

Running through the index

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In his second article on the new price adjustment formulae indices for civil engineering and related specialist engineering, Joe Martin describes the new series in detail

The new price adjustment formulae indices (PAFIs) series comprises 42 resource indices. These are made up of the following categories:

- 3 labour indices
- 5 plant indices (including site accommodation and transport)
- 21 materials indices
- 6 specialist labour indices
- 7 specialist materials indices.

For existing resources, [RICS Building Cost Information Services \(BCIS\)](#) reviewed the weights and the data sources; for new resources, we consulted the steering group and manufacturers to set weightings and identify appropriate data sources.

Resource cost indices

The indices represent the underlying movement in factory gate prices and nationally agreed wage awards. They are not intended to represent the effect that national or local market pressures have on prices from subcontractors, merchants and so forth; the management of these is actually the commercial concern of the contractor.

The labour indices for individual trades are based on:

- nationally agreed wage awards
- overtime, based on an assumption of working hours derived from the [Office for National Statistics \(ONS\) Annual Survey of Hours and Earnings \(ASHE\)](#) that will be reviewed each year
- allowances for travelling, tools and so on covered by the appropriate working rule agreement (the employment terms agreed between the unions and employers); while this is not covered by statute, we would reflect this if necessary in future
- holiday pay covered by the working rule agreement (may also be influenced by statute)
- pension contribution covered by the working rule agreement (may also be influenced by statute)
- sick pay covered by the working rule agreement or statute
- National Insurance (NI).

The indices are for national application in the UK and relate to calendar months. The monthly indices are compiled such that changes will be included for the month in which they occur, by weighting them according to the number of days to which the changes apply.

The Management and Administration and Professional Services indices are based on:

- earnings for individual occupations defined by the Standard Occupation Classification (SOC2010) given in the ASHE
- NI contributions
- pension contributions derived from the annual ONS Occupational Pension Schemes Survey findings.

The monthly indices are compiled such that earnings are adjusted annually in the January after the ASHE is published. Changes in NI will be included in the index for the month in which they occur by weighting them according to the number of days to which they apply. Pension contributions will be reviewed when the annual survey is published.

Material indices are, where possible, the producer price indices (PPIs), import price indices (IPIs) or services producer price indices (SPPIs), prepared by the ONS. Where there is no appropriate ONS index or the coverage of the closest index includes too disparate a range of materials, then BCIS has, with the help of manufacturers, prepared specially constructed indices for the PAFI following the principles used by the ONS indices.

The PPIs represent the changes in factory gate prices of goods sold by UK manufacturers, net of VAT and after any discounts. They relate to manufacturers' prices in the UK market, and take account of raw materials and manufactured components imported for incorporation into goods manufactured in the UK.

The IPIs represent the price changes of imported goods from EU or non-EU countries, net of VAT and after discounts.

In preparing IPIs, prices are converted to sterling from several different currencies as part of the monthly calculation. They measure price levels of manufactured items imported into the UK for direct incorporation into construction work.

The SPPIs represent the quarterly changes in the prices received for services provided in the UK on a business-to-business basis. This means that prices are only collected for services that are provided by one business to another business or government department. All transactions to private individuals and households are excluded.

The indices represent groupings of types of materials and manufactured components. In some cases, particularly for the import indices, the groupings are very broad. PPIs, IPIs and SPPIs are defined by reference to UK Standard Industrial Classification of Economic Activities 2007 codes (SIC codes).

PPIs and IPIs are monthly indices and are based on prices in the month to which the index number refers. The indices measure average prices for each month. SPPIs are quarterly indices that are based on the percentage change in the price of services in the quarter. BCIS applies the quarterly changes in the month following the publication of the SPPI; but it does not interpolate monthly indices from the quarterly figures.

The BCIS indices are based on increases reported in a survey it carries out at the end of each month, and they therefore represent the average change in price for the month. The plant indices are compiled from labour and resource PPIs, IPIs and SPPIs, calculated and applied in

the same way as for materials.

Weightings

The individual PAFIs are compiled from one or more resource indices, representing the movement of individual labour, plant or materials or groups of each. Table 1 provides an example for electrical installation materials.

| Resource index | Source | Source index name | Base weighting |
|---|---------|---|----------------|
| Instrumentation – general | ONS PPI | Electronic components and boards | 20% |
| Instrumentation – liquid/gas flow | ONS PPI | Measuring, testing and navigation equipment: watches and clocks | 3% |
| Electrical distribution and control equipment | ONS PPI | Electricity distribution and control apparatus | 17% |
| Computers | ONS PPI | Computers and peripheral equipment | 1% |
| Cable trays | ONS PPI | Imported basic iron and steel and ferrous alloys – non-EU | 2% |
| Power supply and cables | ONS PPI | Wiring and wiring devices | 40% |
| Lighting equipment | ONS PPI | Electric lighting equipment | 7% |
| Power installation | ONS PPI | Electric motors, generators and transformers | 6% |
| Communication equipment | ONS PPI | Communication equipment | 4% |

Table 1: Electrical installation materials (PAFI Reference 4/CE/EL/02)

Publication

The index numbers are usually published in the BCIS PAFI online service at noon on the Monday after the third Friday of the month. Publication at other times will be announced in advance on the service. This online service is the only official source of PAFI numbers, and users should not rely on any other source. The indices are published as 'provisional' in the first instance and remain as such for up to 3 months, after which they are confirmed or amended as 'firm' indices.

BCIS has set up a PAFI working group with representation from the steering group. This will advise on the implementation of:

- any revisions to the indices
- the choice of alternative sources of information where the current sources cease to

- be available
- the interpretation of new legislation, working rules and so on
- any other issues that affect the indices, their calculation or publication.

The new series will be published with a June 2015 = 100 base, although BCIS has provided a series dating back to 2010. This back series (see Figure 1) shows the volatility in the resource cost indices over the past 5 years; in this time, tumbling oil prices and instability in metal prices have affected fuel, steel and electrical cable prices while labour prices have been much more subdued. This highlights the importance of choosing the right mix for indices on a contract.

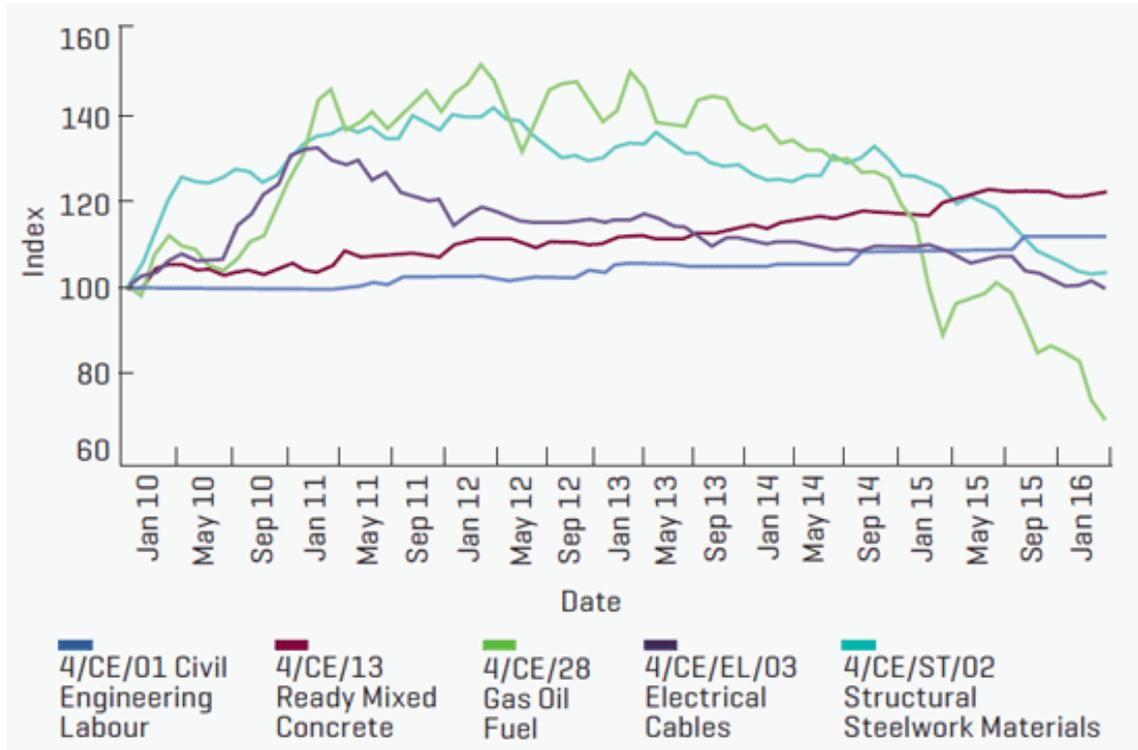


Figure 1: Differential movement in resource costs

Highways indices

Because there is an overlap between the resources in the Civil Engineering and related Specialist Engineering indices and the Highways Maintenance indices, another steering group was set up to look at the latter, and a revised and updated series has been issued.

BCIS was commissioned by Highways England to provide a single index for use on its highways maintenance framework contracts, and this has also been published as the Highways England Maintenance Cost Index.

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Further information

- Full details of the source data and the weightings are included in the *Guide to Price Adjustment Formulae Indices Series 4 ? Civil Engineering and Related Specialist Engineering ? Calculation*, [available from BCIS](#) .

- The new series is available to current subscribers to the [PAFI online service](#) and the [RICS Infrastructure Information Service](#) .
- BCIS would like to acknowledge the assistance of the steering group, the ONS and Sue White, Head of Indices at BCIS and Martine Damon-De Waele, Construction Data Analyst at BCIS for their assistance in producing the new series.
- Related competencies include [Contract practice](#) , [Project financial control and reporting](#)
- This feature is taken from the RICS *Construction journal* (September/October 2016)