

# Building maintenance and improvement work indices / IPEA (rebasing and reference year 2015)

Producing organisation : INSEE

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## Introduction

### Source of data

Building maintenance and improvement work indices (Indices des prix des travaux d'entretien-amélioration des bâtiments – IPEA in French) are calculated quarterly from the observation of the prices charged by a sample of companies and craftsmen (artisans) to final customers, for works carried out in existing buildings in France and necessarily involving the laying and the supply of materials. These prices exclude taxes, discounts and subcontract markets.

These indices result of the survey known as « Observation of Prices in Industry and Services (OPISE) », conducted by INSEE with a sample of companies. Each quarter, a sample of about 1 000 companies is surveyed and provide 2 000 “response series” as prices converted into “elementary series” under indices. This survey is part of the annual statistical survey programme of the official statistic services examined by the CNIS (*Conseil National de l'Information Statistique* – National Council for Statistical Information) and published by a ruling in the Journal Officiel at the start of the year.

### Scope of indices

The aim of this survey is to establish the quarterly price indices covering the different activities required for the maintenance and improvement of housing. .

### Statistical field and nomenclatures required

The building maintenance and improvement work index (IPEA) is a quarterly index measuring evolution of price excluding taxes charged by construction enterprises for their maintenance and improvement of existing buildings. In 2010 basis, these indices cover only housings. In 2015 basis, they also cover non residential buildings. Accordingly, the perimeter of IPEA indices for « all work » change. The IPEA indices are also disseminated by classes of the nomenclature NAF Rev 2/CPF Rev 2.1, as defined below :

4321	Electrical installation work
4322	Sanitary plumbing, heating and thermoregulation for heating plants
4329	Other installation works
4331	Plastering works
4332	Metallic carpentry, locksmithery;
4333	Wall covering, supple floor covering
4334	Painting, and glazing work
4339	Other finishing works
4391	Roofing, zinguerie works
4399	Miscellaneous special-trade construction works

However, within the NAF class 4321, the subclass "4321B Electrical installation works on the highway" is not tracked by the IPEA indices. The subclasses "4399B Metal Structures", "4399D other specialized construction works" and "4399 rental with construction equipment operator" are also not tracked within the NAF4 4399 class.

The indices relating to the NAF4 "4339 other finishing work" are not published by application of rules of statistical secrecy. They are nevertheless included in the calculation of the higher level IPEA indices, in particular in the "all Works" index.

New construction work, or similar to new construction, renovation or rehabilitation work carried out after almost total demolition, processing work in transformation of buildings from one use to another another use are excluded from the survey. Works which consist only to supply materials are also excluded as it is considered like a commercial activity.

## Objectives

These indices can be used to analyze the activity of the sector (division "43 - specialized construction", with the exception of group "43.1 - Demolition and site preparation"), as economic indicators or as deflators for national accounts.

The "all works" IPEA index differs from the index BT50 "Renovation-maintenance all state bodies " that in so far as the latter reflects the changes in costs incurred by companies in a similar field.

## Technical characteristics

### Methodology

The collection of the "raw prices »" price series takes place in two steps:

-The first step is to select legal units and question them on their types of works in order to define with them some "Response series" representative of their activity in the field of investigation. The interview is done face-to-face by an INSEE's surveyor;

-The second step consists of a interrogation of the legal unit on the prices of their « response series » defined in the first step. The legal unit must then respond to an online or paper questionnaire. More than 2 000 « response series » participate in the calculation of IPEA indices each quarter.

The « response series » are transformed into price indices, called "elementary series". These are then themselves aggregated into indices corresponding to the subclasses of NAF nomenclature (separate between residential and non-residential buildings) These aggregated indices are called "base series". The weights of the elementary series used for this aggregation are those collected from the company during the interview of the investigator. So these weights are fixed all along the interrogation of the company. If, for a given quarter, the price of a « response serie » can not be observed, the evolution of that price is estimated by the weighted average of the price changes for the elementary or base indices belonging to the same class (or subclass) of the response serie concerned.

### Agreggation and reference

Then, base series are aggregated into higher-level indices, called "Synthetic series": Aggregation of NAF5 indices into NAF4 indices, aggregation of NAF4 indices into "all work" indices on the one hand for residential buildings and on the other hand for non-residential buildings. Finally, an

IPEA global index "all works" is calculated by aggregating the "all works" indices for residential and non-residential buildings.

The weights of the different items of the nomenclature used for these aggregations are amended each year, so that the published IPEA indices correspond to chained Laspeyres indices from 2014.

More specifically, the weights of the nomenclature items for one year Y correspond to the turnovers of year Y-2 observed in the annual sector survey (ESA). By exception, the weights for Years 2013 to 2017 correspond to the turnovers of year Y-1. Until 2013, the indices disseminated are indices of Laspeyres fixed base.

For each class of work, non-residential IPEA indices are calculated by aggregation of elementary series since the first quarter 2017, the beginning of the period of availability of these data. They are backcasted until the first quarter 2015 from the indices calculated for the same class of work in residential buildings. For each work class, the residential and non-residential indices are therefore identical for each quarter in 2015 and 2016. On the other hand, the non-residential "all works" indice is different in 2015 and 2016 from the residential "all work" indice, because the weights used for aggregating results are different. .

The indices are expressed in reference 100 in 2015. This means their average over the four quarters of the year 2015 is 100.

## Information sources

The survey base consists of the legal units surveyed by the annual sector Survey (ESA) of construction companies. It is restricted to legal units that verify the three following criteria:

- its Siren number (registration number) ends with one of the two figures held in the year in question, so that a complete "cycle" of renewal of the sample lasts five years;
- its reported or imputed turnover of building maintenance and improvement works is 200,000 euros or more in at least one of the ten NAF4 level classes;
- the legal unit is part of either the "comprehensive strata" of ESA construction survey or the "random stratum" (once the legal units already surveyed during the five-year cycle of completion are withdrawn). The objective is to limit the statistical burden on the smaller legal units.

## Survey frequency

Quarterly.

## Dissemination

IPEA indices are disseminated on the last working day of the second month following the quarter under review (Q+60 days). The Publishing calendar is announced three months in advance. Except if specifically mentioned, the indices are provisional for a period of three months. Revisions integrate enterprises' late responses and changes of weights consecutive to the continuous renewal of the indices.

The quarterly "Informations Rapides" of IPEA provide the main results with some comments. All indices disseminated are present on the Macro-Economic database ([« Consulter les indices et séries chronologiques \(BDM\) »](#)).

## **Statistical units**

The statistical unit investigated is the legal unit of a company that produces the goods of the industrial activity in question.

## **Switch of series from reference 2010 to reference 2015**

Previously, the scope of maintenance and improvement of housing was divided into nine families work covering most of this activity:

1. masonry, reinforced concrete, stone floor;
2. painting, wall covering, supple floor covering;
3. carpentry of wood and PVC;
4. climatic engineering;
5. sanitary plumbing
6. roofing, zinguerie;
7. electricity;
8. metallic carpentry, locksmithery;
9. plastering.

This decomposition was abandoned in 2018, during the passage of IPEA to the 2015 basis. These categories were then replaced by the classes of the NAF Rev 2/CPF Rev 2.1.

The survey has been extended to non-residential building from 2015, so non-residential IPEA indices may be disseminated in 2018, when IPEA passed to 2015 basis. This was is also an opportunity to publish an IPEA "all work" maintenance-improvement index for all types of buildings.