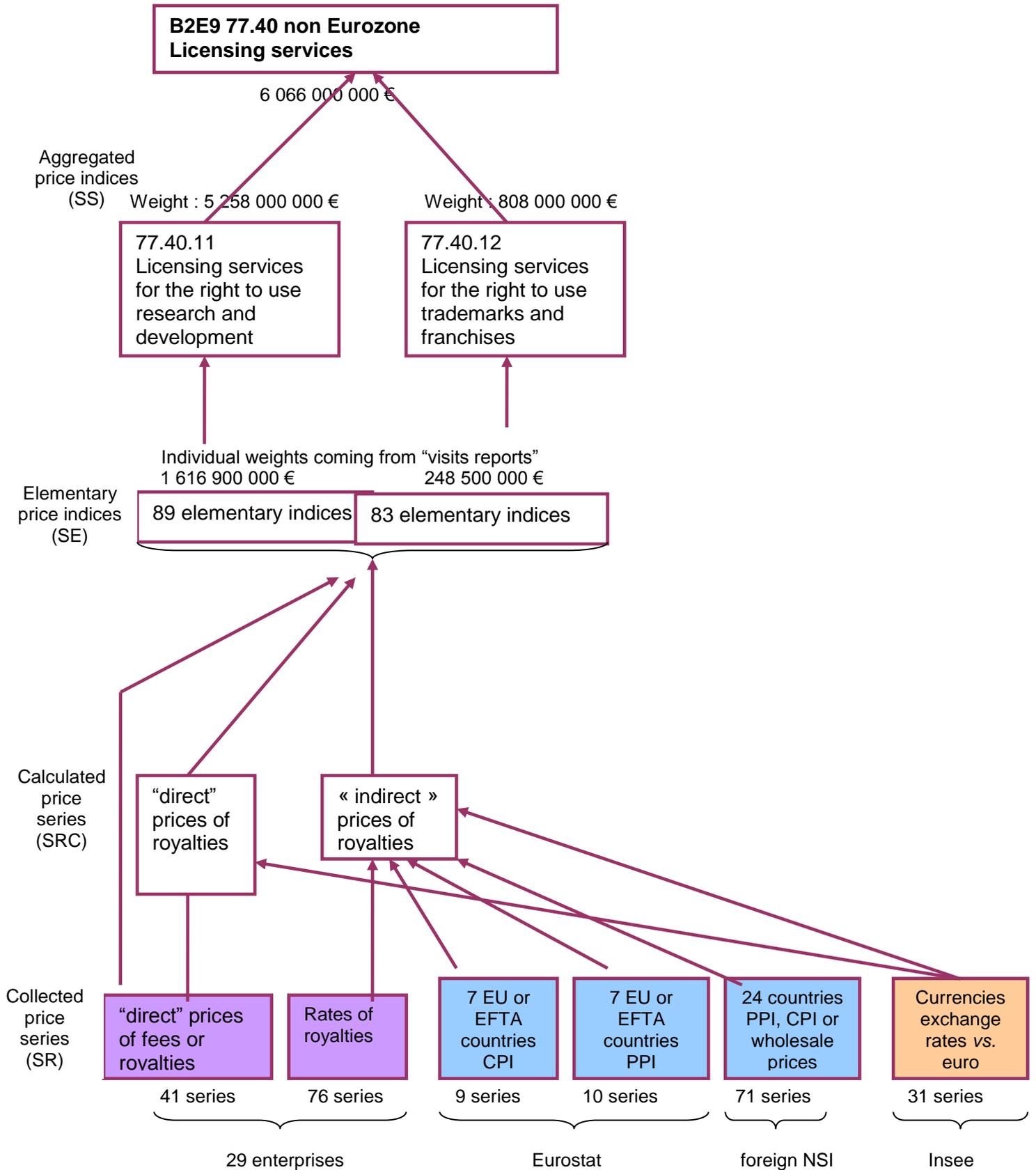
When collected prices are commissions on sales, these rates are usually annual. They are identified in the French SPPI survey, with mention of the product and the country concerned. However, the price of this basis (sales of such a product in such a country) is not directly collected to the same enterprises, but has to be found in the French SPPI database. It can be already available: French industrial PPI of the given product, or it can be found more or less easily (French CPI on Insee website or with special arrangement between colleagues, European PPI or CPI on Eurostat website, other foreign NSI websites...) and then recorded manually in French SPPI database, before some more automatical procedures can take place (in 2015?).

**B2B 77.40 at basic prices
Licensing services**

**Chart 5 : aggregation tree
and technique of price indices compilation**







6 costs and benefits of the alternative methods

Not applicable in our mind.

7 Quality issues

7.1 End of life

Companies that sell licenses state that the license price for a given patent decreases with time, because the patent becomes less and less interesting as time passes (new technologies coming, that can be competitive with the existing technology). After 20 years, in many areas, the patent passes into the public domain, and the price of the patent, therefore that of the license which is bound, becomes “zero”. A sharp decline is often anticipated after 18 or 19 years. But then, is it a price drop if the value of the licence for the customer decreases? Is it even a decrease of 100% of the price after 20 years, or should one consider that the product "licence" no longer exists, since the patent is no more protected and there is no longer any matter for a transaction?

In the cases where the royalty rate declines in mid-period, we describe price decreases, despite the remark on the likely decreasing utility for the customer behind the price reduction. Nevertheless, we will not transcribe rollback of 100 % at the end of the period, or even a 50 % decline a year before the end of the period, because we believe that the product no longer exists in real terms and utility for the consumer. Thinking differently would pose many complications, especially in a Laspeyres fixed base index where we would consider the initial monetary amounts with a radical price cut.

7.2 Dependence of other countries

The method for calculating the “7740” price index is extremely dependent on the existence of price indices in countries where patents are exploited, and dependent of the availability and quality of these indices. The price indices that are available are not always at the same classification level, and the same periodicity.

8 Weighting and aggregation

The statistics that could be used in order to weight the sub-indices of the 7740 activity (respectively: for patents, or for trademarks and franchises) are not directly available. The solution that has been adopted this first year (2014) of 7740 index calculation and dissemination is to use the results from the SPPI visits reports (chart 5 displayed in section 5.3 provides our estimates for these weights). But something could be built with our colleagues responsible for ESA (French SBS).