

PRICE ASSESSMENT METHODOLOGY AND SPECIFICATIONS

Recovered Paper – Asia

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Except for the specifics on quarterly Japan and South Korea prices under “Grade Detail and Specifications” below, this document applies only to RISI’s coverage of recovered paper prices in China.

KEY CONCEPTS

Each price assessment is...

RISI's assessment of the **open market** price based on **actual transaction prices** and supporting data gathered from a **systematic survey of buyers and sellers** that has been **rigorously evaluated**.

Open market prices are those arrived at through negotiation, so exclude transactions between affiliated parties (e.g. a China-based paper/board company and its trading affiliate) as well as "indexed" transactions, i.e. transactions whose price is determined by a formula based on published prices (whether from RISI or other source) (See "*Grade detail and specifications*" below)

Actual transaction prices form the bulk of data in each assessment; supporting data like price offers made or received is used to support transaction data. (See "*Types of data considered*" below)

Systematic survey of buyers and sellers: Survey has thorough representation of the market and includes both buyers and sellers, and a range of players from small to large. (See "*Data collection process*" below)

Rigorous evaluation: Assessment procedures include evaluation, verification, weighting and aggregation, plus confirmation of the assessment by a supervising editor. (See "*How prices are assessed*" below")

About this methodology

RISI Indices is the division of RISI responsible for price assessments. This document describes the procedures RISI Indices uses to determine its price assessments for recovered paper in Asia. This methodology has been strengthened by application of the Principles for Oil Price Reporting Agencies published by IOSCO, the International Organization of Securities Commissions (www.iosco.org).

RISI has *voluntarily* chosen to adapt these principles to the markets we cover even though our markets fall outside of the governance of IOSCO and the Principles. That's because these guidelines represent the internationally recognized gold standard in price assessment. By adapting and implementing these principles, RISI demonstrates its commitment to providing the highest degree of reliability in price reporting.

For more on the Principles and how RISI has applied them, see "Implementation of IOSCO's Principles for Oil Price Reporting Agencies" at www.risi.com/iosco.

HOW PRICES ARE ASSESSED

RISI Indices creates price assessments in accordance with this methodology document and our internal Price Assessment Procedures Manual.

Who assesses prices

Prices are assessed by an Asian team of recovered paper editors and analysts, including some working for RISI subsidiary UM Paper. Standards for training, experience and skills required for editors involved in price assessment, as well as supervision of editors, are described in the RISI Indices Price Assessment Procedures Manual.

Data collection process

RISI Indices makes price assessments based on a systematic survey of active market participants to find out agreed transaction prices and volumes as well as price offers made or received, and other supporting information such as supply and demand conditions.

The amount and type of information that a respondent provides each week varies across individuals and companies; data from respondents providing more complete information is weighted more heavily in the final assessment. Price data are also weighted roughly according to tonnage.

Data providers

The survey includes both buyers and sellers, ensuring that the survey pool is balanced and representative of the overall market. See "Grade Detail and Specifications" section below for details for each grade.

All market participants are encouraged to submit price data and supporting market information for inclusion in the assessment.

How data are provided

Each price period, the price assessor contacts data providers and collects data via phone interviews and emails.

Types of data considered

The following types of data may be included in an assessment.

1. **Transaction prices**
 - a. Price levels
 - b. Change of price levels from previous period
2. **Price offers made/received**
3. **Participants' estimates of market levels**, based on price offers made/received and ongoing negotiations.

4. **Trigger prices:** In absence of actual transactions or price offers, data reflected may include the price which a market participant would offer if they had the opportunity to do so.

Assessment calculation

Criteria for exclusion of data

Data are excluded from the assessment in the following cases:

- The price of a transaction is indexed to published prices from RISI or another source. A transaction price is considered “indexed” when it is entirely determined according to a formula based on a published price assessment, whether that assessment is from RISI or any other source.
- The transactions don’t meet the assessment specifications. (See “Grade Detail and Specifications” section below.)
- The transaction has special circumstances that, in the price assessor’s judgment, render it unrepresentative of the broader market and/or not repeatable. (This type of exclusion is rarely used.)

Weighting of data

- Higher-quality data are weighted more heavily than lower-quality data. Higher-quality data includes:
 - Data with more detail, e.g. prices reported as separate transactions with accompanying volume rather than an overall average price.
 - Data whose credibility is supported by answers to the assessor’s follow-up questions.
 - Data from contacts with a history of reliability. Contacts are deemed more reliable if they:
 - Provide information that is corroborated by other sources
 - Provide complete and detailed information
 - Provide information regularly and consistently over time
 - Report price information that goes against their natural interests (e.g. a buyer reporting higher prices or a producer reporting lower prices)
- Data are weighted according to the type of information (see “Relative importance of data types” under “Grade Detail and Specifications” below).

Larger transactions are given more weight than smaller ones. However, the weighting of any single data provider’s data is limited so that it doesn’t dominate the assessment.

CONTROLS AND COMPLIANCE

Ensuring consistency and quality of assessments

RISI Indices has in place a number of procedures to ensure the consistency and quality of price assessments, including:

- **Sign-off:** Prior to publication, each price assessment is reviewed by a senior price assessor other than the assessor primarily responsible for the assessment to ensure the assessment is accurate and has followed proper procedures.
- **Quality assurance audit:** A supervising editor is responsible for overseeing all price assessments. The supervisor will periodically do a detailed review of decision-making for a given price assessment, reviewing price assessments in relation to assessments from similar markets, ensuring that the methodology

has been followed consistently and that judgment has been applied appropriately.

- **Market review:** On an annual basis, Indices staff reviews markets and methodologies to ensure that assessment methodologies and the assessments they produce are appropriate for the market.
- **External audit:** In accordance with the standards of IOSCO’s PRA Principles, Category 1 price assessments (see “Grade Detail and Specifications” below for categories by assessment) are audited to ensure that assessments comply with this methodology and with IOSCO’s PRA Principles.

Independence and freedom from conflicts of interest

Please see RISI Indices' Conflicts of Interest Policy (www.risi.com/conflicts). Key points include:

Independence of RISI

RISI has no affiliation with buyers or sellers of forest products and therefore no vested interest in either higher or lower prices.

Absence of financial interest

RISI is free of ownership or other ties that would give it a financial interest in the movement of prices we report. RISI prohibits its employees who conduct price assessments from having a financial interest (excluding passive investments like mutual funds) in companies whose values are directly and substantially affected by prices on which they report.

Separation from forecasting

RISI Indices is a separate business unit from RISI Analytics, which carries out RISI's forecasting activities, ensuring that forecasting of future prices doesn't influence assessment of actual prices.

Confidentiality

Our data providers are essential to our work, so RISI Indices goes to great lengths to keep price survey data confidential. Confidential data include both the data collected and the names of individuals and companies who provide data. RISI's policy is to neither confirm nor deny the participation of any individual or company in our price surveys at any time, either directly or indirectly.

This confidentiality is essential to ensure the highest number of data contributors as well as to ensure that contributing data to RISI cannot be used as a means for market players to unfairly communicate to each other.

RISI Indices' Confidentiality and Data Protection policy (www.risi.com/confidentiality) explains full details around how price assessors protect the confidentiality of their contacts and data. Each year, price assessors are trained in data protection procedures and must sign a compliance agreement.

Antitrust compliance

All price assessment methodologies from RISI Indices are explicitly designed to comply with antitrust rules. See RISI Indices' Antitrust Compliance Policy (www.risi.com/antitrust) for further details.

Disclaimer of warranty

Although RISI collects information from sources who are believed to be reliable, RISI does not warrant or guarantee the accuracy or completeness of its price assessments. Actual transaction prices will often vary from the assessed level.

Changes and feedback

Changes to methodology and specifications

RISI Indices periodically reviews the markets it covers to ensure that our methodology and specifications are still appropriate for that market.

Understanding that some RISI Indices price assessments are used in long-term contracts, RISI Indices seeks to minimize changes that will affect the continuity of its price assessment over time.

Prior to implementing any material changes to the methodology and specifications, these changes will be announced in draft form and open for comment from all stakeholders. RISI Indices will review all comments and seek to balance the views of all players as much as possible while ensuring the reliability of price assessments.

Based on comments received, RISI Indices will finalize the changes and announce them to the market, specifying exactly what will change and when.

Feedback and complaints

RISI Indices welcomes feedback on its price assessment methodology as well as on specific price assessments published. We greatly value such feedback and the dialog that it generates.

In general, such feedback is most effectively dealt with by the editor directly in charge of the price assessment in question. We invite you to speak with or email any of your existing contacts within the editorial team, or view a list of contacts at www.risi.com/EditorialContacts.

If working with the editor does not adequately address your issue, please view our [procedures for submitting complaints at www.risi.com/complaints](http://www.risi.com/complaints).

GRADE DETAIL AND SPECIFICATIONS

China

Overall specifications

Where published	PPI Asia <ul style="list-style-type: none"> • Newsletter (pdf) • Online (interactive database)
Frequency	Weekly
Schedule	Each Friday
Assessment window	Each assessment reflects transactions in the week prior to publication
Transaction types reflected	Open market transactions, defined as those arrived at through negotiation, so excluding transactions between affiliated parties (e.g. a China-based paper/board company and its trading affiliate) as well as “indexed” transactions, i.e. transactions whose price is determined by a formula based on published prices (whether from RISI or other source)
Price levels reflected	Net prices Assessments are presented as a range in which the bulk of transactions take place.
Arms-length transactions	Only transactions between unaffiliated parties are reflected.
Quality	Prices reflect the standard quality for the indicated grade in the Chinese market. Note that the standard quality of certain grades can vary significantly from market to market. For instance, the quality of Old Newspapers in Korea tends to be higher than in China.
Normal terms of payment	Assume normal and customary payment terms
IOSCO categories	All grades: Category 2 <i>See implementation of IOSCO’s Principles for Price Reporting Agencies (www.risi.com/iosco) for definition of categories.</i>

Imports

Grade	RISI Price ID	Notes
From the US		Numbered grade designations in parenthesis refer to the specifications of the US recycling association, ISRI. However, quality of China imports often varies from the official ISRI standard.
Old corrugated containers (11)	612	
Old newspapers (6 and 8)	615	
Mixed paper (2 and 3)	616	
Sorted office paper (37)	614	
NDLK (13)	613	
From Europe		Numbered grade designations in parenthesis refer to the specifications of the European pulp and paper association, CEPI.
Old corrugated containers (1.05)	690	
Old newspapers (2.01)	691	
Mixed papers & boards (sorted) (1.02)	692	
From Japan		
Old corrugated containers	693	
Old newspapers	694	
Mixed papers	695	

Additional specifications for China imports

Point in supply chain:

- Buyer – mill
- Seller – trader or foreign processor (For traders affiliated with China-based mills, only transactions to non-affiliated mills are reflected)

Currency/units: USD/tonne

Location/terms: CFR, Main port China

Relative importance of data types in determining assessments

(*** to * = most to least important)

- *** Transaction prices
- ** Prices offers made/received
- *** (For European mixed paper) Participants’ estimates of market levels. Because there are fewer transactions for this grade compared to others, estimates of market levels play a large role in assessments for this grade.
- *** (For European ONP) Trigger prices. Major sellers have stopped selling this grade, so price assessment relies heavily on quotes from market participants about price levels at which they would make offers if given the opportunity.

Domestic

Grade	RISI Price ID	Physical Specifications
Mixed paper & corrugated board	1221	This grade comprises a minimum of 60% OCC, which is is mainly old boxes made from recycled containerboard manufactured in China. The grade is mostly collected from households in residential areas.
Old newspaper (ONP)	1225	
Old corrugated containers		
Post-consumer	1203	The grade is mainly collected from supermarkets; it has a minimum of 90% OCC.
Pre-consumer and imports	1204	The grade comprises a minimum of 90% OCC, which includes pre-consumer boxes and offcuts from converting plants, as well as some imported boxes made from kraftliner and collected in industrial areas.

Additional specifications for China domestic prices

Point in supply chain

- Buyer – mill
- Seller – processor (It is forbidden to re-sell imported RCP.)

Currency/units: RMB/tonne

Location: East China, which includes Zhejiang, Jiangsu, Anhui, Jiangxi and Shandong provinces, and Shanghai municipality.

Delivery terms: Free delivered to buyer’s warehouse

Taxes: Prices include 17% VAT

Relative importance of data types in determining assessments

(*** to * = most to least important)

*** Transaction prices

** Prices offers made/received

Japan and South Korea

Unlike other prices published by RISI, prices for Japan and South Korea (for recovered paper as well as paper/packaging grades) are provided from third-party sources that don’t operate according to RISI’s standard price assessment methodology.

	Japan	South Korea
Source	Nikkei, which publishes prices for a number of commodities in addition to pulp and paper	Korea-based trader
Frequency	Quarterly Prices reflect transactions in the last month of the indicated quarter. For instance, 4 th quarter prices reflect December prices.	
Schedule	The last month of every quarter	
Price type	Net prices	
Range/point	Range that includes the bulk of transactions in the market	Average price
Location	Tokyo, Japan	Seoul, South Korea
Point in supply chain	Seller: Recovered paper collector Buyer: Recovered paper dealers Dealers add 3-4% commission plus transport costs on prices to paper mills.	Domestic: Buyer – mill Seller – processor Imports: Buyer – mill Seller – trader or foreign processor
Normal terms of payment	60-90 days cash after delivery	90-100 days cash after delivery

	Japan	South Korea
Delivery terms	Free delivered	Domestic: Free delivered Imports: Free delivered to customer's warehouse in containers

Grade	RISI Price ID	Currency	Units
Japan			
Old Newspapers (ONP)	284	JPY	10 kg
Old Magazines (OMG)	285	JPY	10 kg
Old Corrugated Containers (OCC)	286	JPY	10 kg
South Korea			
<i>Domestic</i>			
Old Newspapers (ONP)	223	KRW	kg
Old Corrugated Containers (OCC)	224	KRW	kg
<i>Imports</i>			
Old Newspapers (ONP)	225	USD	tonne
Old Corrugated Containers (OCC)	226	USD	tonne
Sorted White Ledger (SWL)	227	USD	tonne

REVISION HISTORY

Changes to methodology and specifications will be tracked here.