

# CONSTRUCTION MATERIAL PRICE INDEX

INDICES DE COSTES DEL SECTOR DE LA CONSTRUCCIÓN

(ICSC)

الأمم المتحدة

اللجنة الاقتصادية والاجتماعية لغربي آسيا

UNITED NATIONS

Economic and Social Commission

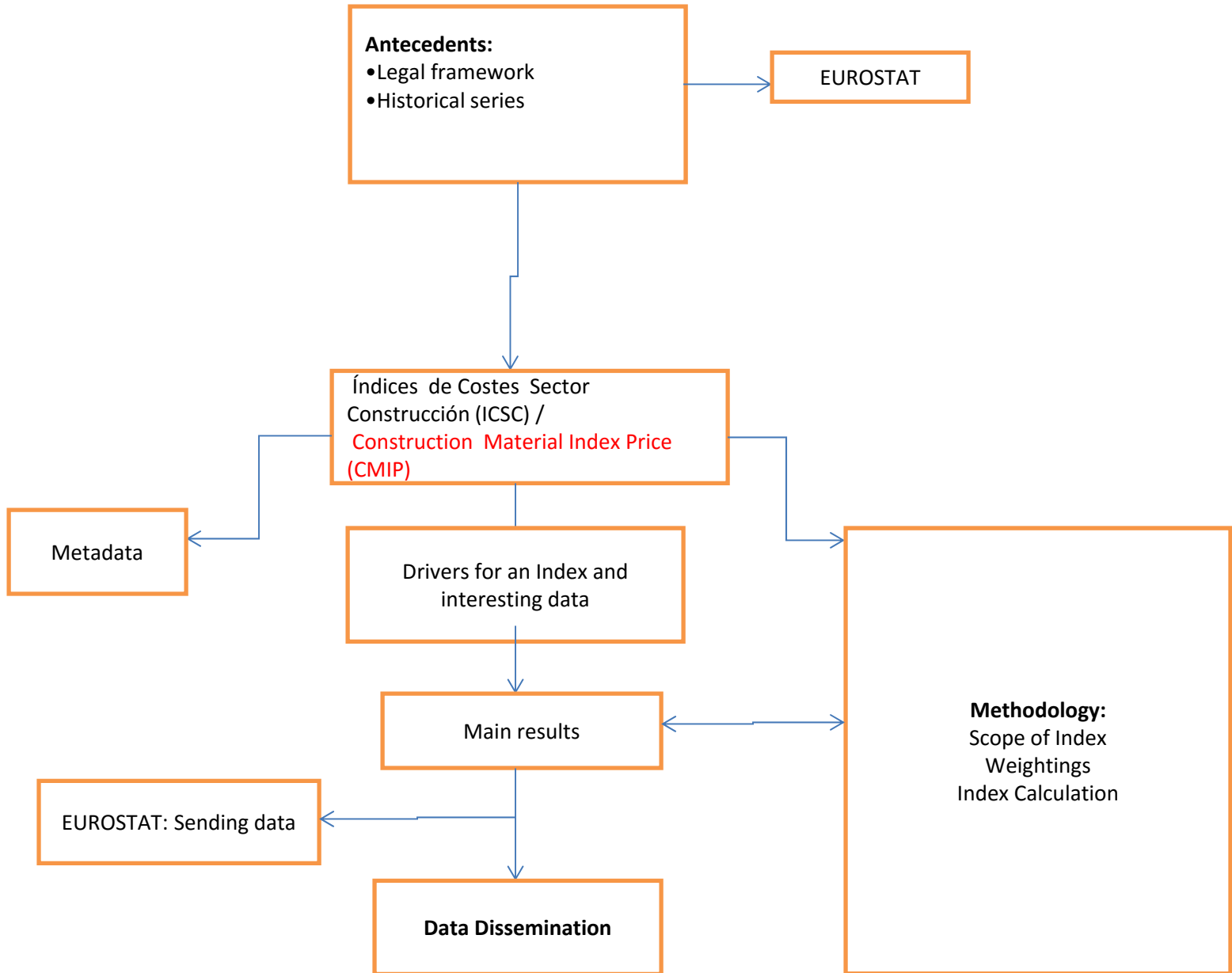
for Western Asia



NATIONS UNIES

Commission économique et s

pour l'Asie occidentale



# ***LEGAL FRAMEWORK***

## **European Union**

***COUNCIL REGULATION (EC) No 1165/98 of 19 May 1998 concerning short-term statistics***

**<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:31998R1165>**

**REGULATION (EC) No 1158/2005 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 6 July 2005 amending Council Regulation (EC) No 1165/98 concerning short-term statistics.**

**<http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32005R1158&qid=1474904170700&from=ES>**

# ***LEGAL FRAMEWORK***

## **Spanish National legal framework**

The **National Statistic Plan (PEN)**, in order, assigns to the Ministry of Fomento (PW) the responsibility to produce the CMIP, and so, it can be considered as a State Survey.

**Law 12/1989** on Public Statistic Function, (9th may 1989) regulates Planning and elaboration of State's Statistics developed by State Administration and, particularly, it establishes:

- The obligation of information providers to facilitate requested data by General Directorate for Economic Planning, and the possibility of punishing the unfulfilment of this obligation.
- The commitment to keep statistical secret by all those that play any role during its elaboration.

**Royal Decree 475/2007**, (13th April 2007) that passes the National Activities Economic Clasification 2009 ( CNAE 2009) .

# Requirements

What do we need to build up a Construction Material Index Price?

- Labour and Material Cost Structure by type of work:  
*this will provide us with Weights*  
Calculation is based on turnover value on the base year.
- And:
  - For materials:  
Yearly Value of what is consumed: Industrial Products Price Index (IPRI)  
[http://www.ine.es/en/prensa/ipri\\_prensa\\_en.htm](http://www.ine.es/en/prensa/ipri_prensa_en.htm)
  - For labour:  
Labor costs survey to measure changes in the cost of labor  
[http://www.ine.es/en/metodologia/t22/t2230187\\_en.htm](http://www.ine.es/en/metodologia/t22/t2230187_en.htm)

### *Main drivers to have a Construction Material Price Index*

The need to build an indicator of this type arises to meet the following objectives:

- Allow deflation of monetary variables in order to study their evolution in real terms.
- The difficulty of calculating a Production Price Index for the construction sector for its specificity, heterogeneity and long production process, makes sensible to approach prices from a costs perspective.

## Interesting Data of the Index

*CMPI: Until December / 2008 Section F of NACE 93 Rev. 1 (NACE 1993 in Spain) was used ↔ Since January / 2009 Sección F of NACE 93 Rev. 2 (NACE 2009 in Spain) was used.*

# Methodology:

## **TEMPORARY SCOPE:**

### **Base period:**

It is the period in which all indexes are made equal to 100 and is an annual period.

The base year is 2010 for the three types of indexes that are calculated, (labour, Intermediate consumption and Overall).

ie: For the index of labour, in 2015 it was 103,74. It means that labour price in Spain for the construction sector was 3,74% higher in 2015 than in 2010.



# Methodology:

## Reference period

*Indexes are calculated for each month of the calendar year, and for the calendar year.*

(we use a simple mean for these purpose, jan-to dec divided by 12.)

# Methodology:

## Population scope

For the index of labour it is made upon data obtained from the Survey of Labour Costs for companies of Section F of NACE 93 Rev 2.  
(before this, Collective agreements were used)

For the index of intermediate consumption, the population scope are the most representative products for construction activities NACE 93 Rev. 2

# Methodology:

## Weightings

Weights used to calculate the indexes are based on a project that the Ministry of Public Works commissioned the IMAT (Centre Tecnologic of Construcció de Catalunya).

Through this project, a sample of actual projects' budget, was analyzed to see how the cost of an average construction project was distributed.

4 types of works were analyzed:

- Residential building
- Non-residential building
- Rehabilitation
- Civil Engineering

# Methodology:

## Weightings

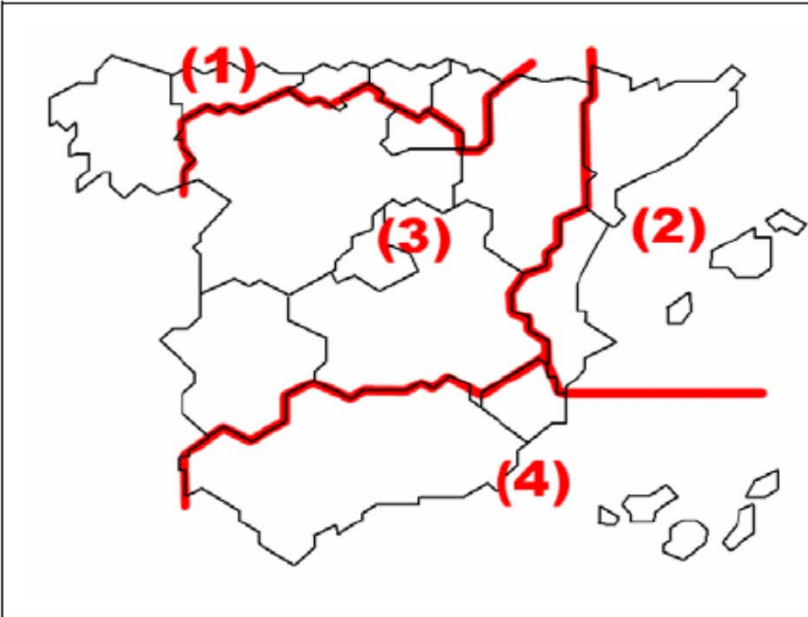
- A number of architectural and engineering projects are considered corresponding to actual works. For each of these forecast expenditure in labour, machinery and different groups of materials are distributed for type of work according to the above classification. Adding all these budgets a matrix of expenditure distribution is obtained, for each type of project.
- For the selection of the sample for buildings has been taken into account typological and geographical criteria. According to Technical Project Visa Statistic the proportions of activity by geographical area and morphology of the building have been established, and so the sample has been sized according to that proportions.
- For the selection of Civil Engineering Sample, the Bidind statistics has been used, establishing a proportion of different types of civil works.

# Methodology: sample projects

Subsector	Tipología		Número de proyectos	Reparto geográfico			
				Zona 1	Zona 2	Zona 3	Zona 4
Residencial unifamiliar	Aislado		12	1	3	4	4
	Adosados y pareados		18	1	5	6	6
Residencial plurifamiliar	En bloque	≤4 plantas	9	1	3	2	3
		≥5 plantas	5	1	2	1	1
	Entre medianeras	≤4 plantas	10	1	3	3	3
		≥5 plantas	7	1	2	2	2
No residencial	Naves		23	4	5	8	6
	Otras tipologías		9	2	2	3	2
Rehabilitación	Residencial		30	5	9	8	8
	No residencial		30	5	7	11	7
Ingeniería civil	Viaro		9				
	Ferroviario		7				
	Portuario		2				
	Urbanización		2				
	Otros		6				
<b>Total</b>			<b>180</b>				

# Metodología: criterios geográficos

## Methodology: geographical criteria



1	Asturias Cantabria Galicia Navarra País Vasco
2	Baleares Cataluña Com. Valenciana
3	Aragón Castilla y León Castilla-La Mancha Com. Madrid Extremadura La Rioja
4	Andalucía Canarias Murcia

## Methodology: weight's aggregation

	AGGREGATIONS		
	FIRST AGGREGATION	SECOND AGREGATION	THIRD AGGREGATION
Single Family Residential Building	RESIDENTIAL BUILDING	BUILDING CONSTRUCTION	CONSTRUCTION
Multi-Family Residential Building			
Non-Residential Building	NON RESIDENTIAL BUILDING		
Residential Rehabilitation	REHABILITATION		
No Residential Rehabilitation			
Civil Engineering	CIVIL ENGINEERING		

## Methodology: weight's aggregation

For these aggregations the following auxiliary variables are taken into account:

- **Turnover**, provided by the Survey of Construction Structure 2010.
- **M2 Surface approved by technical colleges**, provided by the Statistics construction works 2010.



## **Methodology: aggregated weights**

[Archivos anexos\ICSC\Archivos sin internet\Resultados 16 4 2007.xls](#)

The structure of labour costs and 43 groups of building materials are studied. Weights are calculated for both labour and each materials group.

Coverage index: The index of intermediate consumption is calculated for categories of construction products included in the CNAE-2009

[http://ec.europa.eu/eurostat/cache/metadata/Annexes/sts\\_copi\\_q\\_esms\\_es\\_an1.pdf](http://ec.europa.eu/eurostat/cache/metadata/Annexes/sts_copi_q_esms_es_an1.pdf)

## Methodology: How evolves the index?

The index of intermediate consumption by product is an index of commodity prices in the first stage of marketing. For each of the products are considered prices in the base period and the current one, and indexes are calculated from these prices leading to an indicator used to measure the evolution of the products manufactured by the industry in the first stage marketing.

This index is called the Industrial Price Index, IPRI, which is calculated monthly by INE, and is the starting point for calculating the index of intermediate consumption.

It is considered the IPRI based year 2010

# Methodology: Labour index

## LABOUR INDEX

It is an indicator that measures changes in the cost of Manpower in the Construction sector, ie, the sum of Gross Wages and Salaries and Social Contributions, estimated through the Labour Cost Survey.

The ECTL (encuesta trimestral de Costes laborales) measures changes in the average labor cost per worker per hour worked.

The labor cost includes two large components:

- **Wage cost, which includes all perceptions, in cash or in kind, which the worker receives by the company in exchange for labor services**
- The wage cost includes base salary, allowances, overtime payments, bonuses and overtime wages in kind.
- Other costs or non-wage costs, which include non-wage payments and compulsory social security contributions.

# Main results

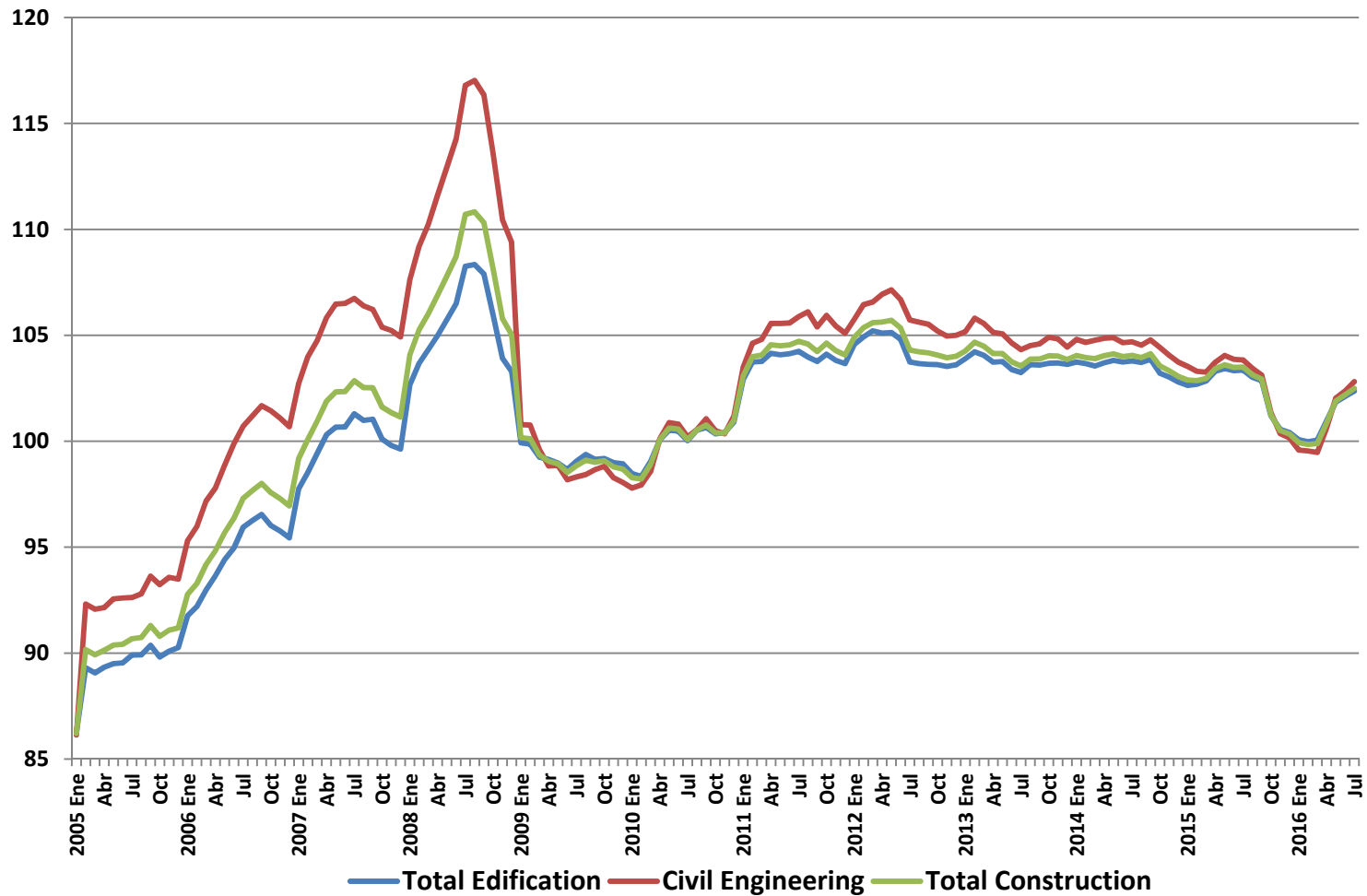
- [http://www.fomento.es/MFOM/LANG CAS  
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# DATA Spread

- [http://www.fomento.es/MFOM/LANG CASTELLANO/ATENCION CIUDADANO/INFORMACION ESTADISTICA/Calendario.htm](http://www.fomento.es/MFOM/LANG_CASTELLANO/ATENCION_CIUADADANO/INFORMACION_ESTADISTICA/Calendario.htm)

# Main results

## Construction Material Price Index Spain





# Metadata

- [http://ec.europa.eu/eurostat/cache/metadata/EN/sts\\_copi\\_q\\_esms\\_es.htm](http://ec.europa.eu/eurostat/cache/metadata/EN/sts_copi_q_esms_es.htm)

**شكرا على اهتمامك!**