



Paper

# Price index production on buildings, 2015 = 100

Method description

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# Introduction

The price index on the production of buildings (PPI) is a price index that reflects the ratio of the building production in current and in constant prices and is based on the building production, the output price index of the construction costs of new dwellings (PINW) and the output price indices of the construction costs of other buildings (PING). These price indices are linked on a quarterly basis to a file in which production of buildings in that calculated quarter is broken down by the months in which the building permits of the projects involved were reported to Statistics Netherlands. In this way, production is calculated in constant prices. The building production is divided into two sections, namely New constructions and Other constructions. Both sections are divided again into three sectors: dwellings, commercial buildings for the (semi-)public sector and commercial buildings for the private sector. The three sectors are also aggregated to a total per section. In addition, the total is calculated for the two sections together.

The following describes the way in which the calculation is performed.

## Calculation method

The PINW and PING are calculated on a quarterly basis. Because the building production is delivered per month, it is the first step in the calculation aggregating of quarterly production.

$$[1] \quad P_l^{k,j} = \sum_m P_l^{m,j}$$

where

$P_l^{k,j}$  is the production in current prices per quarter in year j

$P_l^{m,j}$  is the production in current prices per month in year j with m the months in the quarter

The quarterly building production of dwellings in current prices is then divided by the PINW of two quarters previously. The quarterly building production of the private-and (semi-)public sector is divided by the PING of one quarter earlier <sup>1)</sup>. This provides the production in constant prices.

<sup>1)</sup> This difference between Dwellings and Other buildings is based on the average time between the determination of construction costs and the granting of building permits by municipalities. Research has shown that going through procedures for the granting of building permits for dwellings takes longer than for other buildings.

$$[2a] \quad P_{cw}^{k,j} = P_{hw}^{k,j} / I_w^{k-2,j}$$

and

$$[2b] \quad P_{co}^{k,j} = P_{lo}^{k,j} / I_o^{k-1,j}$$

where

$P_{cw}^{k,j}$  is the production of the sector Dwellings in constant prices per quarter in a year

$P_{hw}^{k,j}$  is the production of the sector Dwellings in current prices per quarter in a year

$I_w^{k,j}$  is the output price index of the building costs of newly build dwellings per quarter per year

$P_{co}^{k,j}$  is the production of the private sector en (semi-)public sector in constant prices per quarter in a year

$P_{lo}^{k,j}$  is the production of the private sector en (semi-)public sector in current prices per quarter in a year

$I_o^{k,j}$  is the output price index of the building costs of other buildings per quarter per year

For the total production in constant prices, the production in constant prices of the two sections are added.

$$[3] \quad P_c^{k,j} = P_{cw}^{k,j} + P_{co}^{k,j}$$

Then, the total production in constant prices for the calculated quarter is calculated by adding up the production per quarter:

$$[4] \quad P_c = \sum P_c^{k,j}$$

where

$P_c$  is the total production in constant prices of the calculated quarter

The production in constant prices is also summoned per section and per underlying sector. This is done in the same way as for the total production in the formulas 3 and 4.

Also the building production in current prices are summoned over all quarters to a total building production in current prices for the relevant calculated quarter.

$$[5] \quad P_l = \sum P_l^{k,j}$$

where

$P_t$  is the total production in current prices in the calculated quarter

The calculation of the production per section New construction/ Other construction takes place in the same way.

Then, the aggregated production in current prices is divided by the production in constant prices to reach a price index.

$$[6] \quad I_P = P_t / P_c$$

where

$I_P$  is the price index on the production of buildings in the calculated quarter

The index is calculated for the total production as well as per section and per underlying sector.

Finally, the calculated series of price indices are rescaled so that the price index from the base year averages 100.

## Explanation of symbols

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.	Figure is unknown, insufficiently reliable or confidential
*	Provisional figure
**	Revised provisional figure
2016–2017	2016 to 2017 inclusive
2016/2017	Average for 2016 to 2017 inclusive
2016/'17	Crop year, financial year, school year, etc., beginning in 2016 and ending in 2017
2014/'15–2016/'17	Crop year, financial year, etc., 2014/'15 to 2016/'17 inclusive

Due to rounding, some totals may not correspond to the sum of the separate figures.

## Colophon

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