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BCIS Webinar

Are you using the right index? How to manage inflationary risk on construction projects

7th June 2023

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INTRODUCTION

INTRODUCTION

- Our webinar presenters are:

Karl Horton
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Lead Consultant

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Head of Consultancy

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Solutions Architect

- The webinar is being recorded
- The recorded version will be shared after the session direct to attendees
- It will also be available on the BCIS website (www.bcis.co.uk)

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CONTEXT SETTING

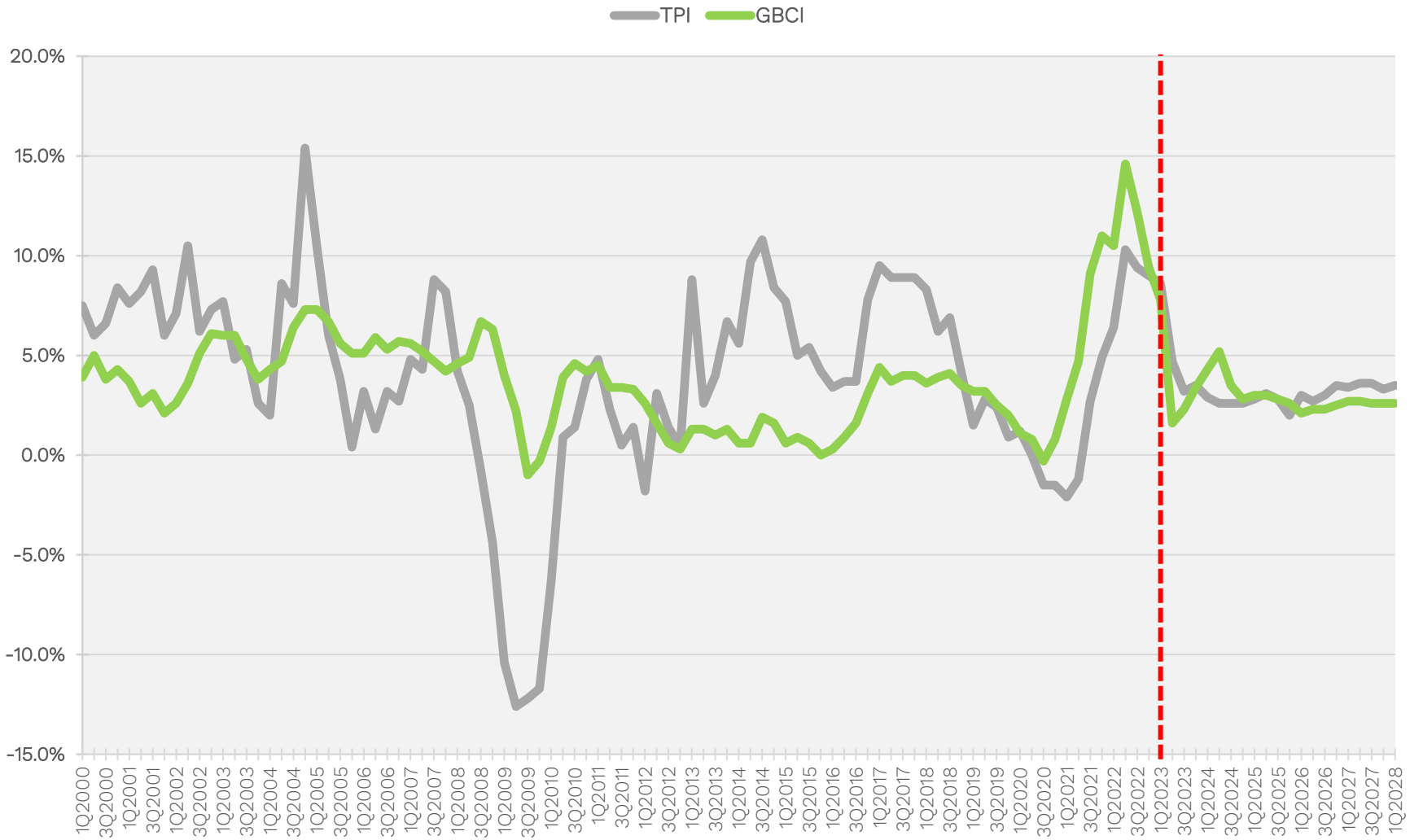
INFLATION – WHAT IS IT?

- Inflation is, in former US Defence Secretary Donald Rumsfeld's term, a '**known unknown**'
- We know that prices tend to change over time, but we do not know by how much or when. Therefore, when considering future expenditure this uncertainty is a risk
- Inflation significantly impacts the construction industry, especially the cost estimation process due to its effect on materials prices, labour costs and plant rates
- The current high level of inflation has increased the difficulty in estimating future costs

CONSTRUCTION SPECIFIC INFLATION: COST & PRICE INFLATION

BCIS General Building Cost Index & All-in Tender Price Index, BCIS 2023

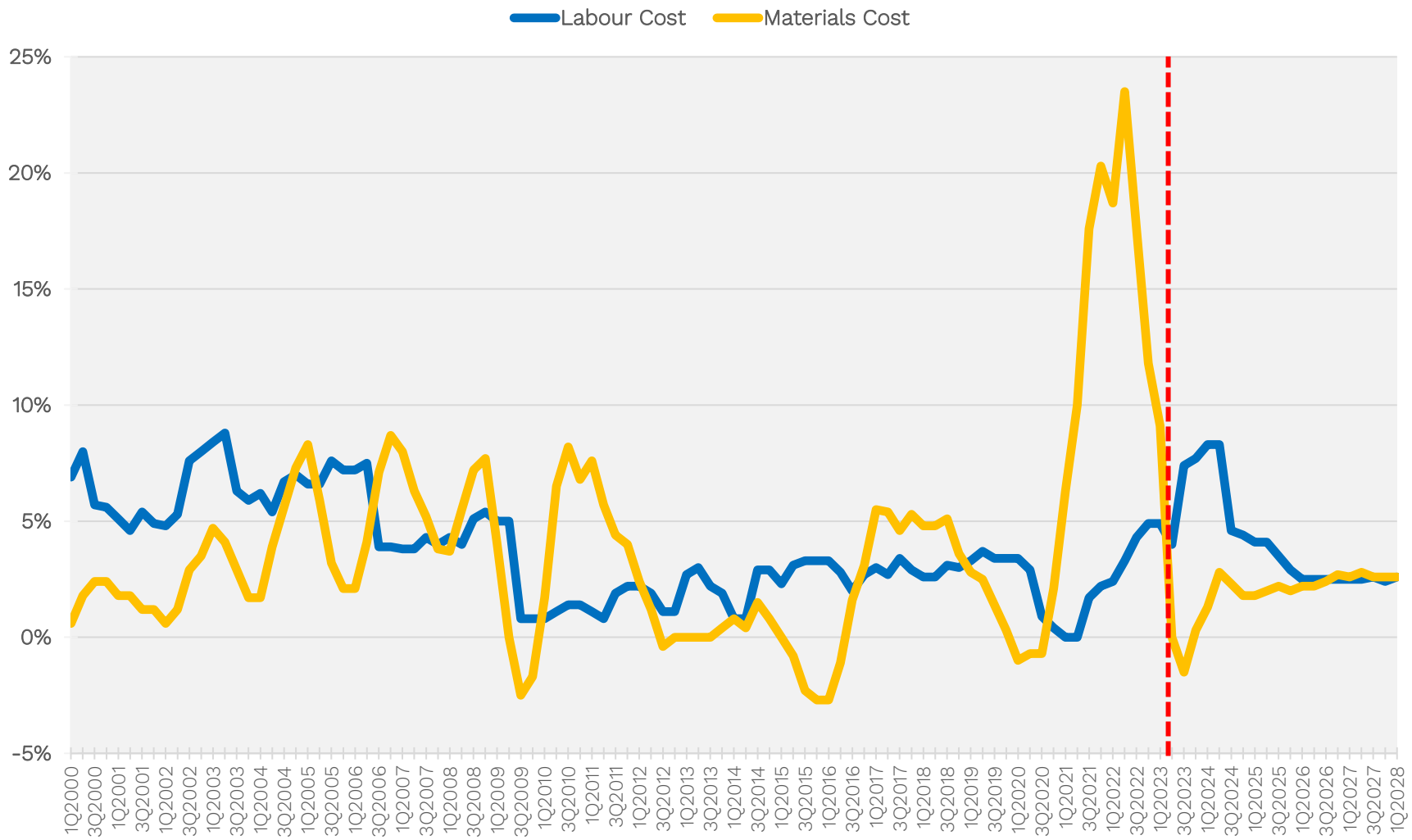
- Some stability returning to costs and prices, building costs are predicted to lead tender prices in the near term as demand softens before prices marginally lead costs by 2028



CONSTRUCTION SPECIFIC INFLATION: RESOURCE COSTS

BCIS material & labour cost indices, BCIS 2023

- Materials cost increases have been dramatic but are predicted to slow
- Labour will replace materials as the main cost driver in the near term given ingrained shortages which are likely to push up wage inflation



WHY ALLOW FOR INFLATION ON CONSTRUCTION PROJECTS

- **Periods of high or uncertain inflation**
- **Big projects -** where the impact of inflation is significant in monetary terms. ‘Big’ needs to be judged in relationship to the size of the parties
- **Long projects -** the longer the contract the more difficult it is to predict the impact of inflation. This will apply both to projects that will take a long time and long-term contracts such as framework contracts and maintenance contracts
- **Complex projects -** where different contractors will work at different periods during the project

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WHY ALLOW FOR INFLATION ON CONSTRUCTION PROJECTS

- To apportion risk to where it is best managed:
  - Most contractors already operate on quite low margins; therefore, any increased costs will be passed on in increased tender prices. If contractors do not increase their prices, they will have to absorb the increased cost resulting in even lower margins and an increased risk of insolvency
  - Contractor insolvency part way through a project will almost inevitably mean the client/owner pays more than budgeted for the project, assuming they can secure a replacement contractor
  - The reality of current inflationary pressures should not be ignored. It seems unreasonable to ask a contractor to commit to fixed price arrangements in the current climate, however there are options that can be taken to limit the impact of these pressures
- To ensure the best price on a contract, clients/owners should consider sharing the inflation risk contractually
- While we cannot directly control the inflation impact, there are some approaches which may help mitigate the effects of inflation, these include...

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HOW TO ALLOW FOR INFLATION ON CONSTRUCTION PROJECTS

The use of provisional sums

- Typically, provisional sums are included in the contract specification as an estimate of the likely cost of works that either cannot be sufficiently defined at the time of contracting, or works that the client may choose not to undertake
- In addition, provisional sums can be included in contracts to cover items that may be subject to potential price increases

Cost plus contracts

- A form of procurement where the contractor is reimbursed for the actual costs incurred for the work done, although it should be noted that the risk of inflation is then wholly with the client/owner

Fluctuation provisions

- Contracts can include clauses to allow the contract price to be adjusted to reflect inflation through the contract period. Usually, the clause will be aligned to a specific index to measure any price changes
- While full fluctuation provisions for labour and materials had fallen over recent decades, given that inflation had been relatively stable, soaring costs over the last 3-years are making more parties consider inflation clauses. What we're seeing, as a result, is a shift in the market towards full and partial (covering the most volatile resources) fluctuation provisions
- Indexed linked inflation adjustment clauses provide a simple and transparent method of calculating and reimbursing fluctuations in the underlying costs on a project. They allow contractors to price and manage a contract knowing that they do not need to price in the risk of inflation
- The most common method of allowing for inflation is through the use of indices. In the UK, the most frequently used indices are the price adjustment formulae indices (PAFI) prepared by BCIS

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WHAT DO YOU NEED TO KNOW ABOUT INDEXATION

WHAT IS AN INDEX?

- Before we start, it's worth reiterating what an index is…

- The Encyclopaedia Britannica defines it as:

  'a sign or number that shows how something is changing or performing, e.g. The price of goods is an index [indication] of business conditions; or a number that indicates changes in the level of something (such as a stock market) when it rises or falls.'

- The indices that BCIS produce are numbers, they are an indication of how prices or costs are moving, expressed as a numerical series with a **base of 100**

- A basic index formula for calculation of % change:

$$\text{\% change} = \frac{(\text{new index} - \text{old index})}{\text{old index}} \times 100$$

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WHAT DO YOU WANT TO MEASURE?

In the context of construction, our indices measure:

1 Tender prices

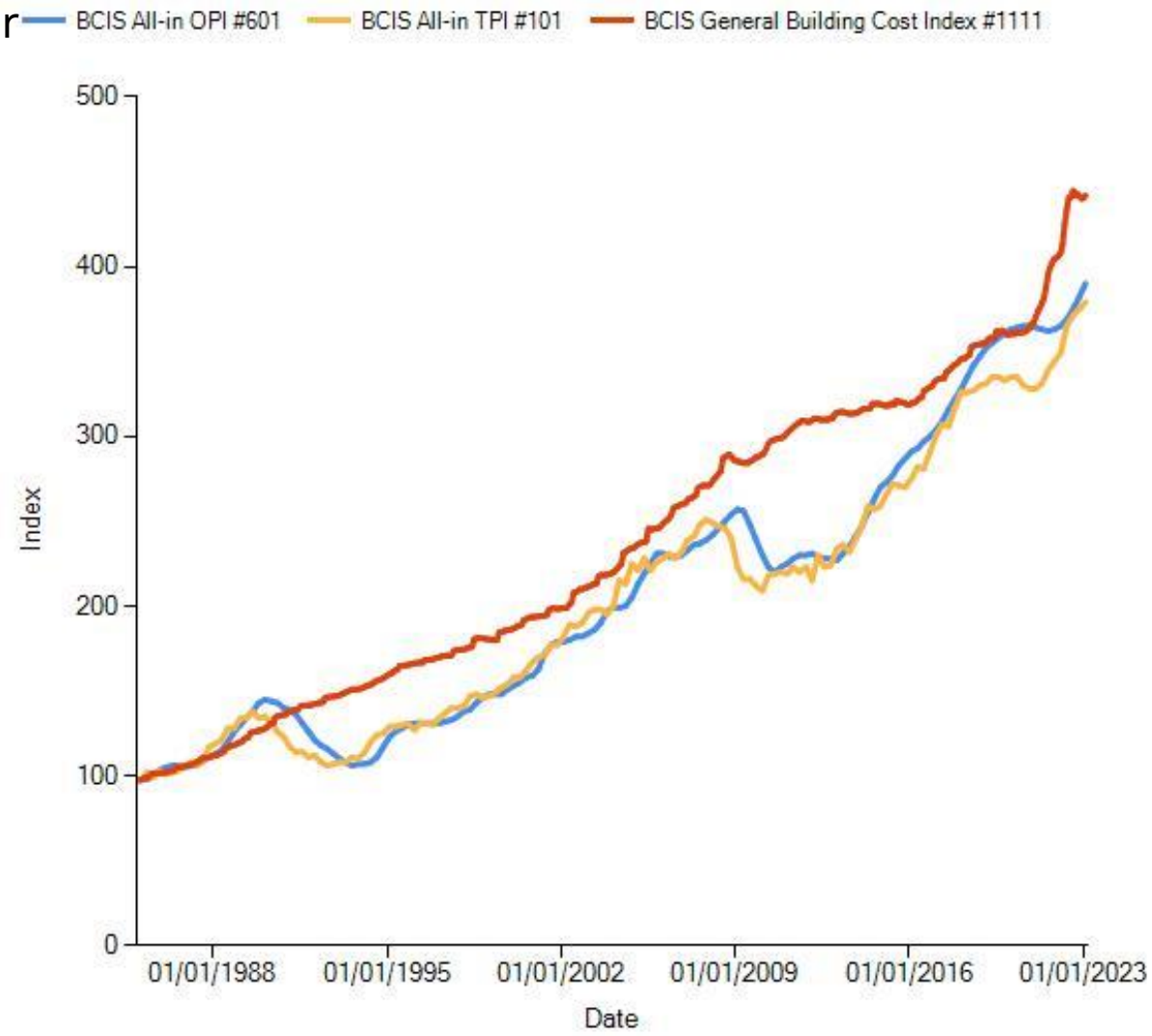
the price agreed for a construction project at commit to construct

2 Output prices

the prices paid for work carried out in a period

3 Resource costs

the costs paid by a contractor for resources (labour, materials and plant) in a period



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HOW SPECIFIC DO YOU WANT TO GET?

For each type of index, you can have more or less specific series. For example, for cost indices:

- **BCIS General Building Cost Index –** average cost movement for all buildings
- **BCIS Steel Framed Construction Cost Index -** average cost movement for steel framed buildings
- **Price Adjustment Formulae Indices –** cost movement for individual work categories (labour and materials)
- **Resource cost indices –** cost movement for a labour or material resource

- Read the notes and definition of the index series to understand the index coverage and calculation methodology

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WHAT DO YOU WANT IT TO COVER?

- Generally, **cost** and **price** indices attempt a measurement at constant quality
- Some indices, for example, House Rebuilding Cost Index (HRCI), are adjusted for changes in regulation
- BCIS indices generally cover construction work only but other development costs, such as:
  - consultants' fees
  - purchase of land
  - finance

  may need to be considered

FACTORS TO CONSIDER - LABOUR COSTS AND PRICES

- Labour costs can comprise:
  - Nationally agreed wage awards
  - Company wage agreements
  - Agency labour
  - Labour only sub-contracts
  - Might be affected by bonus and overtime
  - Taxes, levies and allowances

- Price Adjustment Formulae Indices (PAFI) are generally based on nationally agreed wage awards

- Labour indices include:
  - BCIS Labour Cost Index (nationally agreed wage awards)
  - Hays/BCIS Site Wage Cost Index (agency labour)
  - Average Weekly Earnings (average earnings across industry – not adjusted for hours worked)

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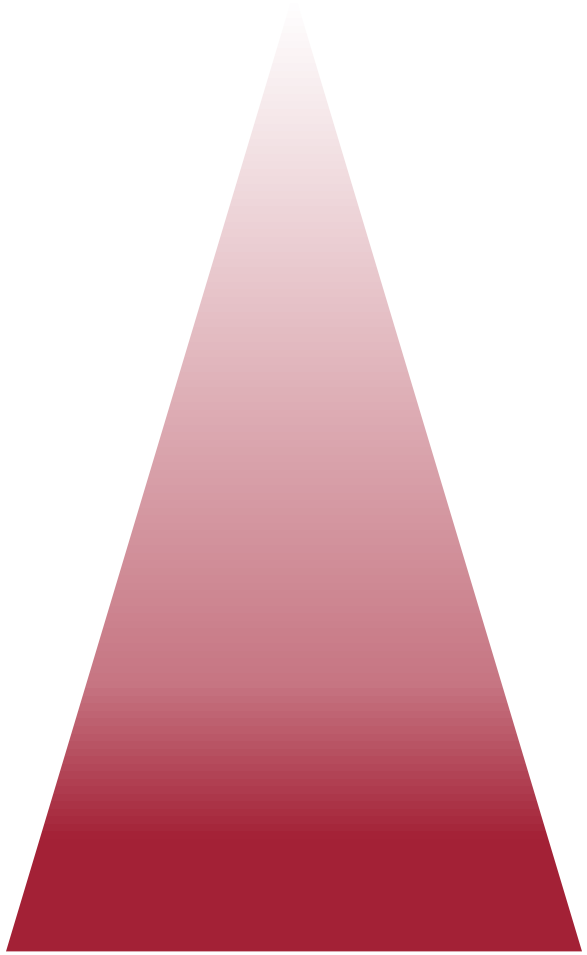
FACTORS TO CONSIDER - MATERIALS COSTS AND PRICES

- The seller's price is the purchaser's cost!
- The supply chain in construction can seem very long.
- Where in the chain do we measure costs/prices?
  - Client/main contractor (TPI/OPI)
  - Main contractor / sub-contractor
  - Sub-contractor / merchant or factor
  - Merchant or factor / manufacturer (PPI)
  - Manufacturer / raw materials



- **Site gate:** merchant, factor or manufacturer including delivery
- **Factory gate:** manufacturer excluding delivery
- **Taxes:** duty on DERV
- **PAFI** is based on factory gate prices (including duty) as everything beyond is considered part of the supply chain.

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IMPLEMENTING INDICES IN CONTRACTS

CONSIDERATIONS WHEN IMPLEMENTING INDEXATION IN CONTRACTS

1. Define clearly the work that is subject to review in line with the index.
2. Ensure that the mix of indices represents the work being undertaken. The indices selected will affect the price change recorded and should be chosen carefully to best represent the work subject to indexation and the intention of the parties.
3. Ensure that the reference to the chosen indices is clear and unambiguous. The indexation clause of a contract should identify the indices selected by its complete title, index number and any identifying codes.
4. Check the availability and frequency of the index.
5. State the base date for the updating.
6. State the frequency of price adjustment. The indexation clause should specify whether price adjustments are to be made at fixed intervals, such as monthly, quarterly, semi-annually, or annually; or at stages or the beginning or end of the contract.
7. Specify the date the price adjustment calculations are to be made and what index is to be used, normally the latest version of the index available on the date specified.
8. Be clear on how to deal with the changing status of the indices, e.g. provisional, firm, etc. Some contracts allow for the inflation to be recalculated in later periods when provisional indices become firm. For simplicity some do not.
9. State how to implement revisions to the index, changes to the index base date, discontinuation, etc. With PAFI revisions are rare and the indices will continue to be calculated on superseded series. When series are discontinued advice is given on the use of newer series to continue the discontinued series through to the end of a contract.
10. Define the method for calculating the inflation adjustment. The normal method is to calculate the percentage change from the base date for each index and multiply it by the weighting in the contract to give an overall percentage change.
11. Define the number of decimal places to be used in the calculation.

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IMPLEMENTING INDICES IN CONTRACTS

- PAFI were designed in the 1970's to be used on the standard public and private sector contracts of the day
- Subsequent standard contracts have acknowledged the use of the PAFI indices in inflation adjustment clauses
- There are currently separate PAFI series are available for:
  - Building
  - Civil engineering
  - Highways maintenance
  - Specialist engineering
- Why were they introduced?...

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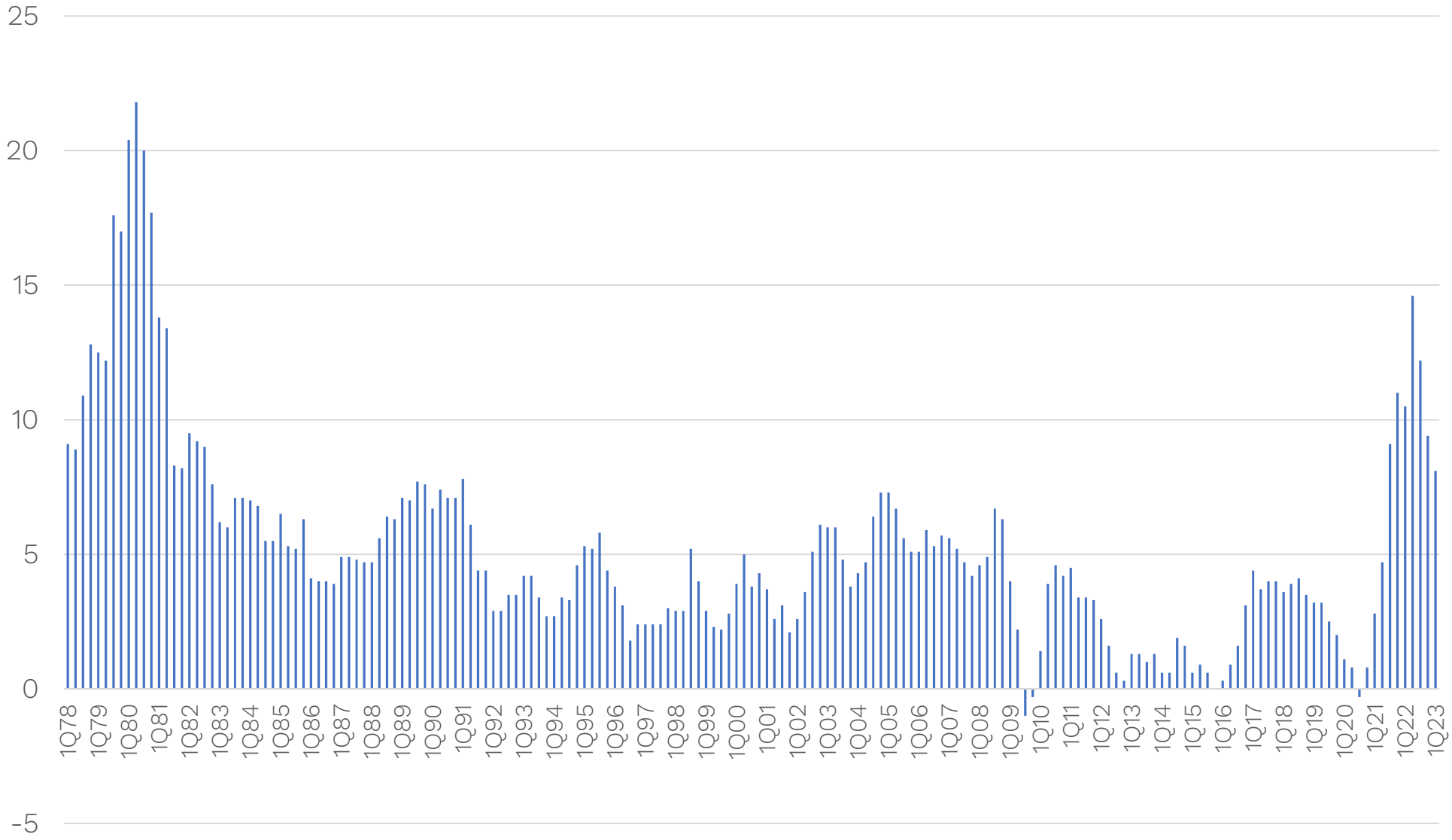
BCIS General Building Cost Index

Annual percentage change (quarterly)



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IMPLEMENTING INDICES IN CONTRACTS

- Index linked inflation adjustment clauses are incorporated in the industries standard contracts (JCT and NEC), but they take slightly different approaches to implementation.

- JCT offers two approaches to using the indices:

    1. **Based on a breakdown of the project into work categories.**
        - The value of each work category in a valuation is adjusted by the index
        - This models the impact of inflation on the contract quite closely. As you are only applying indices to the work when it is caried out

    2. **Based on work categories weighted together to represent groups of work categories or the whole building.**
        - This applies all the work categories to the value of the work in a valuation irrespective of the work actually carried out
        - It is less precise, but it is much easier to apply

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IMPLEMENTING INDICES IN CONTRACTS

- NEC contract has secondary clauses - X1 is Price Adjustment for Inflation
- This provides for the inflation adjustment calculation to be applied using the indices, proportions and base date information as set out in the contract data under option X1.

For example, on Crossrail:

- all data and calculations were agreed between the parties as part of the contract negotiation process, and defined in the contract data
- The secondary option X1 was applied to a number of stations, systems and civil engineering contracts, where the commodity mix and contract duration was deemed to represent the best opportunities for Crossrail Ltd to take on the cost risk associated with inflation
- Crossrail has used the BCIS PAFI. Each contract had a different mix and weightings of the indices modelled to the works that were to be delivered

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IMPLEMENTING INDICES IN CONTRACTS

- Over the latest period of inflation, we have seen the indices applied to individual work categories or resources, where the contractor was unable to obtain prices for any length of time, for example steel

- The indices are widely used on maintenance contracts
  - For highways maintenance there is a specific series that can be applied either as work categories or resources
  - For building maintenance, the indices can be used to update to a schedule of rates either, as a single index or applied to individual trades

- The indices are also used on long term contracts for:
  - The supply of individual resources
  - Mineral rights contracts for the extraction of aggregates
  - Development agreements between a landowner and a developer
  - Community infrastructure Levy contributions

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SUMMARY

SUMMARY

To summarise, the BCIS has six golden rules to follow when choosing an index or group of indices:

1. Be clear about what you want to measure and how you want to apply it.
2. Choose an index that is measuring the costs that most closely match 1.
3. If you are using the index to link the cost of something in a contract or agreement, be clear that it meets your needs, particularly in respect of frequency of the publication updating and revisions policy.
4. Understand the inputs to the index and the calculation methodology.
5. Read the notes and definitions.
6. Never ever choose an index because of its past performance.

When implementing the use of indices within a contract, the BCIS has 11 considerations:

1. **Define clearly the work that is subject to review in line with the index.**
2. Ensure that the mix of indices represents the work being undertaken. The indices selected will affect the price change recorded and should be chosen carefully to best represent the work subject to indexation and the intention of the parties.
3. **Ensure that the reference to the chosen indices is clear and unambiguous. The indexation clause of a contract should identify the indices selected by its complete title, index number and any identifying codes.**
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11. **Define the number of decimal places to be used in the calculation.**

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