Method description Input Price Index of building costs of new dwelling

1. Introduction
An input price index is calculated on the basis of the price changes in 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 the costs for wages and materials. Both components are weighted to a total input price index of new dwellings. Other cost components such as energy and transport are not taken into account because their influence on the final cost price is relatively modest. 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 second and third sections describe the wage and the material components. How both components are weighted to one input price index is described in the fourth section. The last section deals with the publication of the figures.

2. Wage component
The wage component represents the cost developments of wages in the building industry, specifically of residential and non-residential construction. The wage index is based on the development of the statistics on contractual wage costs (Contractuele Loonkosten) (CLK) in construction. These are monthly statistics representing the wage costs as established in the collective wage negotiations.

The CLK uses a wage cost concept that fits well with the concept of an input price index, because the employer share of the wage costs are included and because quality changes such as changes in the composition of the personnel structure do not play a role.

There is only one CLK series, used so that the wage index for all projects $p$ and for total $t$ are the same $I_{t}^{p} = I_{t}^{t}$. It is the series SBI 45 construction (Bouwnijverheid) and is available at StatLine. The figure is obtained from StatLine every month and rescaled to $2005 = 100$.

3. Materials component
The materials component represents the price changes in certain product groups used to build a dwelling. The calculation is based on cost reviews of a total of eight construction projects of representative dwellings containing the costs and amount of the materials required.

Each project represents one of four dwelling types (owner-occupied or rented apartments, and owner-occupied or rented houses), divided across three regions in the Netherlands (West, Central-South, and North-East). For the Central-South region we only observed newly completed dwell-
ings for the buyers market and for the North-East region only the newly finished dwellings for rent. This is because it is assumed that rental dwellings in North-East are representative for those in Central-South and the houses for sale in Central-South for those in North-East. The division per type of dwelling and region is shown in table 1.

Table 1.
Division type of dwelling per region.

<table>
<thead>
<tr>
<th>Region</th>
<th>North-East</th>
<th>Central-South</th>
<th>West</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apart-</td>
<td>Rented</td>
<td>Rented</td>
<td>Rented</td>
</tr>
<tr>
<td>Single-</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>family</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owner-occupied</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>family</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Measuring the price development requires information about the building materials and about the cost ratios (prices and quantities) of the materials. This leads to a weighting scheme with material weights per product group \( w_{k,mp} \). With the weighting scheme and producer price indices (PPI) \( I'_{k,mp} \) belonging to the product groups \( k \) we calculate a weighted index for the materials component \( I'_{mp} \) per reference project \( p \):

\[
I'_{mp} = \sum_{k=1}^{K} w_{k,mp} \cdot I'_{k,mp}.
\]

Next, the project prices indices \( I'_{mp} \) are weighted with individual weights \( w_{mp} \) to one material index \( I'_{m} \). The weights are based on the number of dwellings finished, reported to Statistics Netherlands for the statistics on newly completed dwellings (Gereedgekomen woningen) and the material share of the reference projects.

\[
I'_{m} = \sum_{p=1}^{8} w_{mp} \cdot I'_{mp}.
\]

4. Input price index new dwellings

The materials and wage components are averaged with the weights with of wage \( w_{ip} \) and materials \( w_{mp} \) into a single input index per project \( I'_{p} \):

\[
I'_{p} = (w_{ip} \cdot I'_{i} + w_{mp} \cdot I'_{mp}).
\]

Finally, the 8 constituent total indices per project \( I'_{p} \) are weighted with weights based on the number of dwellings finished \( w_{p} \). This gives the total input price index of new dwellings \( I' \):
5. Publication
The input price index of new dwellings is calculated on a monthly basis and published in StatLine and in the Statistical Bulletin. We provide not only the input index total but also the separate indices of the materials and wage components.