

## PRICE ASSESSMENT METHODOLOGY AND SPECIFICATIONS

# Graphic Papers – Asia

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<b>KEY CONCEPTS</b> .....	<b>2</b>	Confidentiality.....	6
About this methodology .....	3	Antitrust compliance.....	6
<b>HOW PRICES ARE ASSESSED</b> .....	<b>3</b>	Disclaimer of warranty.....	6
Who assesses prices.....	3	Changes and feedback .....	6
Data collection process.....	3	<b>GRADE DETAIL AND SPECIFICATIONS</b> .....	<b>7</b>
Data providers .....	3	General Specifications .....	7
How data are provided.....	3	Newsprint .....	8
Assessment calculation .....	4	China.....	9
<b>CONTROLS AND COMPLIANCE</b> .....	<b>5</b>	Southeast Asia .....	10
Ensuring consistency and quality of assessments.....	5	Japan .....	10
Independence and freedom from conflicts of interest .....	5	South Korea .....	11
		<b>REVISION HISTORY</b> .....	<b>14</b>

Except for the specifics on quarterly Japan prices under “Grade Detail and Specifications” below, this methodology does not apply to Japan prices, which are sourced from a third party.

## KEY CONCEPTS

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Each price assessment is...

RISI's assessment of the **open market price** based on **actual market data** gathered from a **broad, systematic survey** of market participants that has been **rigorously evaluated** to produce an assessment.

Open market price: Price for regular business excluding one-off/spot, internal transfers and transactions whose price is not negotiated, i.e. prices determined by a formula based on published prices from RISI or other source. (See *"Grade detail and specifications" below*)

RISI price assessors consider a range of market data, including actual transaction prices, bids and offers, trigger prices and supporting data. (See *"Assessment Calculation" below*)

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*)

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 Graphic Papers 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](http://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](http://www.risi.com/iosco).

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## HOW PRICES ARE ASSESSED

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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 graphic papers 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.

RISI encourages organizations to submit all their pricing data, especially all the concluded transactions. Depending on market liquidity, RISI reserves the right to also base its prices on bids, offers, deals heard, trigger prices and market participants' assessment or indication of prevailing values.

RISI welcomes organizations to submit transaction data from authorized back office functions. RISI may sign Non-Disclosure Agreements (NDA) with any data provider, if requested to do so, in order to maximize the number of data points collected for inclusion in the assessment or index calculation.

### How data are provided

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

## Assessment calculation

### Types of data considered

The following types of data are considered when producing price assessments.

- Transaction prices
- Bids and/or offers made or received
- Trigger prices
- Participants estimates of market levels
- The change in price levels from previous periods
- Other market information such as prices in related markets, supply and demand fundamentals etc.

RISI has clear specifications for all the price points that it covers. All the reference units, such as currency and volume, are in line with recognized conventions in the pulp and paper markets.

### Guidelines on the use of judgement

When assessing market prices, greater weighting is generally given to actual concluded transaction data. Next in terms of importance come bids and offers made or received. RISI does not set a minimum threshold for the amount of transaction data needed to produce assessments.

In the absence of sufficient transaction data, bids and offers or other actual price information, RISI reserves the right to use other factors to determine the assessment. These include:

- market participants' trigger prices;
- market participants' reports of the change in prices from previously assessed periods;
- market fundamentals such as changes in inventory levels, shipments, operating rates and export volumes;
- relative values of similar commodities in the same region;
- relative values of the same commodity in different regions;
- changes in the value of the commodity's primary feedstock or primary derived product(s).

In very opaque markets, where little actual market data is available, price developments may at times not be immediately apparent. If RISI price assessors detect this, their market assessments in the next reporting period would generally reflect the price change. This is in line with RISI's policy of acting on new information as it becomes available.

### 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 to be "indexed" when it is entirely determined according to a formula based on a published price assessment.
- 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.)

### Normalization of data

Normalization is the process of adjusting data so that it can be properly compared to other data. For instance, prices for 32-lb linerboard are normalized so they can be included in the 42-lb linerboard assessment (see "Grade Detail and Specifications – Containerboard" below for details on the specifications for each assessment). The typical upcharge for 32-lb linerboard is \$25 over 42-lb, so if we find a price of \$650 for 32-lb linerboard, it is normalized to \$625 (i.e. \$650 - \$25 upcharge) for inclusion in our assessment. Since domestic prices are reported on a delivered basis, transactions subject to unusually high or low freight are normalized to eliminate the effect of these freight extremes.

### 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.
  - 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. For Category 1 prices (e.g. US 42-lb unbleached kraft linerboard – see "Grade Detail and Specifications" below), this cap is more formal: no single data provider's data will be weighted so that it contributes more than 25% of the final 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.

Following its acquisition by Euromoney plc in 2017, RISI is currently in the process of implementing a new policy and compliance regime. Some of the commitments made to adapt IOSCO's Principles for Oil Price Reporting Agencies have therefore

been paused temporarily. These include annual internal quality assurance reviews and external audits. This by no means indicates a relaxation in standards. RISI remains committed to providing the highest quality of price reporting through robust methodologies and strong internal processes.

### Independence and freedom from conflicts of interest

Please see RISI Indices' Conflicts of Interest Policy ([www.risi.com/conflicts](http://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](http://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](http://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. Under no circumstances shall RISI nor any of its subsidiaries, parent corporations and affiliates, and all of their respective officers, directors, owners, employees, agents, licensors, representatives, licensors and suppliers (collectively, the "RISI Parties"), be liable for any loss or damage caused by your reliance on information obtained through the RISI services. It is your responsibility to evaluate the information, opinion, advice, or other content available through the RISI services.

## 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.

### Corrections and non-market adjustments

Publication of price errors can occasionally happen for reasons that may include technical, input errors or incorrect application of the methodology. To minimize the inconvenience to our subscribers, RISI aims to investigate each error as soon as it becomes aware of it and to publish a correction promptly. If the correction is substantial, a Coverage Note will be published on the RISI website and an email will be sent to subscribers with an explanation of the reason for the correction.

RISI will publish a correction of a price only where it has established undeniably that there has been an error. RISI price assessments are produced based on the best data available at the time of the assessment. It will not retroactively change a price based on new information or additional submission of data received after a respective pricing session has closed.

Occasionally, in very opaque markets, price developments may not become apparent for some time. If this happens, RISI reserves the right to adjust a price series upwards or downwards to bring it back in-line with market values. Such cases should not be considered corrections but rather non-market price adjustments. A retroactive correction of the price history would not normally be made. RISI has a very structured process for such non-market adjustments, similar to that for changes to methodologies and specifications. They would only be implemented after industry consultation. Ample notice would be given of the proposed adjustment and stakeholders would have the chance to send their feedback.

## 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](http://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

### General Specifications

The specifications apply to all Asian paper packaging and board price assessments. See sections below for more detailed specifications by country.

Where published	<p>PPI Asia</p> <ul style="list-style-type: none"> <li>• Newsletter (pdf)</li> <li>• Online (interactive database)</li> </ul>
Transaction types reflected	<p>All open market transactions</p> <p>Open market = transactions where price is negotiated, i.e. excluding:</p> <ul style="list-style-type: none"> <li>• transactions whose price is indexed to published prices (whether from RISI or other source)</li> <li>• transactions between affiliated parties</li> </ul> <p>(In North American and European markets, “spot” and “contract” transactions tend to have different characteristics, and so may be assessed separately. In Asia, the distinction between spot and contract is not always clear, and is not meaningful in assessing prices.)</p>
Price levels reflected	Net prices

	Assessments are presented as a range in which the bulk of transactions take place.
Normal terms of payment	Assessments reflect normal and customary payment terms
IOSCO categories	All grades: Category 2 See implementation of IOSCO's Principles for Price Reporting Agencies ( <a href="http://www.risi.com/iosco">www.risi.com/iosco</a> ) for definition of categories.

## Newsprint

Frequency	Quarterly
Schedule	Assessments are published in the final month of the quarter
Assessment window	Prices apply to current or recent transactions rather than to an average over the quarter
Point in supply chain	Seller: producer or trader Buyer: printer

Location	Basis weight	RISI Price ID	Frequency	Currency	Units	Delivery	Notes
Hong Kong	42 g	1342	q	USD	tonne	CIF	
Hong Kong	45 g	1129	q	USD	tonne	CIF	
India	42 g	1343	q	USD	tonne	CIF	Excludes domestic tonnage
India	45 g	1131	q	USD	tonne	CIF	Excludes domestic tonnage
Singapore	42 g	1344	q	USD	tonne	CIF	
Singapore	45 g	1133	q	USD	tonne	CIF	
Taiwan	42 g	1346	q	USD	tonne	CIF	
Taiwan	45 g	1137	q	USD	tonne	CIF	
Thailand	42 g	1345	q	USD	tonne	CIF	
Thailand	45 g	1135	q	USD	tonne	CIF	



## China

Frequency	Monthly
Schedule	Assessments are published either in the last week of month or first week of the following month.
Assessment window	Orders taken in the month to date for shipment in the current or following month
Point in supply chain	Seller: producer or distributor Buyer: printer
Location	East China, which includes Zhejiang, Jiangsu, Anhui, Jiangxi and Shandong provinces, and Shanghai municipality.
Quality	Domestic grades. Prices reflect sales of the most common brands and don't reflect prices of lower-quality, smaller-volume brands.
Other notes	Prices include taxes

Grade	Basis weight	RISI Price ID	Location	Frequency	Currency	Units	Delivery
<b>Newsprint</b>							
Standard newsprint	45-48.8g	1183	East China	m	RMB		Delivered price to customers
<b>Lightweight coated paper</b>							
Reels	58-64g	491	East China	m	RMB	tonne	Ex-major distributor's warehouse
<b>Uncoated woodfree</b>							
Reels (100% chemical pulp)	70-100g	1186	East China	m	RMB	tonne	Ex-major distributor's warehouse
Reels (mixed chemical/mechanical pulp)	70-100g	1347	East China	m	RMB	tonne	Ex-major distributor's warehouse
Reels (mixed wood/nonwood pulp)	70-100g	1185	East China	m	RMB	tonne	Ex-major distributor's warehouse
<b>Coated woodfree (C2S)</b>							
Reels (premium)	128g, 157g	1188	East China	m	RMB	tonne	Ex-major distributor's warehouse
Reels (commodity)	128g, 157g	1353	East China	m	RMB	tonne	Ex-major distributor's warehouse

## Southeast Asia

Frequency	Monthly
Schedule	
Assessment window	Prices apply to current or recent transactions rather than to an average over the month.
Point in supply chain	Seller: producer or trader Buyer: printer
Location	CIF SE Asia (main ports)

Grade	Basis weight	RISI Price ID	Location	Frequency	Currency	Units	Delivery
Coated woodfree, reels	100 g	1141	Asia	m	USD	tonne	CIF
Uncoated woodfree, reels	70 g	1140	Asia	m	USD	tonne	CIF

## Japan

Unlike other prices published by RISI, prices for Japan (for graphic papers as well as other grades) are provided from third-party sources that don't operate according to RISI's standard price assessment methodology.

Source	Nikkei, which publishes prices for a number of commodities in addition to pulp and paper
Frequency	Quarterly Prices reflect transactions in the last month of the indicated quarter. For instance, 4 <sup>th</sup> 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
Location	Tokyo, Japan
Point in supply chain	Seller: Primary wholesalers Buyers: Distributors and printers
Normal terms of payment	60-90 days cash after delivery

Grade	RISI Price ID	Frequency	Currency	Units	Delivery	Notes
<b>Mechanical printing</b>						
Printing paper B reels (domestic)	267	q	JPY	Kg	Free delivered	Contains no more than 30% mechanical pulp and has 70° ISO. Prices can be higher than those for woodfree because of limited production capacity.
<b>Bitokoshi</b>						
Mechanical reels (domestic)	271	q	JPY	Kg	Free delivered	Bitokoshi prices are for mechanical paper, not woodfree paper, due to a reclassification at the Japan Paper Association.
<b>Uncoated woodfree</b>						
Standard grade sheets (domestic)	266	q	JPY	Kg	Free delivered	
<b>Coated woodfree</b>						
A1 sheets (domestic)	268	q	JPY	Kg	Free delivered	A1 is two-side coated, 40 g/m <sup>2</sup> coating on woodfree base paper.
A2 sheets (domestic)	269	q	JPY	Kg	Free delivered	A2 is two-side coated, 20 g/m <sup>2</sup> coating, also on woodfree.
A3 reels (domestic)	270	q	JPY	Kg	Free delivered	

## South Korea

Frequency	Quarterly
Schedule	Assessments are published in the final month of the quarter
Price type	Net prices
Location	Seoul, South Korea

Point in supply chain	Seller: Producers Buyer: Printers and traders
Normal terms of payment	90-100 days cash after delivery

Grade	Basis weight	RISI Price ID	Frequency	Currency	Units	Delivery	Notes
<b>Newsprint</b>	48.8 g	514	q	KRW	tonne	Free delivered	
	46 g	195	q	KRW	tonne	Free delivered	
<b>Uncoated mechanical</b>							
Reels	80 g	197	q	KRW	tonne	Free delivered	
Reels	70 g	196	q	KRW	tonne	Free delivered	
Book paper reels	80 g	199	q	KRW	tonne	Free delivered	
Book paper reels	60 g	198	q	KRW	tonne	Free delivered	
<b>Coated mechanical</b>							
Lightweight coated (LWC) reels	60 g	206	q	KRW	tonne	Free delivered	LWC furnish comprises mainly recovered paper with some virgin pulp.
<b>Uncoated woodfree</b>							
Reels	100 g	203	q	KRW	tonne	Free delivered	
Reels	80 g	202	q	KRW	tonne	Free delivered	
Reels	70 g	201	q	KRW	tonne	Free delivered	
Reels	60 g	200	q	KRW	tonne	Free delivered	
<b>Coated woodfree</b>							
Reels	100 g	205	q	KRW	tonne	Free delivered	
Reels	80 g	204	q	KRW	tonne	Free delivered	

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## REVISION HISTORY

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Changes to methodology and specifications will be tracked here.

### January 2018 – Change in frequency of Southeast Asia assessments

From January 2018, Southeast Asia graphic paper assessments are published on a monthly basis. Adds paragraphs on corrections and non-market adjustments.

### November 2017 – Updates methodology for South Korea assessments

RISI now applies the same methodology to assessing South Korea prices as in other Asian markets. Previously South Korea assessments were based on information provided by a third party.

### October 2017 – Comment added on compliance regime

Comment added on page 5 regarding RISI's current transition to a new compliance regime in the light of its purchase by Euromoney.

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