

The Producer Prices Survey Of The Non-Domestic Markets: Theoretical And Methodological Aspects.

La Rilevazione Dei Prezzi Alla Produzione Dei Prodotti Industriali Venduti Sui Mercati Esteri: Aspetti Concettuali E Metodologici.

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Riassunto: il presente lavoro illustra le principali caratteristiche della rilevazione mensile dei prezzi alla produzione dei prodotti industriali venduti sui mercati esteri dell'Istat ed offre un confronto preliminare dei suoi risultati con quelli della rilevazione dei prezzi alla produzione dei prodotti industriali venduti sul mercato interno e la rilevazione del commercio speciale con l'estero, prodotte dal medesimo Istituto.

Keywords: export, index, industry, price, production, output.

1.Introduction

The Italian Producer Prices survey of the Non-Domestic markets and its indices (hereafter, PPIND survey and PPIND indices) meet the requirements of the Council Regulation (EC) n. 1165/98 concerning short-term statistics (shortly, STS-R).

The survey legislation implementing the STS-R includes the Commission Regulations (EC) n. 586/2001, (EC) n. 588/2001 and (EC) n. 606/2001 – concerning respectively the definition of the Main Industrial Groupings (MIGS), the definition of the variables and the derogations of Member States – and the European Parliament and the Council Regulation (EC) n. 1158/2005 amending the STS-R. Regarding the last one, the Istat has acknowledged in advance the distinction between “euro-zone” and “non-euro zone” to be applied to the PPIND indices transmitted to Eurostat.

2.Survey features

Purpose of the index: the PPIND survey is carried out on monthly basis for compiling and disseminating the monthly PPIND indices (the euro-zone and non-euro zone sub-indices and the overall PPIND index): referred to a fixed basket of manufactured goods, these indicators measure the gross monthly change in the trading price of products made by Italian industrial enterprises and sold on the two export zones as well as on the foreign markets as whole.

The PPIND indices meet a need for information on the short and medium-term economic activity of the Italy and the EU. They permit monthly monitoring of prices at different stages of the manufacturing process and they also are a mean of distinguishing effective

growth of the activity from price changes (the national accounts and IPI - Industrial Production Indices deflator) and provide information to Italian businesses and their professional associations for understanding their national and international markets.

Coverage: all activities and products listed in the following sections (1 letter) and divisions (2 digits) of the NACE and CPA classifications: section C - 10 and 14 divisions; section D – divisions from 15 to 36 (16 and 22 divisions are excluded).

Observation unit: the enterprise that manufactures in Italy the goods concerned and directly exports its output (totally or partly). The commercial business is excluded.

Archives: both products and enterprises are mainly drawn from the Italian foreign trade statistics archive 2000. The enterprises information was also combined with ones in the Statistical Archive of Active Enterprises (Italian acronym ASIA) 2001 of the Istat.

Classifications: the goods was firstly classified by the Combined Nomenclature (CN), used in the EU foreign trade statistics. To allow a comparison between PPIND and PPI^D surveys, the products selected was afterwards classified by the Prodcom list, used in the European production statistics. The CN and the Prodcom list are compatible. The enterprises are classified by the Ateco 2002 classification, Italian version of the NACE Rev. 1.1 classification.

Sample design: both products and enterprises was selected by reasoned choice (cut-off method), using the external trade data 2000:

1. sampling of products: for each export zone, the sample includes the most representative products of the export value.
2. sampling of enterprises: for each product selected and each export zone, the manufacturing enterprises with the highest share of the export value was selected.

Finally, consistently with the assigned product(s), each enterprise has to choose the most representative item(s) (three at maximum) of its activity and provides for it/them the monthly export quotation price.

Table 1: PPIND survey: products, items and enterprises, by export zone. Base year 2002 (absolute figures).

	Euro zone	Non-euro zone	Total
Products	648	585	874
Enterprises	1,032	884	1,556
Items	2,291	1,969	4,260

Data collection: a mixed mode is used: a) the enterprise compiles itself the papery form received by post and it returns to Istat the fulfilled in form by post or by fax (traditional method); b) the enterprise fills in itself the similar web questionnaire – available on the web site <https://prezzi.istat.it> – transmitted to Istat via web in real time (innovative method). For sending data, one method is used by each observation unit.

Data-editing, data-entry and treating data: in the case of the traditional mode, prior to data-entry, the collected information are submitted to a preliminary data-editing, with the aim of studying the quality of the data in term of consistency and completeness of the basic information wrote out by the respondents. If the enterprise sends the data via web, the data-entry (and the data control too) is carried out contemporary with the data collection. The recorded information permit a continuous updating of the survey business archive, and it is essential for managing further survey activities as the reminder plan, the ASIA archive updating, the index rebasing. Finally, the registered data are submitted to manual and automatic procedures both for treating non-responses and for identifying and eventually correcting errors and outliers.

Compiling indices: the PPIND sub-indices are calculated in the following steps:

- 1 for each item, the micro-index is calculated as ratio between the current monthly price and the annual average price in the base year (2002=100);
- 2 for each product, the elementary price index is the unweighted arithmetic mean of the correspondent item micro-indices. The elementary aggregates and their price indices are the basic building blocks of the PPIND;
- 3 the Laspeyres formula is used for aggregating the elementary price indices starting from the upper level (4, 3, 2 digits, 2 and 1 letter NACE Rev. 1.1) up to the total index. The movements in the collected prices are weighted to reflect the relative importance of the products in the base year.

The two sub-indices are computed on the basis of two fixed structures of product weights, proportionally to the total export value realised on the two export zone in the base period. The overall PPIND index is compiled as weighted arithmetic mean of the two sub-indices, with weights equal to the weights sum of the two export zones.

Data dissemination: for the time being, the Istat transmits the PPIND indices to Eurostat, which elaborates an harmonised series of the PPIND index in the 2000 base year. The EU statistical office disseminates the indicator series both on-line (as NewCronos database) and paper publications. In Italy, it is planned to disseminate as soon as possible the PPIND indices and other information relevant for the users both on-line (Istat web site <http://www.istat.it>, Istat data ware-house “Conistat” <http://con.istat.it>) and in several paper publications.

3.The Italian PPIND, PPI^D and UVI indices: a comparison

With the aim to illustrate which indicator could be the best proxy of the Italian overall PPIND index, this indicator is compared both the Italian Producer Price Index on the Domestic market (hereafter, PPI^D) and the Italian Unit-Value Index (hereafter, UVI), the last one calculated by the external trade statistics.

Before the comparison, the main PPI^D and UVI survey aspects are summarized as follow (see the previous paragraph for the PPIND survey features):

- the PPI^D index shows the prices trend at the first trading stage of the products (the contractor-seller is an industrial entrepreneur); the UVI index explains the prices trend of the trading deals on the non-domestic markets, eliminating the influence of the quantity changes;
- the PPI^D survey is a sample survey and its index refers to a fixed basket of manufactured goods made by Italian industrial enterprises and sold on the domestic market. The UVI index is a chain index compiled on the basis of a census survey, which takes in account all manufactured goods exported by each Italian agent dealing on the foreign markets;
- the Laspeyres formula is used for aggregating the PPI^D index; the UVI index is aggregated by means of the Fisher formula;
- in the PPI^D survey, the elementary products indices (first aggregation stage) follow the prices trend of the most representative items chose by the observation units within the assigned product. Like PPIND, the PPI^D index cuts off the price component, showing the pure prices changes. The UVI index describes the average dynamics of prices with reference to all items in the selected good. Consequently, the UVI index

- includes - besides the exchanged quantity trend – the quality effects due to the changing in the items composition sold on the foreign markets;
- the total PPI^D index is obtained as weighted arithmetic mean of the aggregated indices at previous lower level; the total UVI index is an aggregation of the EU area and extra-EU area.

The comparison is based on the “Sign analysis” proxy method: a count is made about the number of times that the sign (plus or minus) of the “latest quarter on previous quarter percentage changes” and of “the latest quarter on corresponding quarter of previous year percent changes” in the PPIND index is equal (concordance) or different (discordance) from the corresponding sign for the UVI and PPI^D indices, in relation to: the pair of indices “PPIND – UVI” and “PPIND – PPI^D”; the sections C and D of the NACE Rev. 1.1; the percentage changes from 2000q1 through to 2003q4 (both “Q on previous Q” and “Q on Q a year ago”). The higher the concordance percent, the better the proxy.

Owing to the different base year (the 2000 for the PPI^D and UVI indices, the 2002 for the PPIND indicators), for comparing the three indices series we need to use the Eurostat PPIND indices series, rebased on 2000 by the UVI indicators. The Eurostat has applied the scaling operation on the Istat PPIND indices with the aim to harmonise them with ones compiled by the other European NSI (which are expressed in the 2000 base year).

The table 2 shows the following results:

- in the Q on previous Q percentage changes, for the section C the best proxy seems the UVI index (concordance: 80 vs 40), in the section D the choice is neutral. On the total percentage changes, the PPIND – UVI sign concordance is the 73%;
- in the Q on Q a year ago percentage changes, we can observe the prevalence in the sign concordance between PPIND and UVI indices for the section C (64 vs 36) and also for the section D (91 vs 73). The total sign concordance is the 77%.

Then, it is maybe assumable the UVI indices seem a better proxy variable of the PPIND indices than the PPI^D ones, taking in account that if the PPIND indices series had been compiled using data really collected in the 2000 probably the result would have been different from one obtained by scaling procedure.

Table 2: PPIND, PPI^D and UVI indices: the Sign analysis results. Period 2000-2003.

Q ON PREVIOUS Q PERCENTAGE CHANGES						
	<i>PPIND - UVI</i>			<i>PPIND - PPI^D</i>		
	Concordance	Discordance	Total	Concordance	Discordance	Total
Section C	80	20	100	40	60	100
Section D	67	33	100	67	33	100
Q ON Q A YEAR AGO PERCENTAGE CHANGES						
	<i>PPIND - UVI</i>			<i>PPIND - PPI^D</i>		
	Concordance	Discordance	Total	Concordance	Discordance	Total
Section C	64	36	100	36	64	100
Section D	91	9	100	73	27	100

References

Eurostat (2002) Methodology of short-term business statistics. Interpretation and guidelines, *Theme 4 Industry, trade and services*.