

Measurement issues in intellectual property products

Voorburg group meeting Paris 2019



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01

Identifying and measuring intellectual property products : general considerations



Definition in SNA 2008

Intellectual property products are the result of research, development, investigation or innovation leading to knowledge that the developers can market or use to their own benefit in production because use of the knowledge is restricted by means of legal or other protection.

The knowledge may be embodied in a free-standing product or may be embodied in another. When the latter is the case, the product embodying the knowledge has an increased price relative to a similar product without this embodied knowledge. The knowledge remains an asset as long as its use can create some form of monopoly profits for its owner.

When it is no longer protected or becomes outdated by later developments, it ceases to be an asset.

Examples

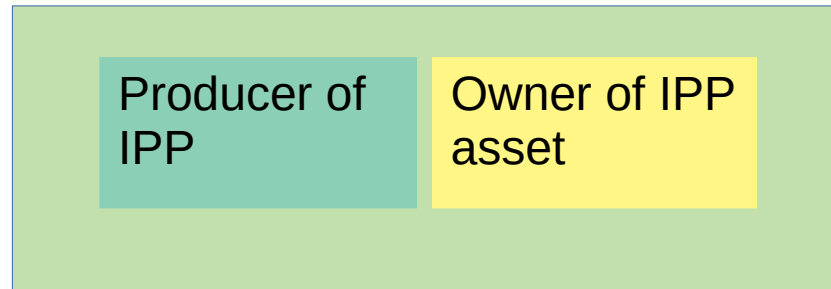
Research and Development, software and databases, literary, creative and entertainment works (copyrighted works)....

- Some IPP are produced (R&D, software, original literary works...) and are fixed assets in SNA
But some are non produced assets (trademarks, logos...) in SNA but are considered as intellectual property products by firms (they may be capitalised and even generate royalties).
- IPP can be embedded in an other asset (even an other IPP). Risks of double counting exist, it may be difficult to correct it.
Example : software embedded in computers, software and R&D

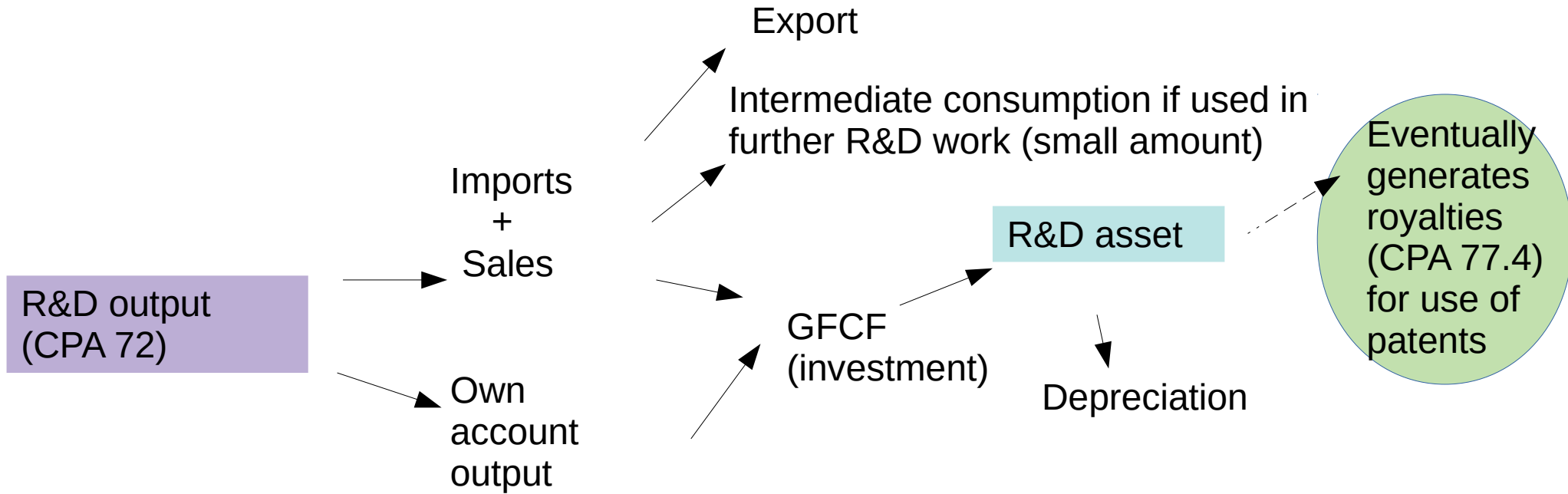
- Several criteria that are difficult to observe in available data are necessary to know how to treat production of IPP (in particular, to split between intermediate consumption and GFCF). Though international guidelines are clear, practical assumptions are necessary.
 - Use for more (/ less) than one year
 - Maintenance/ improvement are difficult to split
- An important part of IPP output is produced for own account : sales are not observed... measurement is indirect (mainly sum of cost approach)
 - e.g R&D is mainly produced for own account. It may be difficult to derive a mark-up as gross operating surplus for units in R&D industry is negative in France. Yet, some patents generate income over a long period (and that is difficult to take into account)
- The IPP's owner may be difficult to determine : producer/user/legal owner

Royalties payment/licensing fees are either part of IPP output or are part of an other product

- Part of IPP output is sold under license. This is the case for software, standard (CPA 58.2) or custom software (CPA 62).
- There are two different products for R&D : output of R&D (CPA 72) and use of patents (CPA 77.4 / leasing of intellectual property product).
- Moreover, if the use of assets (e.g. patents) generates royalties, the unit receiving them is not necessarily the producer of IPP



From R&D output to royalty payment



The same for literary originals : creation is in Artistic creation (NACE 90)
 Artistic original is in CPA 90, but books are in CPA 58 (which product for
 copyright and reproduction rights ?).

- Royalty payment /licence fees are :
 - Sometimes part of turnover declared by firms
 - Most of the time part of « other current operating income »

- Turnover corresponds to the amount of transactions carried out by the entity with third parties within the framework of its normal and current activity

- Royalties in “other current operating income” are received for the use of existing intangible assets (created in the past). There are no real services in return

- Whereas the conceptual distinction is quite clear between turnover and other current operating income, firm reporting is heterogeneous

Turnover : revenues from current activity

Sales of services :
R&D sales
software sales, consultancy
.....

Some royalty payment identified
for products CPA 58, 59, 74, 70
(management fees ?)....

Royalty payment /licensing fees for
the use of intellectual products
(except copyright) CPA 77.4

Other operating income

Royalty payment

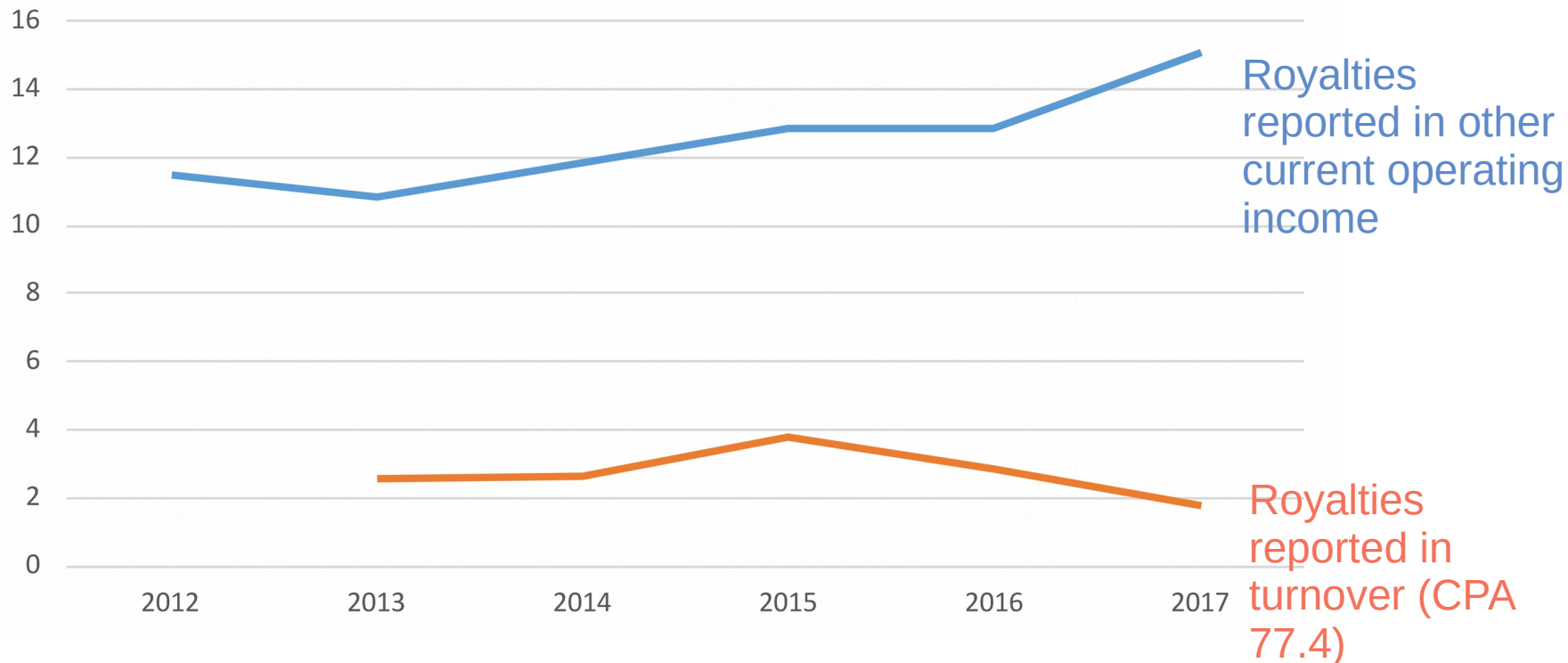
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Royalty payment : some results on French data



Turnover in CPA 77.4 vs Royalty in other current operating income

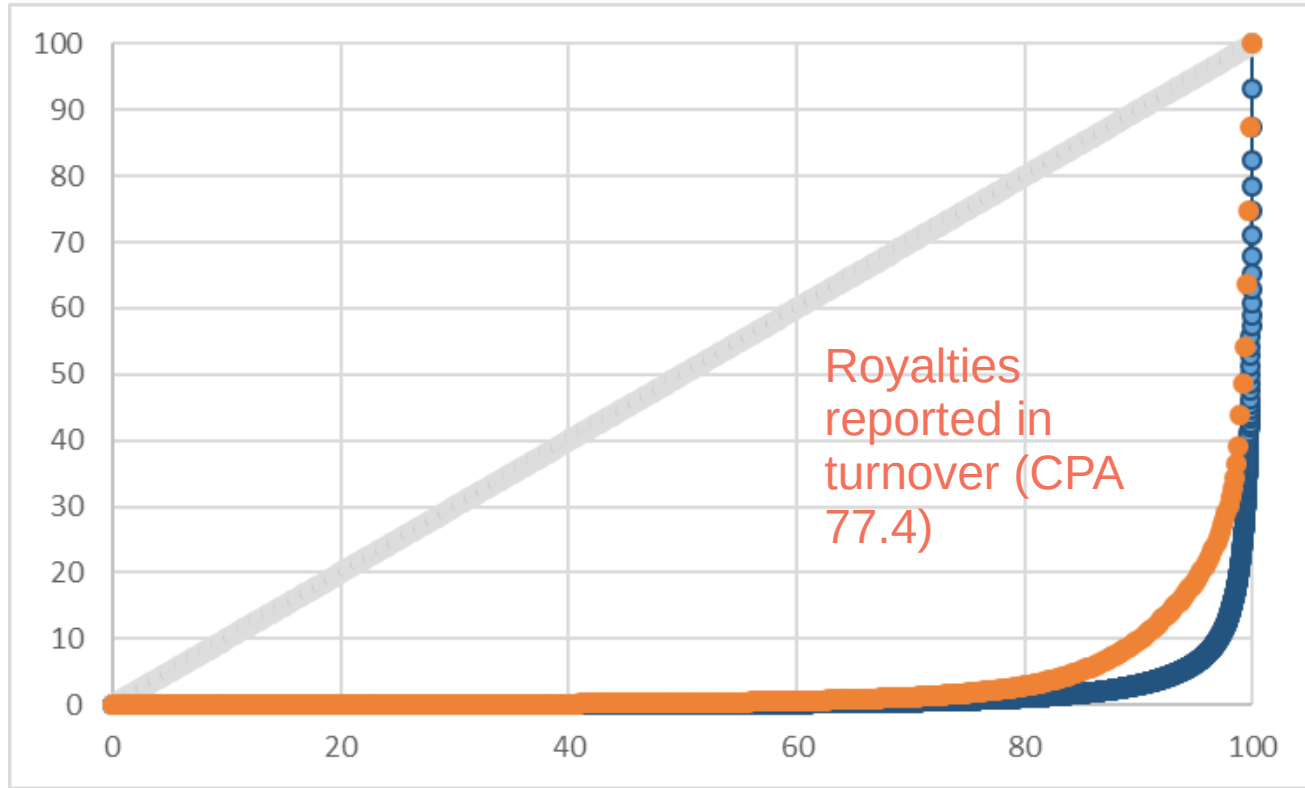
Amount in billion €



Source : Insee, Esane (SBS)

Royalty payments are concentrated

% amount



Royalties reported in turnover (CPA 77.4)

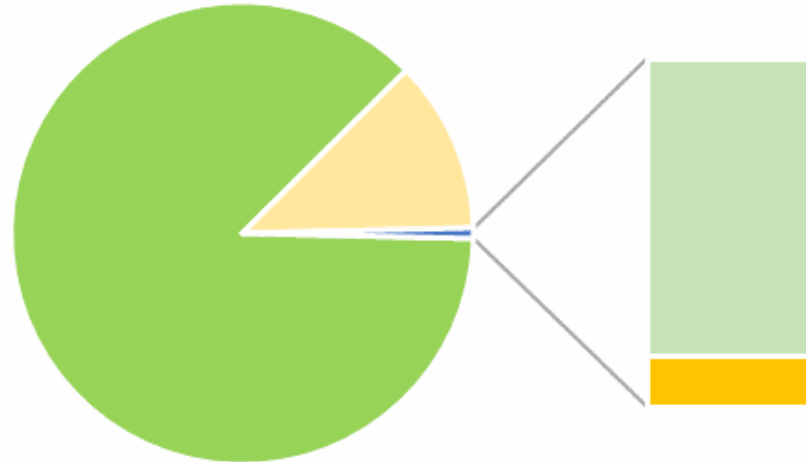
Royalties reported in other current operating income

Source : Insee, Esane (SBS)

% firms (legal units) perceiving royalties

Royalties are collected in a few units that generate a high amount of value added

Value-added by unit type (%)



More than 2 billion units

8 500 units

1 300 units

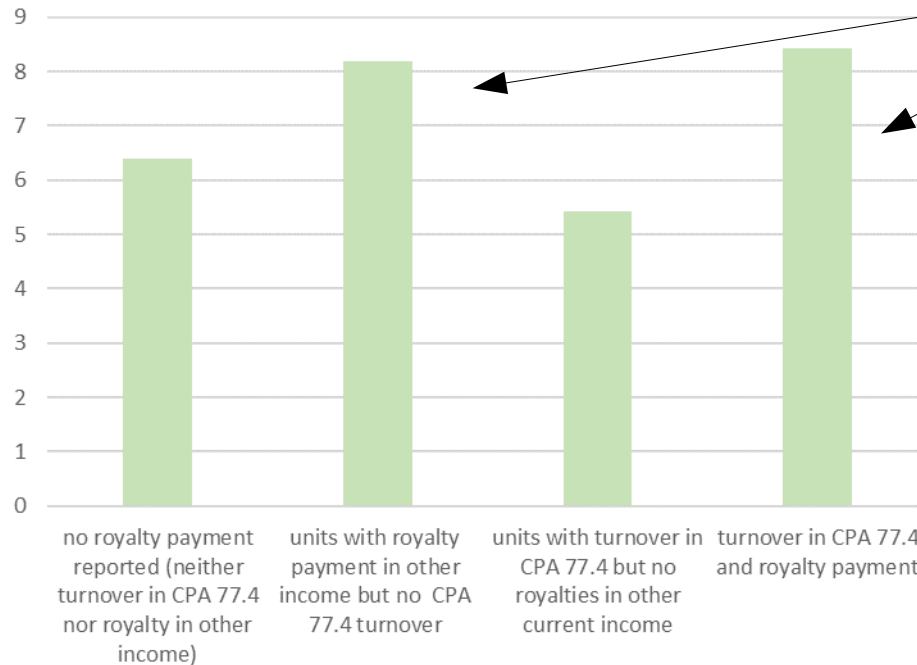
Less than 200 units

- no royalty payment reported (neither turnover in CPA 77.4 nor royalty in other income)
- units with royalty payment in other income but no CPA 77.4 turnover
- units with turnover in CPA 77.4 but no royalties in other current income
- turnover in CPA 77.4 and royalty payment

Source : Insee, Esane (SBS)

Units perceiving royalties have a higher gross operating ratio than the other ones

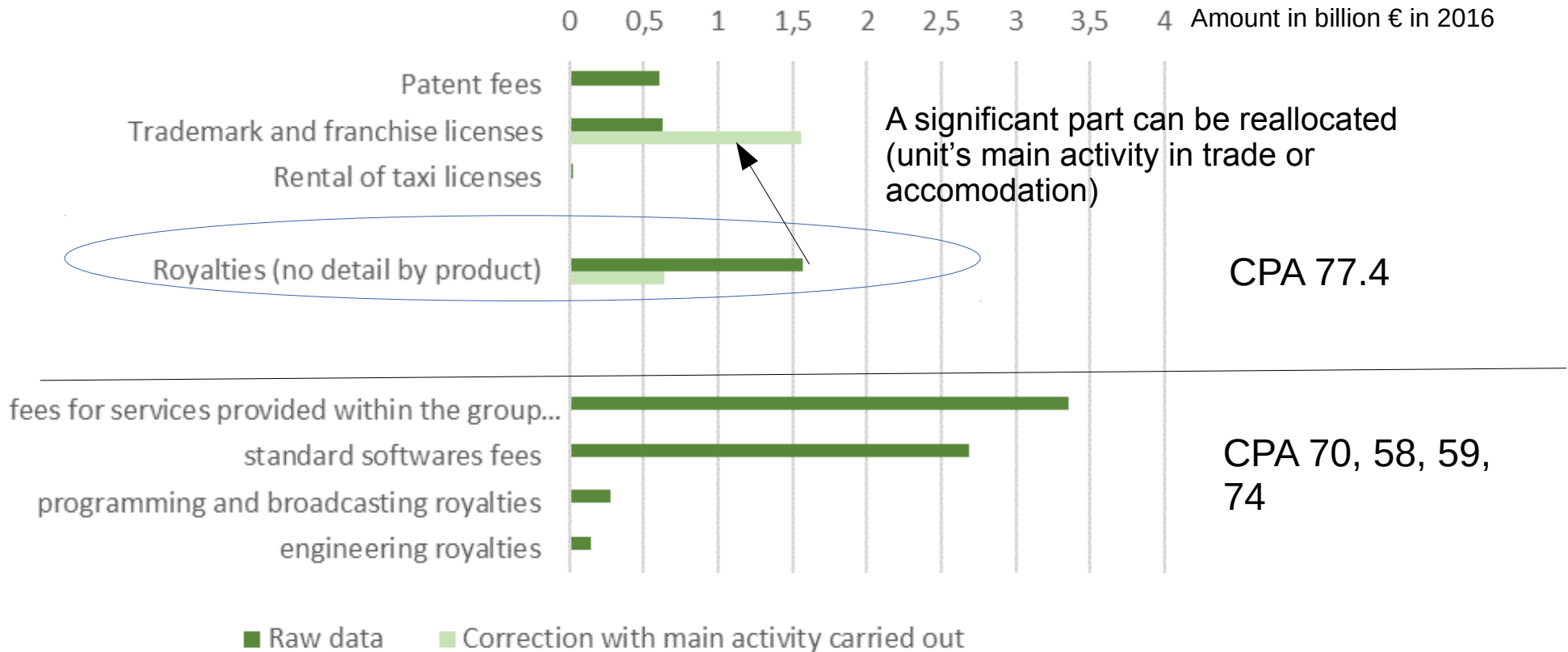
Gross operating surplus / revenues (turnover + other current income) by unit type (in %)



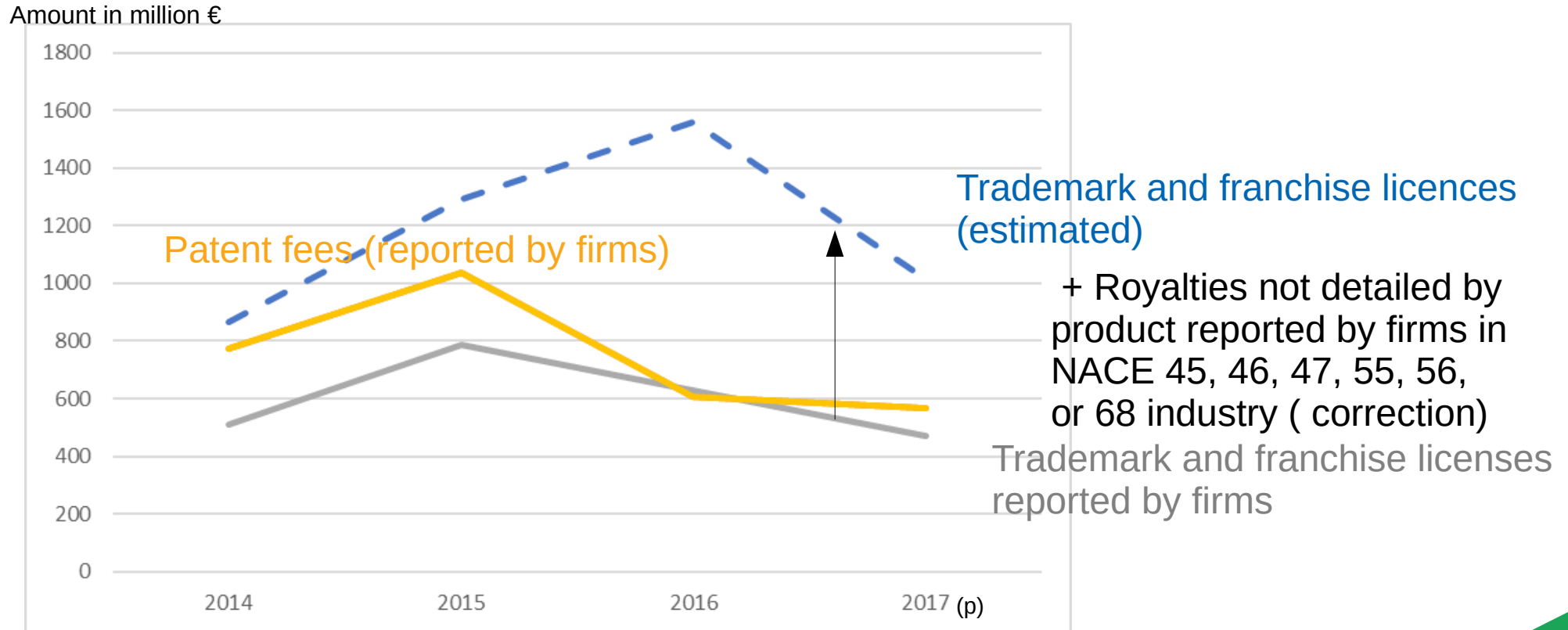
Units that collect royalties in other current income

A) Royalties reported in turnover : a large amount is not detailed by product but can be reallocated

Structural business survey (Esane) provides the breakdown by product



Breakdown by product



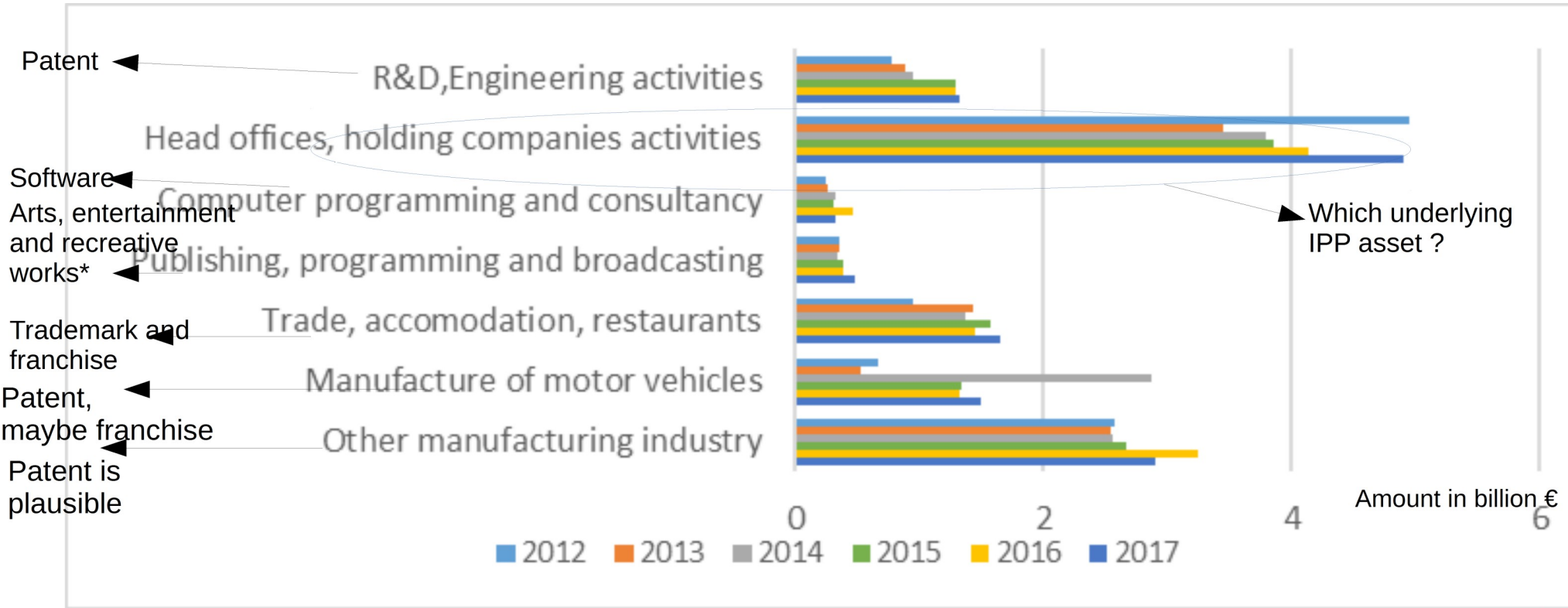
Source : Insee, Esane (SBS)

Breakdown by product

- When royalties are declared in other current income, we don't have any survey to know exactly which products they cover ?
- So we try to guess :
 - Which industry (NACE ?)
 - Annual reports for the largest companies can be helpful to identify the underlying IPP

B) Royalties in other current income : mainly reported by head offices, holding or leasing companies

Main activity (Nace rev. 2) may help determine the type of IPP



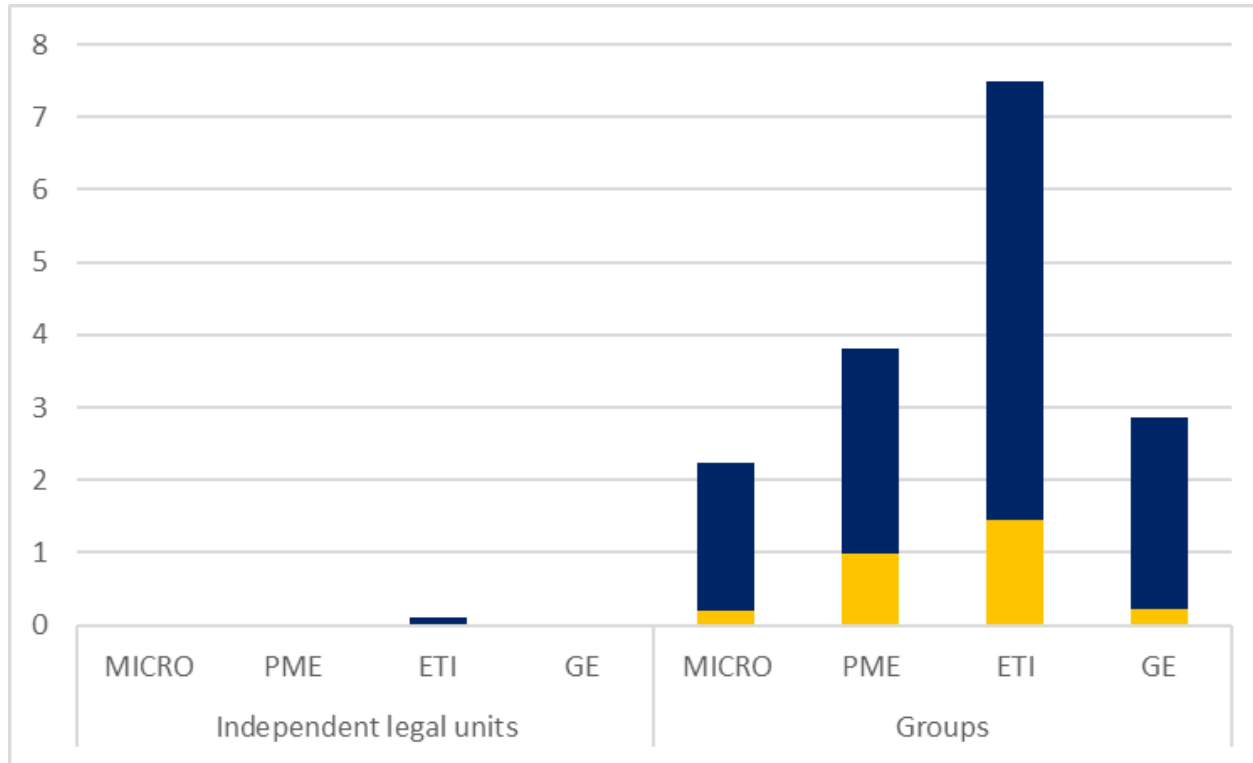
03

Royalty payment : how to
refine the breakdown by
product ?



A large amount of royalties are reported by units belonging to groups

Amount in billion € in 2016

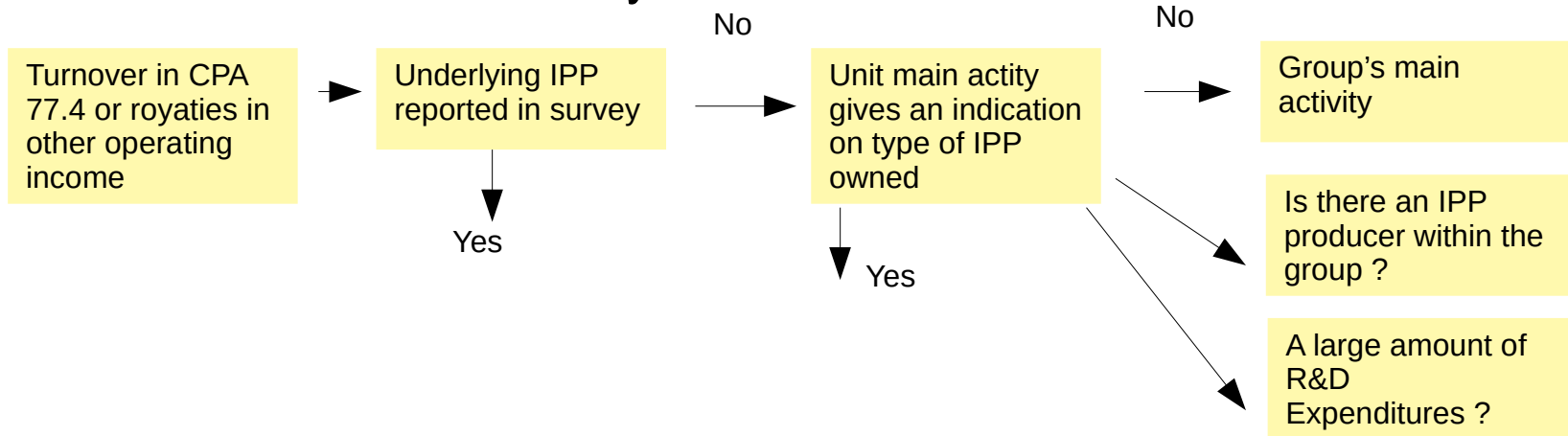


Royalties reported in other current operating income

Royalties reported in turnover (CPA 77.4)

Source : Insee, Esane (SBS) and LIFI  small to large size enterprise (group)

- **First option** : using the group's main activity (in addition to the legal unit's one) to determine the IPP product underlying.
- **Second option** : searching among the legal units of the enterprise group, units that are likely to produce IPP in order to guess the IPP product underlying (e.g. R&D units for patents).
- **Third option** : matching SBS data with other data sources on IPP, in particular Frascati Manual R&D survey



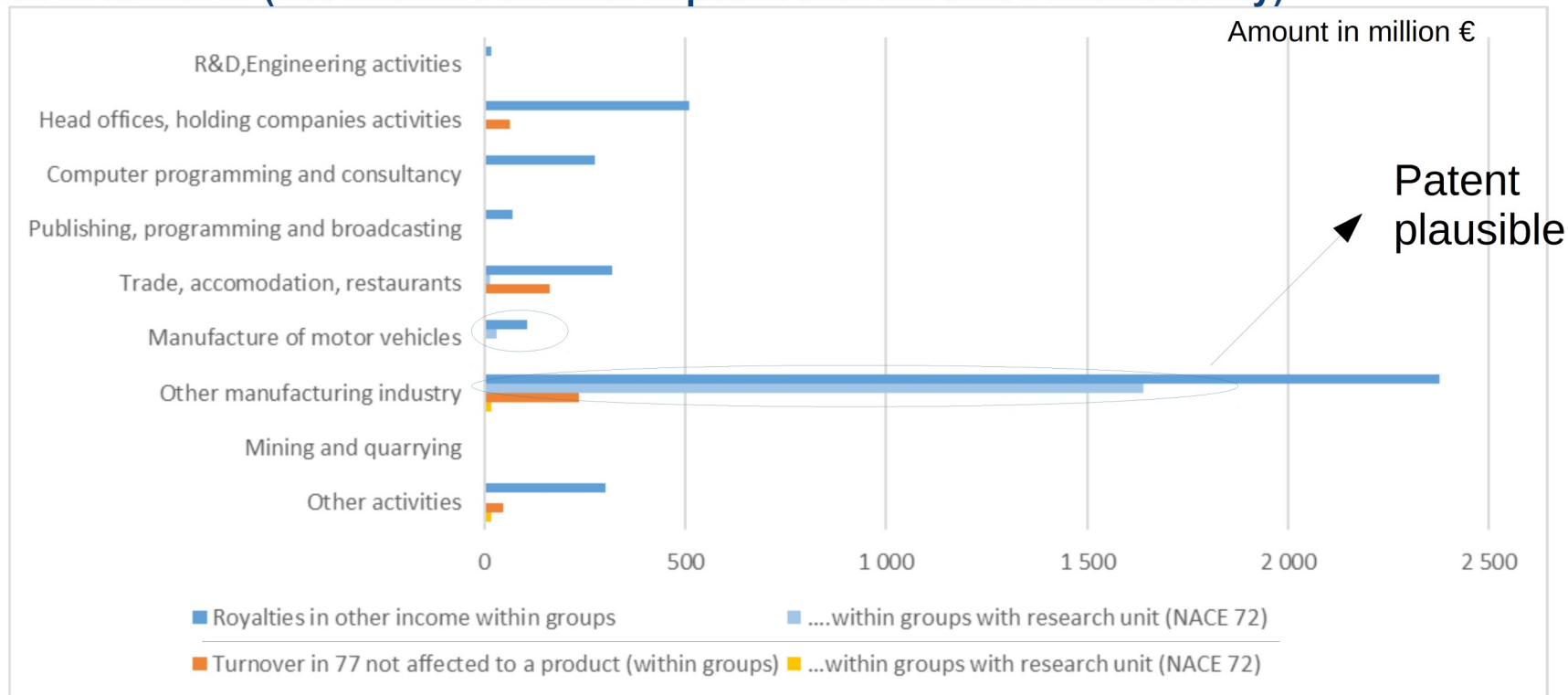
Searching for IPP producers in the group

Example for R&D and patents

Breakdown by group's main activity (Nace rev. 2)

Royalties in other income (for head office, holding companies)

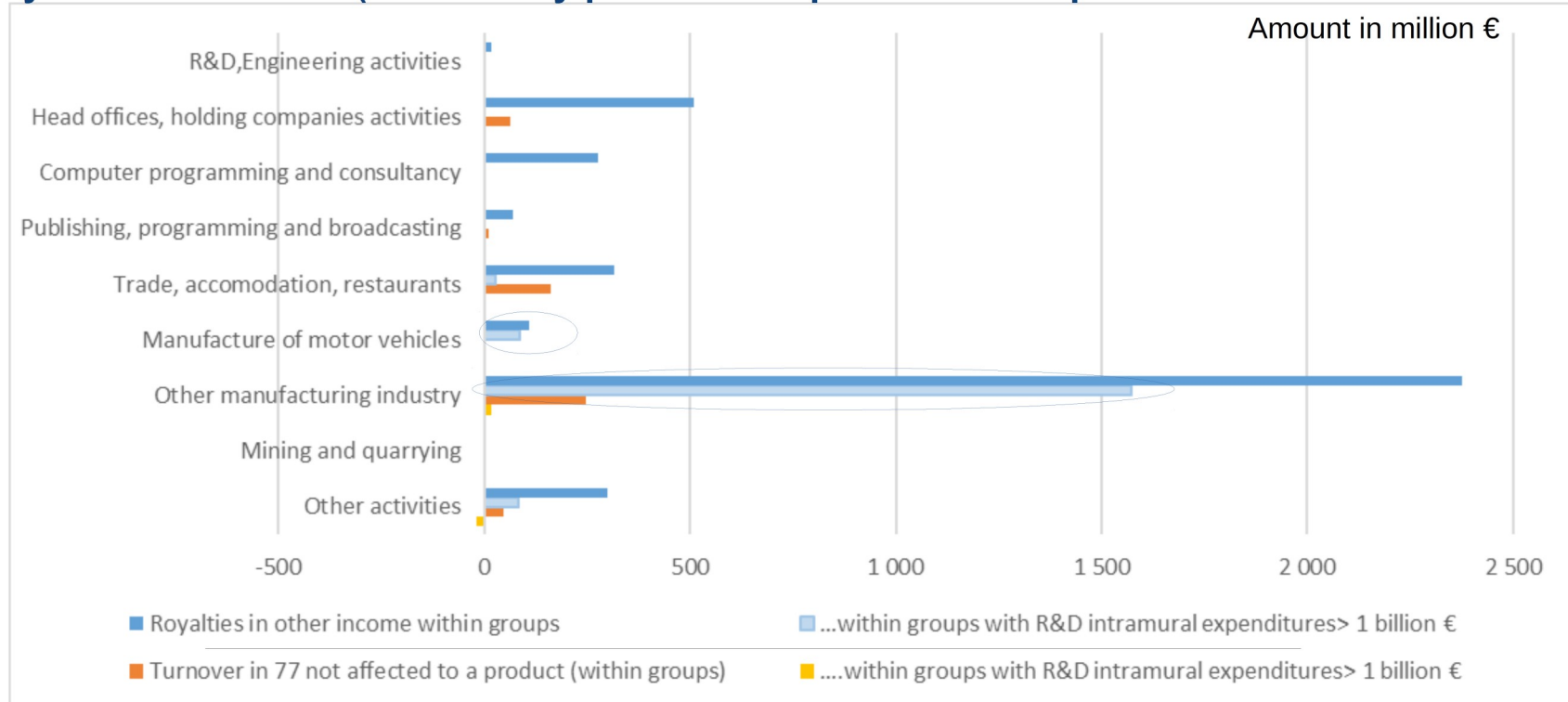
Royalties in turnover (not detailed and not imputed with the unit's main activity)



Breakdown by group's main activity (Nace rev. 2)

Royalties in other income (for head office, holding companies)

Royalties in turnover (no detail by product and product not imputed with the unit's main activity)



Source : Insee, Esane (SBS), LIFI, MESRI-DGESIP/DGRI-SIES (Frascati survey)

There are little information on IPP assets in available data

The link between IPP production and royalty collection is not straightforward as units producing IPP may be different from those which collect royalties for those IPP (information on groups and their units may be employed).

Matching with other data sources to determine the nature of the products that generate royalties may help.

It gives indications but no certainty about the IPPs owned by firms. In addition, foreign trade in services data (BoP) has not been used but may be necessary for a more complete picture.

Collecting data in surveys on royalties, especially on those reported in other current income would be useful.

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