

# Calculation Methodology

## About this Document

This document describes the procedures Fastmarkets RISI uses to determine its Cost and Price Indices developed for Fastmarkets RISI's Index Builder. This methodology is fixed, transparent, and freely available on the Fastmarkets RISI website for public review.

This document contains the following sections:

- Index Builder Overview
- Data Sources
- Calculation Methodology

## Index Builder Overview

Fastmarkets RISI's Index Builder generates retroactive Price Indices and Cost Indices based on Fastmarkets RISI's proprietary price assessments and cost benchmarking database.

- Price Index reports are based on the market price of materials.
- Cost Index reports are based on the cost to produce the materials.

Costs for converting, overhead and profit are fixed over time. Changes in transportation costs are not reflected.

## Data sources

Fastmarkets RISI Index Builder creates Cost and Price Indices based on Fastmarkets RISI's own proprietary data. Price Indices are based on Fastmarkets RISI's price assessments of forest products commodities as compiled by Fastmarkets RISI's global team of price reporters. Price assessments are compiled in keeping with Fastmarkets' published methodology documents, which can be found on Fastmarkets RISI's website at <https://www.fastmarkets.com/methodology/forest-products/>.

If there is no assessment of the required grade in the required region, Fastmarkets RISI will use a similar grade or nearby region as a proxy to be able to produce the Index.

Cost Indices are based on data contained in Fastmarkets RISI's Analytical Cornerstone Cost Benchmarking Tool. Analytical Cornerstone produces Cash Cost reports on a regional, company and mill basis.

Cash Manufacturing Costs for each mill and machine are estimated using a mass and energy balance approach that incorporates data drawn from publicly available sources and supplemented by surveys and interviews where required. This bottom-up approach results in a high level of transparency which enables customers to more effectively compare because they have a clear understanding of the assumptions supporting the results.

## Calculation Methodology

### Price Indices

Index Builder Price Indices are calculated in the following way:

#### Step 1

User sets the parameters for the index by choosing:

- region
- cost drivers (e.g. Kraftliner 70% and Semichemical Medium 30%)
- cost drivers at 65%, converting 15% and overhead/profit 20%)
- cost basis (company, mill or regional average)
- start date
- and contract cost at the start date

#### Step 2

Index Builder generates an index based on parameters in step 1 with cost drivers represented as Fastmarkets RISI price assessments (e.g. Kraftliner and Semichemical Medium)

PAPER/BOARD PRICES	Overhead	18.2%
	Converting	13.6%
	Kraftliner	47.3%
	Semichemical Medium	20.9%

### Step 3

Index Builder calculates the changes in the index from the start-month to current month using the monthly percentage change in prices of cost drivers selected.

### Cost Indices

Fastmarkets RISI Cost Indices are calculated in the following way:

### Step 1

The Index Builder user sets the parameters for the index by choosing:

- region
- product
- cost drivers (e.g. kraftliner 70% and semi-chemical medium 30%)
- substrate 65%, converting 15% and overhead/profit 20%)
- cost basis (company, mill or regional average)
- start date
- and contract cost at the start date

### Step 2

Index Builder generates an index based on parameters selected in step 1 with cost drivers represented as Fastmarkets RISI cash cost estimates (e.g. Fiber, Energy, Labor, Chemicals/Other).

PAPERBOARD COSTS	Overhead/Profit	19.0%
	Converting	14.2%
	Chemicals/ Other	3.2%
	Labor	11.4%
	Energy	8.3%
	Fiber	43.9%

### Step 3

Index Builder calculates the changes in the index from the start-month to current month using the monthly percentage change in prices of the relevant underlying commodities (i.e. pulp, recovered paper, electricity etc.)

For more information, please visit [risi.com/indexbuilder](https://risi.com/indexbuilder)

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