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EUROSTAT

Directorate C: Macro-economic statistics

Unit C-4: Price statistics. Purchasing Power Parities. Housing statistics

Purchasing Power Parities for Medicinal Products

On Behalf of EUROSTAT

Project Team @ EURIPID

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EUROSTAT - Calculation of PPP

Eurostat regularly conducts surveys on prices of goods and services to calculate Purchasing Power Parities

For a majority of products, they are carried out by National Statistical Institutes (NSIs)

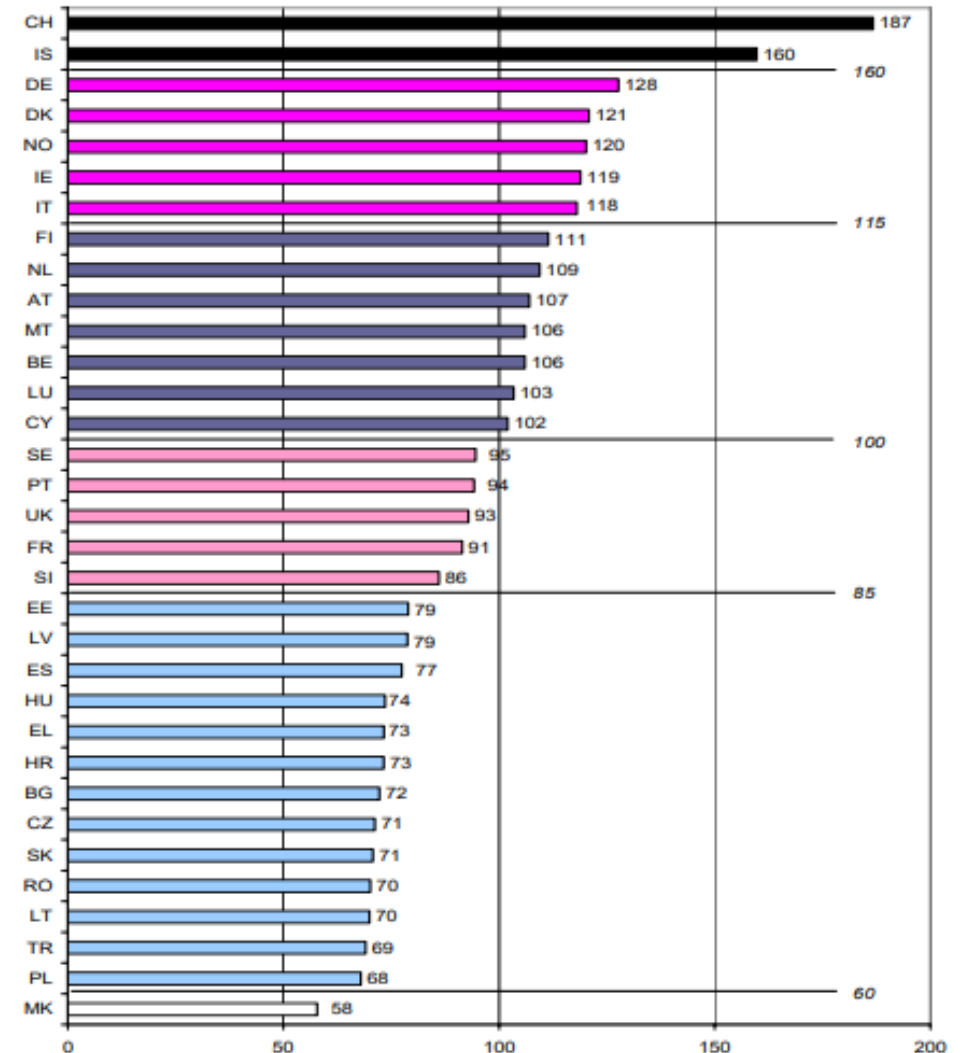
In 2005, PPPs for pharmaceutical products were collected and compared for first time

Exercise is repeated every three years since then

1st cooperation: Pilot with Euripid in 2017

2nd cooperation: 5/2020-1/2022

Chart 1: Price level indices for pharmaceutical products, EU25=100



OUR AIM

OUR OBJECTIVES

- To investigate the possibility of using the EURIPID database as a data source for the calculation of Purchasing Power Parities (PPPs) for pharmaceutical products, including analysing all advantages and disadvantages compared to the existing methodology, as well as making test PPP calculations using different models.
- To support Eurostat in developing top seller lists of pharmaceutical products for the PPP exercise.
- To calculate average prices and PPPs of pharmaceutical products for 2018, 2019 and 2020 and PPPs using sales volumes as weights. (2nd time after pilot exercise in 2017)
- To compare our results with those of the Eurostat survey for a set of pharmaceutical products (E20-2 Consumer Good Survey, in short: CGS)

Virtual products

Compare prices of products defined

by

- ATC
- INN & strength
- dosage form group
- pack size group

Inclusion and exclusion criteria

→ temporal & geographic availability

- priced in at least 6 countries
- available for 365/366 days

Unit Price

Day-weighted average

gross retail price / pack size

(aka consumer price)

- of all quotations within virtual product

Expenditure weights

Volume information for

11 countries Austria, Belgium, Czech Republic, Estonia, Hungary, Italy, Latvia, Norway, Poland, Slovakia and Sweden.

Virtual products

Pack size groups are defined to cluster small, medium, monthly and larger packs as the size of the container resp. number of single doses/tabs/shots/hubs etc. has impact on the price of a pharmaceutical product. Four groups will be used: 1-10 units, 10-21 units; 21-50 units and 51 and more units.

Dosage form groups:

Around 434 different dosage forms with 18 different routes of administration (reaching from auricular to vaginal) included in the database.

To increase the comparability of products dosage forms are merged into 112 groups (e.g., oral form, solid)

Approximation of missing Consumer Prices

Croatia: For the period of 1/1/2017 to 10/2/2021: adding HRK 6.64 per package to the wholesale price in the Euripid database plus a 5.0 percent VAT rate.

Ireland: The so-called Health Service Executive price is very much like the British NHS-price or trade price which is considered as Retail or Consumer Price in Euripid. Therefore, we added no average pharmacy mark-up but only the appropriate VAT rate of 0/13.5/23 resp. 21 percent to the wholesale price in the Euripid database.

Netherlands: We added an average pharmacy mark-up of 7 Euros per package to the wholesale price in the Euripid database plus 9% VAT.

Slovenia: We added an average pharmacy mark-up of 1,06785 EUR per package to the wholesale price in the Euripid database plus 9.5 % VAT.

PRICES OF VIRTUAL PRODUCTS

Prices of virtual products are computed as follows:

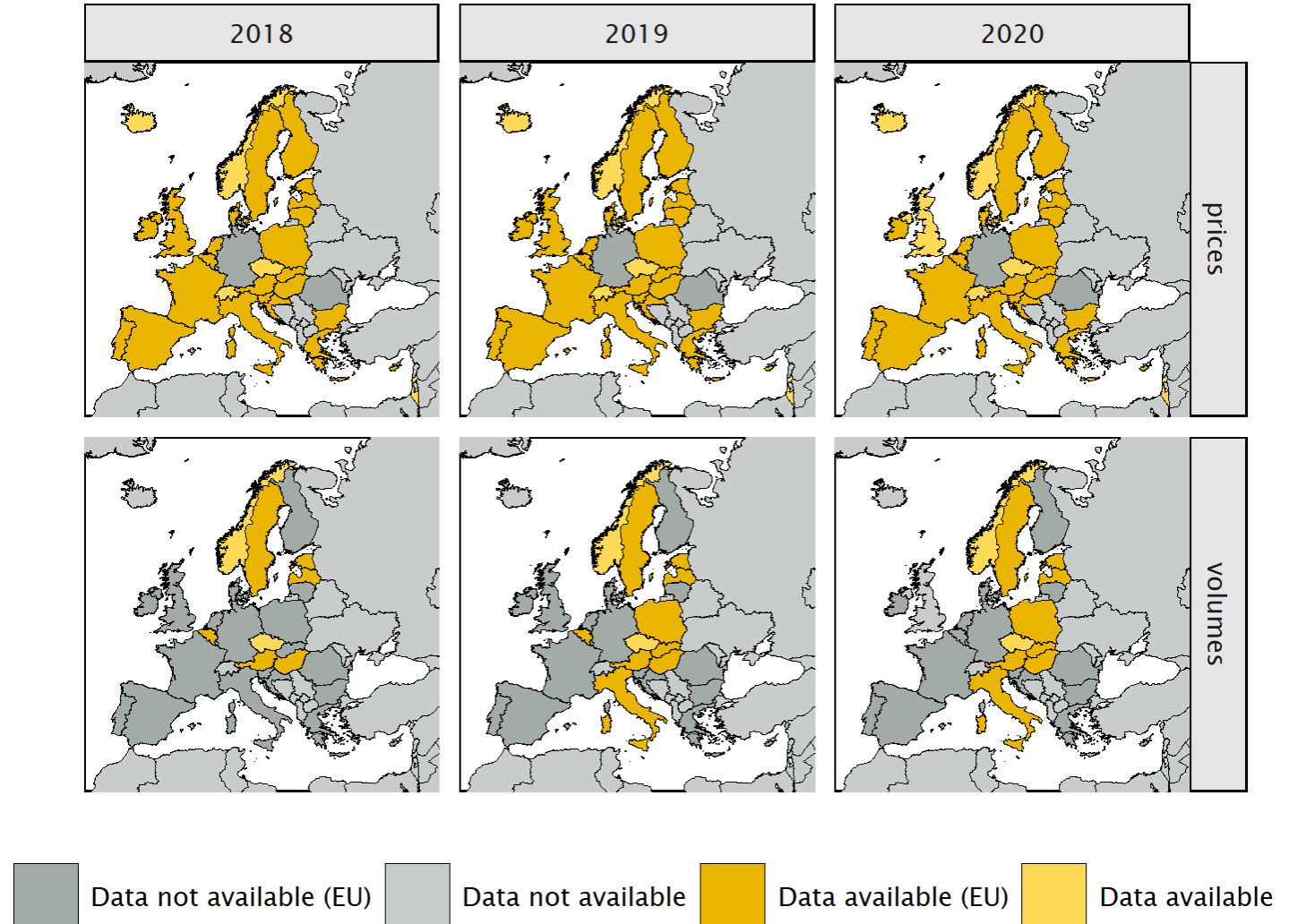
1. Calculation of day-weighted average monthly prices (concrete products)
2. Calculation of average annual prices as arithmetic mean of monthly prices (concrete products)
3. Calculation of average annual **unit prices** via division by package size (concrete products)
4. Calculation of average annual prices of virtual products as unweighted arithmetic means of all products within the same virtual product (**virtual products**)

Data Extraction

- Data was extracted at 24 September 2021 for the years 2018–2020.
- 20 data fields, see next slide.
- In total 223,677 data rows
→ filtering to virtual products prices available in 6 countries reduced data set to 156,325 rows.

Data availability in Euripid

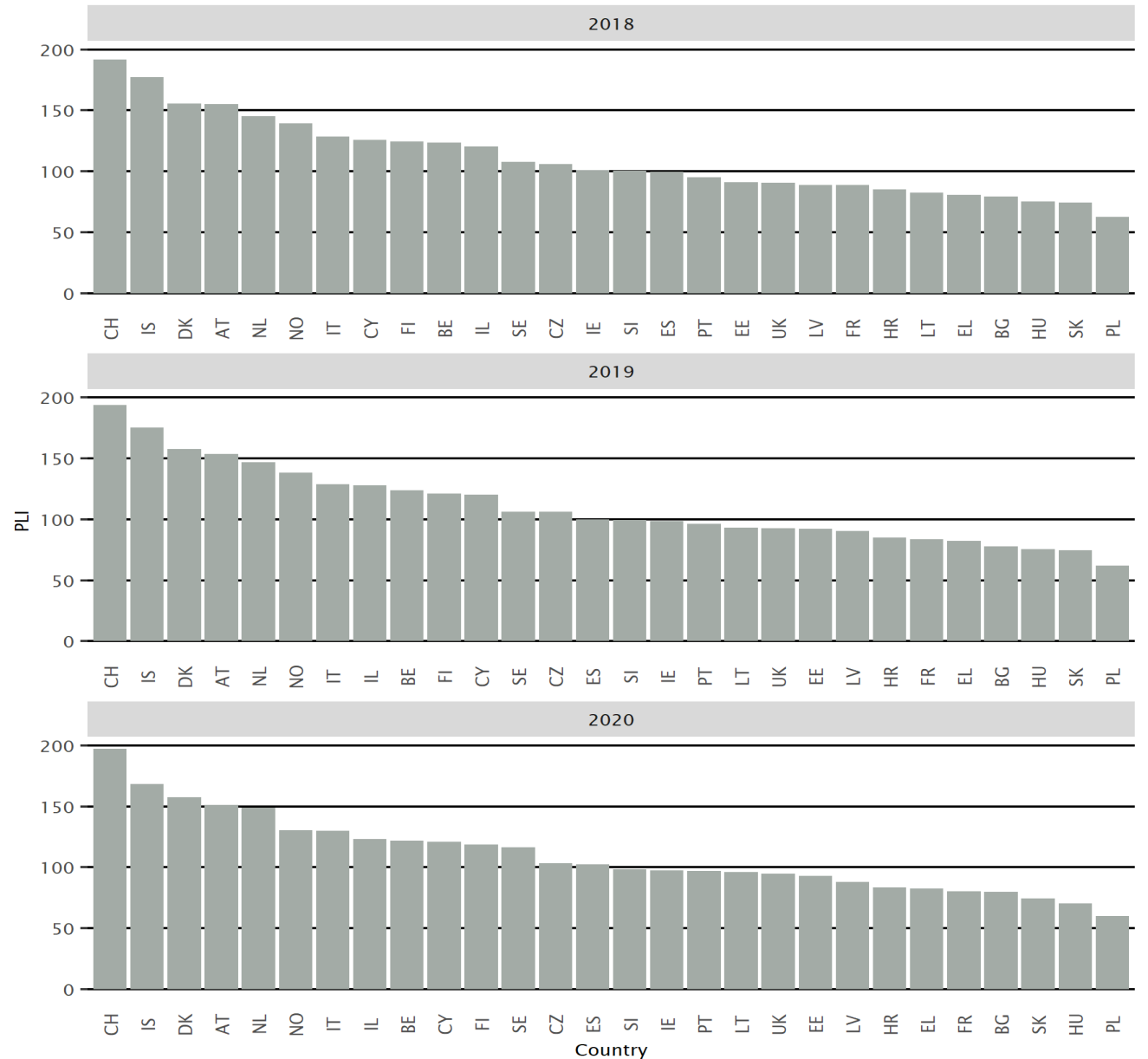
September 2021



“Asterisk method”

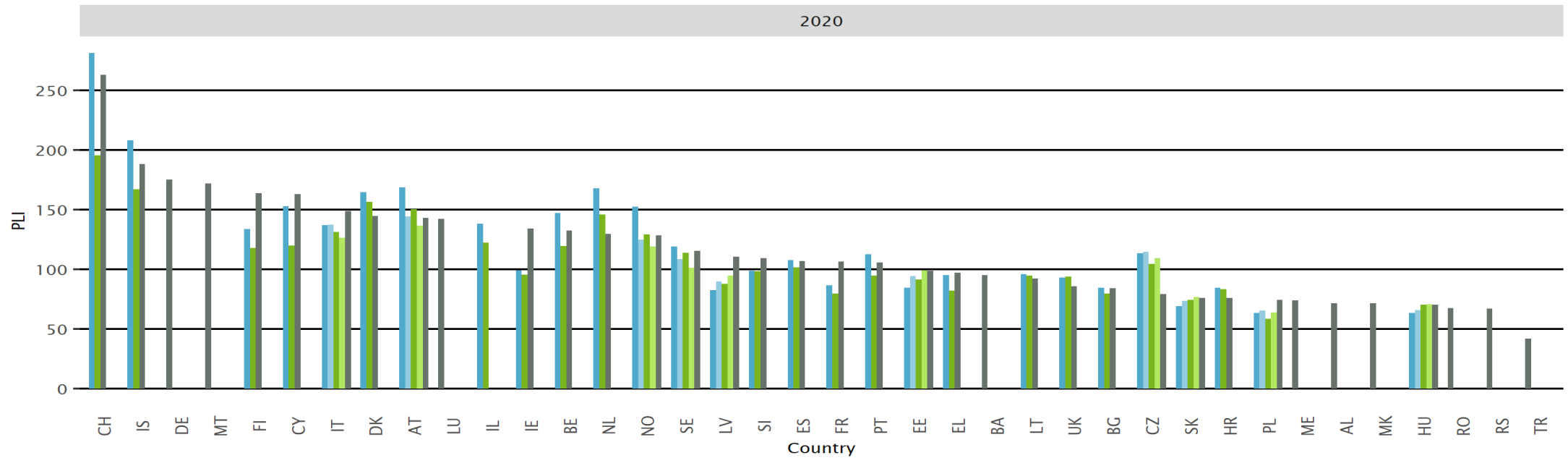
country	2018	2019	2020
Austria*	154	153	151
Belgium*	123	123	122
Bulgaria*	79	77	80
Croatia*	85	84	83
Cyprus*	125	120	121
Czech Republic*	105	105	103
Denmark*	155	157	157
Estonia*	91	92	93
Finland*	124	121	119
France*	88	83	80
Greece*	80	82	82
Hungary*	75	75	70
Iceland	177	174	169
Ireland*	100	98	97
Israel	120	127	123
Italy*	128	128	130
Latvia*	88	90	88
Lithuania*	82	93	96
Netherlands*	145	146	149
Norway	139	138	130
Poland*	63	62	60
Portugal*	95	96	97
Slovakia*	74	74	74
Slovenia*	100	99	98
Spain*	99	100	102
Sweden*	107	106	116
Switzerland	191	193	197
UK(*)	102	105	107

PLI for pharmaceutical products
 asterisk method, all products representative
 fixity: EU24 (2018, 2019), EU23 (2020)



PPP - Comparison of Results 2020

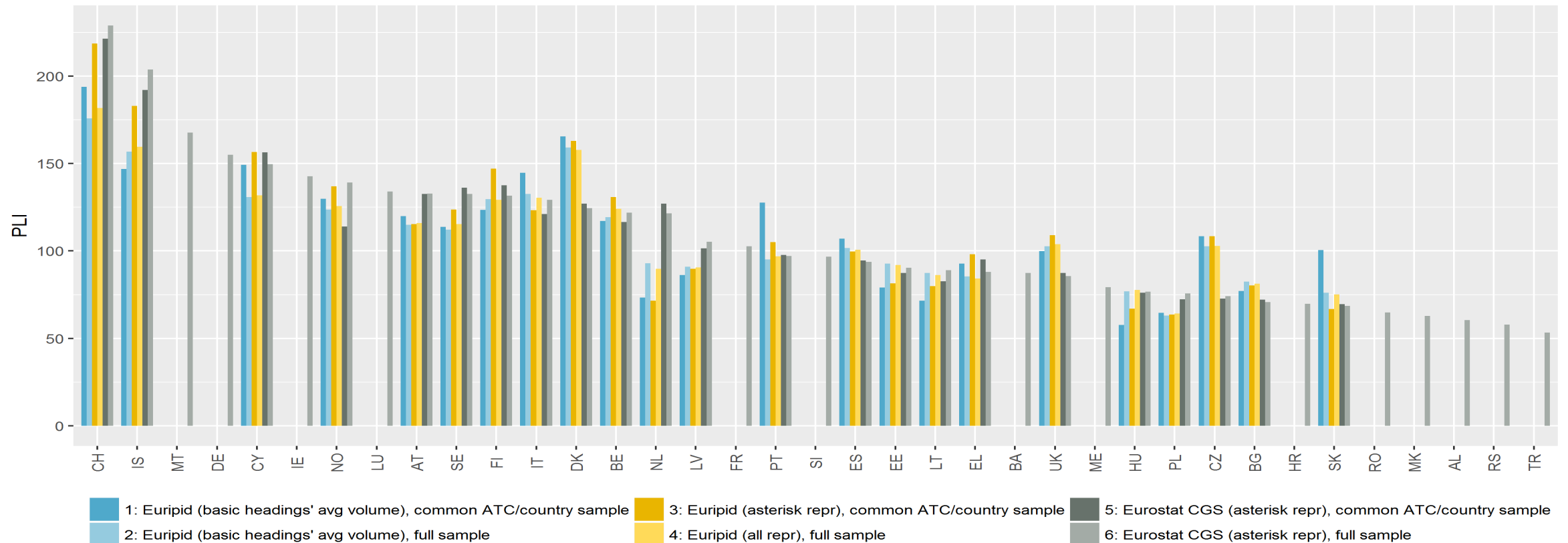
PLI for pharmaceutical products
fixity: AT, CZ, EE, HU, LV, NO, SE



- sample/method
- Euripid, Eurostat-subsample, asterisk method, all products representative
 - Euripid, Eurostat-subsample, expenditure weights
 - Euripid, full sample, asterisk method, all products representative
 - Euripid, full sample, expenditure weights
 - Eurostat, Consumer Goods Survey, Round 3

PPP – Comparison of Results 2017

Pharmaceutical products, comparison of PLI
2017, with fixity (EU/Euripid 20 = 100)



WHAT IMPROVED SINCE PILOT 2017

- ✓ Representativity of products in CGS
- ✓ Dataset in Euripid expanded gradually
- ✓ Due to the new programming interface the exercise can easily be repeated, also approximation values can be adapted by research team
- ✓ Four more countries (NL, SI, IE, HR) included into analysis via approximation, soon one further (RO)
- ✓ Weighting by volumes is already possible for twelve countries
- ✓ Bilateral exchange with Statistical Bureaus – everyone was really helpful and interested
- ✓ Overall deviations of results reduced

WHAT STILL NEEDS TO BE WORKED ON

- ✓ Another check of coherency of findings after repetition of exercise with modified “approximations” and considering French volume date
- ✓ Some countries (e.g., DE, MT) are still missing and will be a challenge to add
- ✓ Euripid product set is lacking OTC products – price regulated ones might be included in the long run, but never all freely priced products
- ✓ Choice of reference values
- ✓ Differentiation between originators and generics – currently no priority in EURIPID



THANK YOU
FOR YOUR
ATTENTION!

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www.euripid.eu