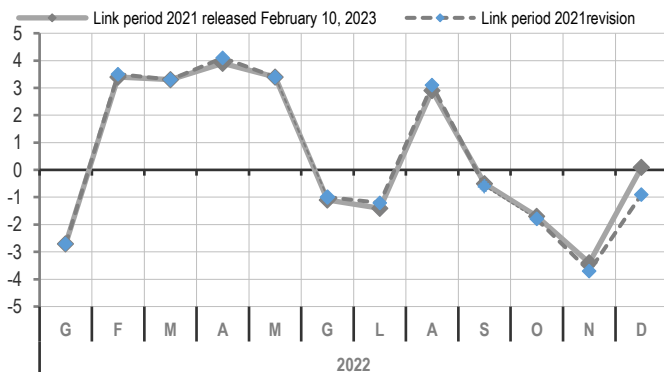# INDUSTRIAL PRODUCTION INDEX

Updating of the calculation basis

- From January 2022 the indices are calculated as annual chain-linked indices instead of fixed base indices. The weighting reference is now year 2022 while the reference base is still the year 2015, in line with other short-term indicators. Indices are produced according to Ateco 2007 classification.

- The transition from the fixed base methodology to the mobile base methodology is consistent with what is suggested in the main methodological manuals.

- Also the 2023 indices are calculated using the chaining method. The innovations introduced concern: the updating of the sample of companies used in the survey, the revision of the weighting system, the updating of the basket of goods.

- The indices are calculated according to the Laspeyres formula using a structure of weights updated annually. The indices, elaborated on a calculation basis, are subsequently reported to the reference base.

- The comparison between the weight structures of the 2021 base and that of 2022 highlights a substantial stability of the weights for capital goods and energy, an increase in the incidence of intermediate goods offset by the decrease in that of consumer goods.

- The sectors with the greatest incidence in the industrial production index are those of the metallurgy and metal product manufacturing industry (with a weight of 14.4%) and that of the manufacturing of machinery and equipment not classified elsewhere (13.6 %).

- With the transition to the 2022 calculation base, the previous basket of 614 items of the 2021 base has changed. Against 11 macro-products inserted, 15 were removed: the number of elementary macro-products of the new base is therefore equal to 610.

- Approximately 5,400 enterprises are directly surveyed each month with the new base 2022, providing data related to over 9,800 monthly production flows**.**

- The indices of industrial production starting from 1990 and up to the class level (4-digit Ateco) with a reference base of 2015=100 are published on the I.stat website at the address IstatData. Calculation based data is available upon request.

CHART 1. INDUSTRIAL PRODUCTION INDEX. January 2022-December 2022, percentage changes on the same month of the previous year, data adjusted for calendar effects

TABLE 1. INDUSTRIAL PRODUCTION INDEX. Comparison between the weighting structure of link period 2021 and 2022

Main Industrial Groupings	Link period 2021	Link period 2022
Consumer goods	26,4642	26,0711
Consumer durable goods	*3,9267*	*3,9283*
Consumer non-durable goods	*22,5375*	*22,1429*
Capital goods	29,2603	29,2581
Intermediate goods	32,7975	33,1939
Energy	11,4780	11,4769
Consumer goods	**100,0000**	**100,0000**

Industrial production index

The industrial production index measures the change of the volume of goods produced over time by industry (excluding construction).

The aim is to provide an estimate, a high frequency indicator that is promptly available, of the evolution over time of the economic output in the industrial sector, measured in gross production terms.

Gross production is estimated through the *proxy* variable approach, the proxies used allow to represent the target variable accurately and they are easily measureable on a monthly basis by enterprises. This helps to reduce the statistical burden on businesses. The *proxies* used to catch the evolution of production are: the physical quantities of each individual output (different production processes use different units of measurement), the deflated output value and the hours worked (corrected using a labour productivity indicator).

Starting from the release of the indices referred to January 2022, the annual chaining method has been implemented to estimate the industrial production output, also confirmed for 2023. In this case the link period is the year 2022, while the reference year remains 2015, in line with other short-term indicators.

The innovations introduced are recommended by main methodological manuals and by Eurostat[1]. Changes concern the procedure for calculating indices, the updating of the sample of companies used in the survey, the revision of the weighting system, the updating of the basket of goods

Enterprises monthly provide detailed information on industrial output referred to a basket of representative goods, of all the productive activities present in the Italian industry. Aggregated data are then used to calculate individual product indicators.

The elementary indices are aggregated by economic activity, according to the Laspeyres formula, using a weighting structure reflecting the sectoral distribution of industrial added value in the link period (year 2022 for the current version). These indices are subsequently linked, for each level of aggregation, to the reference base 2015=100. The first rescaling coefficient of the series is the average of the indices of 2021 on a fixed-base 2015. For the following years, indices are weighted with their average weights of the previous year and set in relation to the weighted annual average of the previous years.

Prior to this innovation, the industrial production index was calculated using a fixed-base year, where weights and structure were updated every five years. However, the three elements composing the indicator (weighting structure, basket of goods and sample of enterprises) are likely to be less representative of the economic conditions for periods farther away from the base year. Therefore, it was necessary to introduce a methodology to update the base year on an annual basis.

In order to reduce the temporal misalignment between the data available for calculating the weighting structure and the base year for calculating the chain-linking indices, the new methodology adopts a policy which implies annual revisions (for details see the paragraph on revisions).

From a quality perspective, the new chain-linking approach is expected to provide more accurate estimates. In particolar:

•   more frequent update of the weighting structure will limit the loss of representativeness of the base and the timeliness of the weights reflecting the industrial production structure;

•   updating the sample of enterprises allows monitoring enterprises' births and deaths more effectively, enabling a more frequent sample rotation too;

•   annual update of basket of goods will allow to quickly detect new relevant products and remove obsolete items.

Besides these advantages, chain-linking have drawbacks both for the user and for the producer of statistics. For users, disadvantage of chain-linked estimates is non-additivity that causes greater complexity to analyse aggregates that are not in the dissemination plan, based on the current classification scheme; for producers, the adoption of chain-linking requires a considerable additional commitment to monitor the sample of enterprises and the basket of goods.

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[1]Recommendations for the Index of Industrial Production 2010 (IRIIP 2010), Department of Economic and Social Affairs, International United Nations New York, 2013 - https://unstats.un.org/unsd/industry/docs/f107_edited.pdf

Final Report Task Force Chain-Linking in STS- Doc Eurostat/G3 STS TF Chain-Linking SEP 2012 EN- https://t.ly/3SgO

The new calculation method based upon chain-linking

The European regulation on short-term statistics recommends the adoption of chain-linking method whenever the economic structure is developing fast. For those sectors where relative prices do not change significantly, the chain-linking method is still recommended to improve the quality of the indicator, overcoming typical limitations of a fixed-based index. Chain-linking allows for a better representation of economic evolution, as it uses more up-to-date information on the weighting system, on the basket of goods and on enterprises. It also reduces the problem of revisions related to the five-yearly rebasing.

In order to achieve comparability of data across countries EU strongly advises countries willing to implement the annual update of weights in STS in combination with chain-linking to follow several recommendations regarding these common target methodologies.

With regard to the weighting structure, an annual update is recommended, while for the chain-linking of STS volume indices the recommended common target methodology is the annual *overlap technique* that implies compiling estimates for each reference period at the weighted annual average of the previous year, with subsequent linking through annual linking factors to scale the monthly data upward to the base year[2]. The calculation procedure adopted in this case presents a further complication, as indices for period 2015-2021 were not recalculated with the new methodology, in fact they are still expressed on a fixed reference period.

The chain-linking of year 2021 to the reference base 2015 was processed using the index average on a fixed-based 2015=100, while the annual overlap technique is be implemented starting from 2023.

The indices of industrial production are constructed and disseminated at different levels of Ateco classification; both fixed-base indices and indices with different base periods are obtained starting from elementary indices.

The calculation of the chain-linking indices for different economic aggregates is performed at different processing levels.

At the first level, the elementary indices are calculated with reference to the link period, i.e. the ratios between current production flows in the month *i* and year *t* and the respective monthly bases of the year *t-1* (average flows of the previous year). In this phase of the calculation procedure, the value-form information is appropriately deflated using current prices, while coefficients are applied to data expressed in hours worked, which measure the evolution of productivity in the link period[3].

The second level of processing concerns a higher level of aggregation: these indices are weighted arithmetic averages (concatenated Laspeyres-type formula) which are obtained, for all aggregates, starting from elementary indices. The weighting structure is derived from a nested classification, where the sum of the weights of each aggregation level is equal to the weight of the overall index. Indices calculated at different aggregation level are subsequently brought back to the reference base using the respective rescaling coefficients.

The basket of goods

The industrial production survey involves a sample of enterprises providing information about 1.160 goods on a monthly basis. These products are grouped into homogeneous groups to form a basket of goods, which represents the elementary level of aggregation (macro-prodotti).

The elementary indices are then aggregated by classes, groups, divisions, subsections and ATECO sections, Main Industrial Groupings up to the overall index.

The list of surveyed products can theoretically be updated annually or less frequently, according to annual ProdCom[4] survey and the indications from the trade associations of various industrial sectors.

The updates aim at ensuring that the most representative products for each class of economic activity are annually sorted.

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[2] Chain-linking can be performed using either the short formula (average of the previous year's chained index) or the formula with link factors (averages of indices related to the link period) up to the latest base year.

[3] Compared to the fixed base, where the productivity coefficients are related to the base year, in chain-linking productivity is related to the previous year.

[4] Annual survey on production of manufactured goods.

The adoption of the 2022 bases was the occasion to review the panel of survey products. Specifically, 12 products were eliminated, while another 15 were merged, resulting in the creation of five new products and related macro-products, to have greater homogeneity with the ProdCom classification. Finally, seven new products were introduced which flow into six new macro-products (see next Table 3).

The update of weights implies a slight change in the incidence of proxies used to measure the evolution of the industrial output when compared to the previous base.

The percentage of products (represented by the weights on the overall index) measured in physical quantities units remains preponderant (76.3% for link period 2022), followed by products measured in hours worked (13.5%) and by those measured in production value (10.1%) that slightly decreased compared to the base 2015.

TABLE 2. PROXIES USED TO MEASURE PRODUCTS. Weighting structure of base 2015 and link period 2021 and 22

Tipologia della proxy	Base 2015	Link period 2021	Link period 2022
Physical quantities (a)	76.4	76.6	76.3
Hours worked	13.1	13.6	13.5
Value of production	10.5	9.8	10.1
TOTAL	100.0	100.0	100.0

(a) Includono: Chilogrammi, Quintali, Tonnellate, Chilowatt, Litri, Ettolitri, Ettanidri, Paia, Pezzi, Metri, Metri quadri, Metri cubi.

TABLE 3. CHANGES ON THE PRODUCT PANEL

LETTER/ NUMBERS	DESCRIPTION	NOTES
	ELIMINATED	
1	Other medicinal products n.e.c.	Merged into medicinal specialties
2	Iron castings for industry. means of transport (malleable cast iron)	Outdated, no answers for a long time
3	Flat knitting machines and apparatus	Outdated, no answers for a long time
4	Pipes and pipes for the building industry	Outdated, no answers for a long time
5	Thread acetate	Outdated, no answers for a long time
6	Acrylic bow and bundles	Outdated, no answers for a long time
7	Waste acrylics	Outdated, no answers for a long time
8	Cupro thread	Outdated, no answers for a long time
9	Iron castings for mechanical industry (malleable iron)	Outdated, no answers for a long time
10	Fax	Outdated, no answers for a long time
11	Coke oven gas	Irrelevant weight among the products
12	Cast iron	Irrelevant weight among the products
	INVOLVED INTO OTHER PRODUCTS	
14	Unglazed tiles - red and porcelain stoneware, rustic terracotta	Merged into new product A
15	Single-fired tiles. (white and colored pasta)	Merged into new product A
16	Double-fired tiles (white and colored body)	Merged into new product A
17	Other glazed tiles	Merged into new product A
18	Solid bricks	Merged into new product B
19	Semi-solid bricks	Merged into new product B
20	Hollow bricks (of any type)	Merged into new product B
21	Tiles and large tables	Merged into new product C
22	Elements for floors	Merged into new product C
23	Powdered laundry detergents	Merged into new product D
24	Liquid laundry detergents	Merged into new product D
25	Powdered dish detergents	Merged into new product D
26	Liquid dish detergents	Merged into new product D
27	Coke	Merged into new product E
28	Tar	Merged into new product E
	NEW	
A	Ceramic tiles and slabs	Replaces products 12, 13, 14, 15
B	Building bricks	Replaces products 16,17,18
C	Elements for floors, hollow blocks and hollow blocks	Replaces products 19,20
D	Dish and laundry detergents (powder and liquid)	Replaces products 21, 22, 23, 24
E	Coke oven products	Replaces products 25, 27
F	Finishing of fabrics and clothing items	Product with relevant weight in class 1330
G	Cloths, grids and nets of iron or steel wire	Product with relevant weight in class 2593
H	Ropes, cables and metal braids of iron or steel	Product with relevant weight in class 2593
I	Cement-based premix	Product with relevant weight in class 2223
L	Plastic articles for building	Product with relevant weight in class 2364
M	Profiles obtained by cold forming or bending	Product with relevant weight in class 2433
N	Valves for hydraulic and pneumatic transmissions	Product with relevant weight in class 2812

The sample of enterprises

Data from annual ProdCom survey are used to compile the sample of enterprises to be involved in the monthly survey. Sample was designed to meet two targets: maximizing the coverage for all the considered product groups and limiting the response burden on businesses. The firms were chosen in the great majority of cases among those with at least 20 employees. In the link period 2022 - more than in the past - the inclusion of very small enterprises was made by paying particular attention to both the type and intensity of the products sent, and considering belonging to the sector of activity where the presence of the small company could have a certain importance (such as the milling and dairy industries). These considerations have meant that many companies have been excluded from the new base, due to the small size of the workforce. Furthermore, a list of eligible enterprises was made to replace enterprises that, for any reason (i.e. cessation of activity, change of production) should be excluded from the survey in the future.

Approximately 5,400 enterprises are directly surveyed each month with the new base 2022, providing data related to over 9,800 monthly production flows (see Table 4).

Besides these, other statistical sources are used to estimate the production trends of specific industrial sectors. Data on slaughtered livestock are taken from the monthly survey conducted by Istat at authorised slaughterhouses.

Data concerning extractive industries are acquired from the General Directorate for safety in mining and energy activities - National Mining Office for hydrocarbons and geo-resources of the Ministry of Enterprises and Made in Italy (MIMIT). Data related to gas distribution are provided to Istat by MIMIT.

With regard to firearms, the National Bureau for firearms' checks (Banco Nazionale di Prova) communicates the number of rifles and guns tested each month. Finally, data on electricity production is provided by Terna, the transmission system operator for electricity.

TABLE 4. THE SAMPLE Comparison between link period 2021 and 2022

Units	Aumont		Flows between different base periods		
	Link period 2021	Link period 2022	Outgoing from period 2021	Incoming from period 2021	Entering link period 2022
Enterprises	5,394	5,376	128	5,266	110
Respondent units(a	5,713	5,697	134	5,579	118
Productions (b)	9,861	9,787	556	9,305	482

(a) Respondent units to the survey
(b) Monthly flows provided for each single production (products by respondent units)

The comparison between the 2021 and 2022 bases in terms of companies, responding units and production is therefore affected by the operations described above (choices of companies to include and their responding units, changes to the basket of goods and associated productions).

This comparison highlights the turnover of enterprises with a slightly negative balance between incoming units (110 enterprises) and outgoing units (128).

The balance is still negative both for the number of responding units and for the number of productions surveyed monthly. It should be remembered that the unification of the products described above plays a very important role in the count. Consider, for example, an enterprise that previously dealt separately with the four tile products (Unglazed tiles - red and porcelain stoneware, rustic terracotta, Single-colour tiles, Double-fired tiles, Other glazed tiles) subsequently replaced by a single product.

The table 5 highlights the flows by sector of economic activity. The aggregate that saw the highest relative increase in production is CL - Manufacture of transport equipment which grew by 5.0% with 49 productions incoming and 23 outgoing.

On the other hand, the smallest negative change is in the aggregate CB - Textile, clothing, leather and accessories industries, with 133 productions outgoing and only 60 incoming.

The dynamism present instead in the subsection CG - Manufacture of articles in rubber and plastic materials, other products of the processing of non-metallic minerals is affected by the changes in the products described above.

It may be interesting to recall that the growth rates between the productions of 2021 compared to those of 2015 were all positive: productions kept under observation for several years with the 2021 base instead

entered the index recovering a gap of 6 years. The current comparison does not have such high intensity as seen in the comparison between the base 2015 and 2021, because of the adoption of the linked index.

TABLE 5. IL PANEL Comparison between link period 2021 and 2022 by economic sector

ECONOMIC ACTIVITY		Productions[a]				
		Amount		Flows between different base periods		
		Link period 2021	Link period 2022	Outgoing from period 2021	Incoming from period 2021	Entering link period 2022
B	Mining and quarrying	26	27	-	26	1
C	Manufacturing	9,833	9,758	556	9,277	481
CA	Manufacture of food products, beverages and tobacco products	1,526	1,515	45	1,481	34
CB	Manufacture of textiles, apparel, leather and related products	1,422	1,349	133	1,289	60
CC	Manufacture of wood and paper products, and printing	607	610	22	585	25
CD	Manufacture of coke, and refined petroleum products	328	324	6	322	2
CE	Manufacture of chemicals and chemical products	983	968	71	912	56
CF	Manufacture of pharmaceuticals, medicinal chemical and botanical products	157	159	5	152	7
CG	Manufacture of rubber and plastics products, and other non-metallic mineral products	806	784	141	665	119
CH	Manufacture of basic metals and fabricated metal products (except machinery and equipment)	1,156	1,160	39	1,117	43
CI	Manufacture of computer, electronic and optical products, electro-medical equipment, measuring equipment and watches	132	129	5	127	2
CJ	Manufacture of electrical equipment and non-electric domestic appliances	373	365	19	354	11
CK	Manufacture of machinery and equipment n.e.c.	1,180	1,206	24	1,156	50
CL	Manufacture of transport equipment	525	551	23	502	49
CM	Other manufacturing, and repair and installation of machinery and equipment	638	638	23	615	23
D	Electricity, gas, steam and air-conditioning supply	2	2	-	2	-
Total		9,861	9,787	556	9,305	482

(a) Monthly flows provided for each single production (products by respondent units)

The weighting structure

The weighting structure of the industrial production indices is desgined using various sources.

Weights of all aggregates, from economic activity classes (4-digit Ateco 2007) up to the total industry are calculated on the basis of the gross value added of factor costs measured by the SBS Frame statistical register and by the structural economic surveys that contributes to the "Enterprises economic indicators".

For the definition of the weighting structure of the 2022 basis, the most recent data available relate to the year 2020, even if for the reasons explained below it was decided to continue using the data relating to the year 2019.

The source for calculating weighting coefficients for aggregating quantities of products to elementary indices is annual ProdCom survey on industrial production, currently referring to year 2021. Products selected for the link period 2022 were recoded[5] according to the ProdCom list corresponding to the Nace Rev. 2 classification and relative weights are derived from the total production value (net of any reuse).

Attribution of weights for each level of aggregation is based on the assumption that, at each level, the products and the economic activities surveyed are representative of those not involved in the survey, so that the total weight of the higher level is distributed among products.

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[5] A correspondence table is defined annually, which links each single product detected by the monthly survey to one or more codes of the ProdCom list.

The use of annual chain-linking implies the annual update of weights, therefore the latest releases of ProdCom and SBS Frame will be used for this purpose. The timeliness of the release of SBS causes a misalignment when compared to the industrial production index, consequently to guarantee the best representativity of the weighting structure, weights are also updated for the previous year. Based on the current schedule of data release, the weights will be updated as follows:

• for the provisional/revised indices of year *t*, ProdCom referring to year *t-2* and SBS Frame referring to year *t-3* will be used;

• for the annual revised indices of year *t*, ProdCom *t-1* and SBS Frame at *t-2* will be used.

The wheights update requires that for each *"year index"* two weighting structures will be calculated on two different ProdCom/SBS Frame datasets, one for the provisional and revised indices and one for the annually revised indices.

With regard to the weights used for the 2023 indices, even if the 2020 Frame-SBS data are available, it was decided not to use them as they refer to a year characterized by completely anomalous trends caused by the widespread effects of the health emergency, thus continuing to use Frame-SBS 2019 data.

Along with the dissemination of the indices referred to the link period 2022=100, new weights become available.

Table 6 presents a comparison between the weighting structures for the 2015 fixed base, for the link period 2021, for the link period 2022 and considering the large aggregates corresponding to the Main Industrial Groupings (MIGs). There are moderate variations in weights for the various groups. An increase in the incidence of about 0.4 percentage points for both capital goods and intermediate goods corresponds to a reduction of about half a percentage point for energy.

TABLE 6. INDUSTRIAL PRODUCTION INDEX. Comparison between the weighting structure of base 2015=100, link period 2021 and 2022

Main Industrial Groupings	Base 2015	Link period 2021	Link period 2022	Differences2022-2021
Consumer goods	26.6911	26.4642	26.0711	-0.3931
Durable	*4.0978*	*3.9267*	*3.9283*	0.0016
Non-durable	*22.5933*	*22.5375*	*22.1429*	-0.3946
Capital goods	28.8806	29.2603	29.2581	-0.0022
Intermediate goods	32.4075	32.7975	33.1939	0.3964
Energy	12.0208	11.4780	11.4769	-0.0011
Total	**100.0**	**100.0**	**100.0**	**-**

Comparing the weighting structure of the two bases at economic activity level appears useful to catch all changes occurred (Table 7).

TABLE 7. INDUSTRIAL PRODUCTION INDEX. Comparison between the weighting structure of base 2015=100, link period 2021 and 2022

ECONOMIC ACTIVITY		Base 2015	Link period 2021	Link period 2022	Differences 2022-2021
B	Mining and quarrying	1.5676	1.0837	1.0838	-0.0001
C	Manufacturing	88.5313	88.8588	88.8599	-0.0010
CA	Manufacture of food products, beverages and tobacco products	10.1647	9.9691	9.9691	00000
CB	Manufacture of textiles, apparel, leather and related products	8.2629	8.0266	8.0263	0.0003
CC	Manufacture of wood and paper products, and printing	4.9902	4.9041	4.9059	-0.0018
CD	Manufacture of coke, and refined petroleum products	1.0032	0.8742	0.8742	0.0000
CE	Manufacture of chemicals and chemical products	4.2956	4.1408	4.1400	0.0008
CF	Manufacture of pharmaceuticals, medicinal chemical and botanical products	3.3349	3.4624	3.4632	-0.0008
CG	Manufacture of rubber and plastics products, and other non-metallic mineral products	8.1168	8.1318	8.1315	0.0003
CH	Manufacture of basic metals and fabricated metal products (except machinery and equipment)	13.7787	14.3565	14,3533	0,0032
CI	Manufacture of computer, electronic and optical products, electro-medical equipment, measuring equipment and watches	2.7032	2.7762	2,7758	0,0004
CJ	Manufacture of electrical equipment and non-electric domestic appliances	4.1327	3.8651	3,8657	-0,0006
CK	Manufacture of machinery and equipment n.e.c.	13.639	13.5519	13,5530	-0,0010
CL	Manufacture of transport equipment	6.6613	7.2564	7,2590	-0,0026
CM	Other manufacturing, and repair and installation of machinery and equipment	7.4481	7.5437	7,5429	0,0008
D	Electricity, gas, steam and air-conditioning supply	9.9011	10.0575	10,0564	0,0011
Total		100.0	100.0	100.0	-

For Link period 2022, economic activities with a greatest weight in the industrial production index are those of the Manufacture of basic metals and fabricated metal products (14.4%), followed by the Manufacture of machinery and equipment n.e.c. (13.6%). Compared to the previous base, the weight of both the Manufacture of transport equipment and the Manufacture of basic metals and fabricated metal products grew (both increasing by +0.6 percentage points), while Mining and quarrying decreased (-0.5 percentage points).

Working days and seasonal adjustment

The treatment of the deterministic components and seasonality is carried out with the methodology already used for the indices on a fixed basis for 2015.

The correction procedure for calendar effects was carried out with the regression method (applied using the TRAMO procedure), which identifies the effect of working days, leap years and Easter by introducing a set of variables into the statistical model that describes the trend of the series.

The seasonally adjusted indices were obtained through the TRAMO-SEATS[6] procedure. TRAMO-SEATS assumes that each intra-year time series is constituted of three different components, not directly observable: the trend-cycle that represents the underlying medium and long-term movement; the seasonal component that causes intra-year fluctuations; an irregular component, due to erratic factors. TRAMO-SEATS uses a model-based approach consisting in identifying a reliable and representative model for the time series to be seasonally adjusted. In order to eliminate the seasonal component, it is necessary to select a decomposition model of the raw series into the previously listed different elements: the industrial production indices are seasonally adjusted using either an additive decomposition (the observed data are equal to the sum of the non-observable elements), or a multiplicative decomposition (the observed data are equal to the product of the non-observable elements).

The industrial production indices are calendar and seasonally adjusted separately for each economic activity sector, Main Industrial Grouping and for the overall index (direct approach). Since last year, the adoption of the chain-linking led to a revision of the adjustment method of the consumer goods series, previously obtained as the weighted aggregation of durable and non-durable consumer goods, while now it is seasonally adjusted through a direct approach.

The transition to the new calculation method gave the opportunity to review statistical models used for seasonal and calendar adjustment to better represent the trend of time series. These changes mainly affected the deterministic components, especially the structure of the outliers of the last two years of pandemic. In particular, the models relating to the sectors of "Manufacture of articles in rubber and plastic materials, other products of the processing of non-metallic minerals (CG)", "Manufacture of computers, electronic and optical products, electrometrical equipment, measuring instruments and clocks (CI)", "Manufacture of electrical appliances and non-electrical household appliances (CJ)".

Consistently with the previous base, estimated series starts from January 2001.

Further details on models used for seasonal and calendar adjustment are available upon request.

New revision policy

The industrial production indices of the most recent month are provisional and subject to a revision, occurring with the dissemination of the following month and considering additional information received from enterprises (revised indices are disseminated in the press release).

A second type of revision occurs annually and concerns the time series of the indices. This revision aims at incorporating three types of information, which become available after the publication of the first revision. Specifically, the elements considered in the revision process are the following:

1. The release of the most recent data to define the weighting structure. As previously highlighted, at the moment for the indices of the year *t* there is a misalignment between the year of the link period (*t-1*) and the data available for calculating the structure of their weights (*t-3* for the SBS Frame and *t-2* for ProdCom). When the indices for the year *t+1* are released (where link period is *t*) also data *t-2* for the SBS Frame and *t-1* for the ProdCom become available, therefore data for year *t* are revised to update the weighting structure.
2. The updating and periodic revision of the short-term statistics (turnover index and hours worked) on which the used annual productivity coefficients are based, as mentioned above, for the products surveyed through the monthly flows of hours worked. These products that, as previously reported, weights for 13.5% belong to few sectors (in particular, machinery and mechanical equipment, electrical equipment, transport vehicles, repairs and systems installation). Consequently, the effect of the coefficient revision may be significant for those specific sectors.
3. Responses received from the enterprises after the dissemination of the revised indices (which usually occurs around 60 days past the reference period); it involves a very limited number of responses, which accounts, on average, for approximately 1.5% of the sample (measured in production volume terms) but which may determine corrections on the disaggregated indices.
4. Subsequent corrections of information previously received from enterprises that have been reported as inaccurate by consistency checks. Usually these modifications have a minor effect on the aggregated indices, however they occasionally may cause significant revisions for specific sectors.

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[6] Version 942 of the software was used in Linux.