



Statistics Netherlands

Division of Economic and Business statistics and National Accounts

Sector of Business statistics

Method description New dwellings; input price indices building costs, 2015 = 100

Summary: This document gives a description of the calculation method for the input price index of new dwellings. The description contains the weighting scheme, the formula and the method of calculation. The observation and production processes fall outside the scope of this document.

Keywords: Construction, dwelling, price index, method, input price index

Introduction

An input price index is calculated on the basis of price developments of the various cost components of the final product – in this case a new dwelling. The main cost components in the construction of a new dwelling are wage costs and material costs. Both components are weighted to a total input price index of new dwellings. Other cost components such as energy, materials and transport are not taken into account, because their influence on the final cost price is relatively small. Land costs are also not included in the index. This means that the input index has a wage and a materials component.

The method description follows below. The first and second sections contain a description of the wage and the material component, respectively. How both components are weighted to one input price index is described in the third section. Finally, a few words about the publication of the figures.

1. Wage component

The wage component represents the cost development of wages in the construction industry, specifically ‘Burgerlijke & Utiliteitsbouw’ (civilian and non-residential construction). The wage index is based on the development of the statistic ‘Contractuele LoonKosten’ (CLK, contractual wage costs) in construction. This is a monthly statistic representing the wage costs as stipulated in the CLAs. The CLK uses a wage cost concept that fits well with the concept of an input price index, because the employer’s share of the wage costs is included and because quality changes such as changes in the composition of the personnel structure do not play a role.

Only one CLK series is used, so that the wage index for all projects p is the same:

$$I'_{t,p} = I'_t \quad (1)$$

It is the series SBI 45 ‘Bouwnijverheid’ and is available in StatLine. This figure is obtained from StatLine, rescaled to the new reference year and then transferred in the calculation on a monthly basis.

2. Materials component

The materials component represents the price development of certain product groups used in dwelling construction. The calculating is based on cost reviews of a total of eight construction projects of representative dwellings containing the costs and amount of the materials required.

These eight projects, consisting of four projects with single-family homes and four projects with apartments, are regionally divided across three regions in the Netherlands (West, Central-South and North-East). The division by type of dwelling and region is shown in the table below.

Table 1, Number of projects per region

	Region		
	North-East	Central-South	West
Single family houses	1	1	2
Apartments	1	1	2

Because relatively many dwellings are built in the western part of the Netherlands, we have chosen two reference projects by type of dwelling in that region.

To measure price developments, information about both the building materials required and the cost ratios (prices and quantities) of the materials is needed. This leads to a weighting scheme with material weights per product group w_{k_p} . With the weighting scheme and producer price indices (PPI) I_k^t belonging to the product groups k we calculate a weighted index for the materials component $I_{m_p}^t$ per reference project p :

$$I_{m_p}^t = \sum_{k=1}^K w_{k_p} * I_k^t \quad (2)$$

Next, the material price indices per project $I_{m_p}^t$ are weighted with individual weights w_p to one material index I_m^t . The weights are based on the number of dwellings completed as reported to CBS (statistic: Gereedgekomen woningen, i.e. completed dwellings).

$$I_m^t = \sum_{p=1}^8 w_p * I_{m_p}^t \quad (3)$$

New dwellings; input price indices The materials and wage components are averaged with the weights of wage w_{l_p} and materials w_{m_p} into a single input index per project I_p^t :

$$I_p^t = (w_{l_p} * I_l^t + w_{m_p} * I_{m_p}^t) \quad (4)$$

Finally, the 8 partial total indices per project I_p^t are weighted with weights based on the number of completed dwellings w_p . This gives the total input price index of new dwellings I^t :

$$I^t = \sum_{p=1}^8 w_p * I_p^t \quad (5)$$

Publication

The input price index new dwellings is calculated on a monthly basis and published on StatLine and in the Statistisch Bulletin. In the publication we provide not only the input index total but also the separate indices of the materials and wage components.