



UP World LNG Shipping Index

Methodology

Version 1.2

Effective January 2021

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Version history

Version 1.2 (Effective January 2021): Rebalance dates changed from first month of quarter to the second month of quarter. This helps keep the index up-to-date and use companies quarterly reports.

Version 1.1 (Effective September 2020): Minor text changes.

Version 1.0 (Effective June 2020)

Introduction

The UP World LNG Shipping Index is a family of indices created and maintained by UP forum s.r.o. The UP World LNG Shipping Index family consists of the simple price index (UP World LNG Shipping Index, UPLI) and the Total Return Index (UP World LNG Shipping Total Return Index, UPLI TR) where paid dividends are added. Unless otherwise specified, this methodology refers to both indices.

The UP indices aim to provide a worldwide, reliable and objective comparison of the development of the listed equity securities in the liquefied natural gas (LNG) shipping sector.

This methodology was created in accordance with the EU regulation about indices (BMRI 2016/1011) and with the IOSCO principles published in 2013. The ESMA license or registration is not required by the Administrator. Providing a benchmark value as defined in the EU regulation does not fall within the scope of this index family.

The uniqueness of the index

Our index was designed to reflect the worldwide developments occurring in the LNG shipping sector as closely as possible. It strives to include the maximum possible number of companies and vessels. The index covered over 65 % of the fleet transporting LNG worldwide¹ at the time it was last revised. In order to monitor the developments as closely as possible, the index also includes companies pursuing activities other than LNG shipping. However, these companies are only taken into account at a ratio corresponding with their share in LNG shipping.

Limitations of the index

Our index can be subject to risks such as technological development, demographic, political, legislative and regulatory development, or sector changes resulting from consolidation or dissolution. Neither is the index immune to currency risk because it includes companies whose securities are not denominated in USD. As far as possible, the administrator strives to minimize these risks through the index structure alone, as well as through regular control and updates.

1 Based on information published by IGU and shipping companies incl. co-owned ships and ships owned by equity method affiliates.

The ESMA license or registration is not required by the Administrator. Providing a benchmark value as defined in the EU regulation does not fall within the scope of this index family.

Used shortcuts

CC: Concatenation Coefficient

LNG: Liquefied Natural Gas

RFF: Reduction Free Factor

RGR: Reduction Gas Ratio

WRF: Weight Reduction Factor

Index Description

The UP World LNG Shipping Index is a market capitalization weighted index consisting of selected publicly traded securities (shares and units) from the LNG shipping sector, listed on the leading world stock exchanges. The index calculation is based on the free float and other rules discussed in this document.

Index universe

The index includes countries which fulfil international standards for securities' markets and have a functional capital market. Any company for which LNG shipping constitutes at least a part of its business and which is listed on such a market, is a valid candidate for the Index.

The current list of countries, companies and securities included in the index is available on the UP indices' website.

Market sector

Companies dealing in LNG upstream, midstream and downstream via vessel, especially LNG carrier, floating liquefied natural gas (FLNG), floating storage and regasification unit (FSRU), floating production storage and offloading (FPSO) and floating storage unit (FSU).

Types of securities

Both common stocks and units can be included in the index. Excluded are preferred stocks, ETFs, bonds, options and other derivatives.

Inclusion criteria

The index includes countries which fulfil international standards for securities' markets and whose markets are functional. The current list of countries, companies and securities included in the index is available on the UP indices' website.

The stocks must fulfil the following criteria: the company must own at least two vessels fulfilling the index requirements and the minimal worth of the free float shares must be 5 millions USD. The average weekly trade volume must exceed 500,000 stocks. Newly listed companies can be included during the nearest quarterly rebalance. If the new issue size ranges close to the required minimum, the inclusion can be postponed until the next rebalance.

In case the company is listed on multiple stock exchanges or trades in multiple issues, only one listing per security may be included.

The maximum weighted of any constituent is 20 % of free flow market capitalization of the index.

Base currency

The base index currency is the American dollar (USD). Securities denominated in other currencies must be converted to USD before the index calculation is initiated.

The currency rates are primarily established using the data provided by Stockdio, and secondarily using the data provided by Google Currency Converter. The calculations use the exchange rate valid on Saturday at 12.00 CET.

Reduction factors

Reduction factors ensure the adequate representation of each company. Reduction factors also ensure and maintain the index relevance. Reduction factors are updated during each periodical rebalance. The calculation utilizes the following reduction factors: the Free Float Factor and the Reduction Gas Ratio. The third reduction factor limits the maximum weight of the constituent.

Free float factor

RFF: The index calculation uses only the proportion of publicly available shares and units. Stock exchange data and reliable providers of market data are the main source of

information. The most recent free float value will be used if the current free float is unknown.

$$RFF = \frac{\text{OutstandingsShares} - \text{UnavailableShares}}{\text{OutstandigsShares}}$$

Reduction Gas Ratio

RGR: The Reduction Gas Ratio is a reduction factor based on the income proportion stemming from the LNG shipping sector. It can have positive values ranging between 0.00001 and 1. Only vessels owned by the companies are included in the calculation. In case of vessels owned by multiple entities, a proportion of the vessel is calculated. For companies dealing exclusively in LNG shipping the value is 1.

If data about the proportion of LNG shipping in the company's income is not publicly available, an expert judgment can be exercised.

Weight reduction factor

WRF: Its value is usually 1.00. If at the time of the quarterly record day the weight of an index constituent exceeds 20 %, its weight reduction factor will be limited so that the security's weight would approximate the maximum assessed weight as closely as possible without exceeding it.

The reduction factor will be reevaluated if on the quarterly record day the issue's weight exceeds the threshold or if the reduction factor for this issue was already less than 1.00 and its weight was less than the maximum assessed weight on the quarterly record day.

The reduction factor ranges from 0.0001 to 1.00.

Concatenation coefficient

CC: The Concatenation coefficient reflects the changes that occurred to the index composition due to issue addition or subtraction. The following formula is used for the calculation:

$$CC_{(t)} = CC_{(t-1)} \times \frac{\text{Index Capitalization}_{(t-1)}}{\text{Index Capitalization}_{(t)}}$$

Expert judgment

Should the available data be insufficient, expert judgment can be exercised in the calculation of this index. In order to ensure maximum accuracy, expert judgments can only be applied RGR determination.

Index calculation

The following formula illustrates the basic index calculation:

$$UP\ index = Base\ Value \times \frac{Current\ Capitalization}{Start\ Capitalization} \times CC_{(t)}$$

During the first phase, the index value is calculated once a week. Later will be the index value calculated daily and real-time. Updated data is published on Sundays. The following scenarios can occur in the course of index calculation:

- The calculation day does not fall on the same week as the rebalance (the so-called **Base value calculation**).
- The calculation day falls on the same week as the rebalance (the so-called **Rebalance calculation**).
- The calculation day falls on the same week as the rebalance and simultaneously the composition is changed (the so-called **Rebalance calculation with composition change**).

Base value calculation

In case the calculation day does not fall on the same week as the rebalance day, the following process will be applied:

1) The Friday's closing price or the most recent known closing price of the week is used for the index calculation. The first step in the index calculation is currency conversion to the base index currency (USD).

$$P_{USD} = Current\ Local\ Price \times USDEXchangeRate$$

2) Current capitalization of the index is calculated

$$\text{CurrentCapitalization} = \sum^{N(t)} Q_i \times P_i \times RFF \times RGR \times WRF$$

Where:

Q = number of stocks or units of the i-th index issue at time (t)

P = Price in USD of the i-th index issue at time (t)

N(t) = number of base emissions in the index at time (t)

RFF = Free Float Factor

RGR = Reduction Gas Ratio

WRF = Weight Reduction Factor

3) The resulting values are then applied to the formula used for the actual index calculation.

$$UP\ index = Base\ Value \times \frac{Current\ Capitalization}{Start\ Capitalization} \times CC_{(t)}$$

Rebalance calculation

In case the calculation day occurs in the same week as the rebalance, the following process is applied:

1) The index is calculated using Friday's closing price or the most recent known closing price of the week. The first step in the index calculation is currency conversion to the base index currency (USD).

$$P_{USD} = Current\ Local\ Price \times US\ Exchange\ Rate$$

2) The Free Float reduction factor of constituents is calculated.

$$RFF = \frac{Outstanding\ Shares - Unavailable\ Shares}{Outstanding\ Shares}$$

3) The Reduction Gas Ratio reduction factor is calculated.

4) Current capitalization of the index is calculated.

$$\text{CurrentCapitalization} = \sum^{N(t)} Q_i \times P_i \times RFF \times RGR \times WRF$$

Where:

Q = number of stocks or units of the i-th index issue at time (t)

P = Price in USD of the i-th index issue at time (t)

N(t) = number of base emissions in the index at time (t)

RFF = Free Float Factor

RGR = Reduction Gas Ratio

WRF = *Weight Reduction Factor*

5) The resulting values are applied to the index formula and the actual index value is calculated.

$$\text{UP index} = \text{BaseValue} \times \frac{\text{CurrentCapitalization}}{\text{StartCapitalization}} \times CC_{(t)}$$

Rebalance calculation with composition change

In case the calculation day falls on the same week as the rebalance and, additionally, the index undergoes composition changes via issue inclusion or exclusion, the following process is applied:

1) The first step in the index calculation is currency conversion to the base index currency (USD).

$$P_{USD} = \text{CurrentLocalPrice} \times \text{USDEXchangeRate}$$

2) The Free Float reduction factor of constituents is calculated.

$$RFF = \frac{\text{OutstandingsShares} - \text{UnavailableShares}}{\text{OutstandigsShares}}$$

3) The Reduction Gas Ratio reduction factor is calculated.

4) Current capitalization of the index is calculated.

$$\text{CurrentCapitalization} = \sum^{N(t)} Q_i \times P_i \times RFF \times RGR \times WRF$$

Where:

Q = number of stocks or units of the i-th index issue at time (t)

P = Price in USD of the i-th index issue at time (t)

N(t) = number of base emissions in the index at time (t)

RFF = Free Float Factor

RGR = Reduction Gas Ratio

WRF = Weight Reduction Factor

5) The Concatenation coefficient is adjusted.

$$CC_{(t)} = CC_{(t-1)} \times \frac{\text{Index Capitalization}_{(t-1)}}{\text{Index Capitalization}_{(t)}}$$

6) The resulting values are applied to the index formula and the actual index value is calculated.

$$UP\ index = Base\ Value \times \frac{\text{CurrentCapitalization}}{\text{StartCapitalization}} \times CC_{(t)}$$

Hierarchy of data inputs

The basic requirement for index reliability is the supply of constant and reliable data. Therefore, this index favours one worldwide data provider, called a Primary data source – Stockdio. Should 1) there be a data outage from the Primary data source 2) the data differ significantly from the previous data set, or 3) the Primary data source discontinue its services for any of the titles, the Administration will 1) investigate the cause and 2) use data from Secondary data providers if necessary. The secondary data providers are individual stock exchanges. Should data be unavailable from the secondary providers either, the most recent known, reliable values will be used in the index calculation.

Data unavailability from the Primary or Secondary provider is considered a special case scenario and relevant information shall be published in the appropriate section of the index website.

The currency exchange rate is determined using data provided primarily by Stockdio (Primary provider of currency data) and secondarily by Google Currency Converter (Secondary provider of currency data). If the necessary data is not available from these sources, the most recent known, reliable value will be used in the index calculation. The exchange rate valid at 12.00 CET on Saturday is used in the calculation.

Data unavailability from the Primary or Secondary provider is considered a special case scenario and the relevant information shall be published in the appropriate section of the index website.

Data sufficiency

The Administrator compares Primary source data with Secondary source data at least quarterly. If any incongruences are found, the Administrator will publish this information on the index website. Should the Administrator conclude that the Primary source data is incorrect, they can immediately start adjusting the index values. This event will be considered a special case scenario and the relevant information shall be published in the appropriate section of the index website.

Reports concerning controls which did not reveal any incongruences can be obtained from the Administrator.

Index rebalances

General aim of the periodical rebalance

The periodical rebalance aims to verify index functionality and to capture any changes in the development of companies included in the index to maintain maximum accuracy of the index. On rebalance day all reduction factors (RFF, RGR, WRF) are updated.

On rebalance day the index can also undergo reconstitution by issue subtraction or addition. In case of reconstitution, the Concatenation coefficient (CC) is also updated.

Frequency

The Index is rebalanced quarterly based on closing prices on the last business day prior to the first business day in February, May, August, and November. Rebalances are effective starting on the first day when markets are open in February, May, August and November.

Reconstitution/Rebalance: Publication of results

The results of rebalance and other activities are published on the index website. Licensed users will be informed via email.

Changes to the Index or Methodology

The index methodology provides a framework for activities related to index calculation. It is the foundation for providing an objective and reliable index. Therefore, the methodology must react to the developments of the regulatory sphere, as well as to the changes on financial markets, in the LNG shipping sector and so forth. The methodology's adherence to the current situation will be evaluated regularly and necessary changes will be applied during the following rebalance. The Administrator shall do reasonable effort to publish the changes well in advance.

The changes to methodology can be substantial or marginal. A substantial change is a change that influences the index calculation and the resulting value. Substantial changes must be published at least 5 days before they enter into force, that is before the rebalance day.

Changes to the reduction factors, to the Concatenation coefficient or to the index composition are not considered substantial, because these periodical rebalances do not constitute a change in methodology.

In case of sudden events that could not be predicted by the Administrator, such as a delay in the publication of data concerning the merging or dissolution of companies, the Administrator might be forced to react faster than outlined above. This type of information is considered a special case scenario and the relevant information shall be published in the appropriate section of the index website.

Any changes to the index methodology are made by the Administrator.

Inclusion of a new constituent

The index composition is adjusted during the periodical rebalances. Newly listed companies can be included during the nearest quarterly rebalance. If the new issue size ranges close to the required minimum, the inclusion can be postponed until the next rebalance.

Removal of constituents

If a company was withdrawn from public trading, it will be removed from the index during the nearest rebalance. If the withdrawal of an issue occurs before the rebalance day, its weight will be shown as zero from the date of withdrawal until the nearest rebalance and its weight will be distributed among the remaining titles. Then the title itself will be removed from the index during rebalance.

An analogous process will be applied if the issue is withdrawn due to fusion or trade stop. If an issue stops fulfilling the index criteria, it will be removed from the index during the nearest rebalance.

Decisions concerning index composition are made by the index Administrator.

Corporate actions

The shape and development of the index are influenced not only by the movement of underlying assets, but also by corporate actions. The UP indices strive to reflect these events as closely as possible.

Merging and splitting of stocks

In case of merging or splitting of securities, their number in the issue and their exchange rate are adjusted on the effective date. This procedure does not influence the weight or value of the index.

Spin off

A spun-off company is treated as an initial public offering of the company. The decision about including it in the index is made on the nearest rebalance day.

Mergers and acquisitions

The buyer is an index constituent:

The company remains a part of the index, while its weightage is adjusted including the application of reduction factors.

The purchased company is an index constituent:

If a company is going to be withdrawn from public trading, it is excluded from the index during the nearest rebalance. If the withdrawal of an issue occurs before the rebalance day, its weight will be shown as zero from the date of withdrawal until the nearest rebalance and its weight will be distributed among the remaining titles. Then the title itself will be removed from the index during rebalance.

The potential inclusion of the new company into the index will be considered during the nearest rebalance.

Both/all companies are index constituents:

The buyer remains an index constituent, and their weight is adjusted including the reduction factors if necessary. The purchased company will be removed from the index during the nearest rebalance. If the withdrawal of an issue occurs before the rebalance day, its weight will be shown as zero from the date of withdrawal until the nearest rebalance and its weight will be distributed among the remaining items. Then the item itself will be removed from the index during rebalance.

Changes to the free float factor

The free float factor may be changed on the effective date if there is a change in the ownership structure, for example in the form of a capital increase or if new shares are issued.

Change of issue data

If the issue data is changed (for example the company name), the data in the index will be changed on the effective date.

Third parties

The Administrator does not use any external service providers for the purpose of index calculation and data processing, thus maintaining full control over the methodology, initial data collection, index calculation and publication of results.

Conflicts of interest

The index Administrator does not own any shares, nor do they have a decision-making capacity in any of the companies that could influence the index creation and calculation. They are not subject to conflict of interest in their business activities and index creation.

Handling of complaints

While creating the index the Administrator proceeds with maximum possible objectivity and transparency. However, a client may still contact the Administrator with a complaint regarding the index calculation or with a suspicion of a conflict of interest. A special email address was created for that case, which is listed on the index website. All complaints are handled according to the written procedure.

Total Return Index

UP World LNG Shipping Total Return Index adds paid dividend to stock or unit price. The index represents the total value brought by holding shares.

On days when no dividend is paid, calculation procedure for Simple Price Index is used. Only on days when the dividend is paid, a different calculation takes place and paid dividends are added to the share or unit prices.

The basic formula of the Total Return index:

$$CurrentCapitalization = \sum^{N(t)} Q_i \times PD_i \times RFF \times RGR \times WRF$$

Where:

Q = number of stocks or units of the i-th index issue at time (t)

PD = Price with paid dividend in USD of the i-th index issue at time (t)

N(t) = number of base emissions in the index at time (t)

RFF = Free Float Factor

RGR = Reduction Gas Ratio

WRF = Weight Reduction Factor

Index calculation

On the calculation day nearest to the dividend payment, the following formula shall be used:

1) The Friday's closing price or the most recent known closing price of the week is used for the index calculation. The first step in the index calculation is currency conversion to the base index currency (USD).

$$PD_{USD} = (CurrentLocalPrice + Dividend) \times USDEchangeRate$$

Where:

CurrentLocalPrice = Price of stock or unit in the local currency

Dividend = Paid dividend in the local currency

USDEchangeRate = Current rate of local currency to US Dollar

2) Current capitalization of the index is calculated

$$CurrentCapitalization = \sum^{N(t)} Q_i \times PD_i \times RFF \times RGR \times WRF$$

Where:

Q = number of stocks or units of the i-th index issue at time (t)

PD = Price with paid dividend in USD of the i-th index issue at time (t)

N(t) = number of base emissions in the index at time (t)

RFF = Free Float Factor

RGR = Reduction Gas Ratio

WRF = Weight Reduction Factor

3) The resulting values are then applied to the formula used for the actual index calculation.

$$UP_{TR} index = BaseValue \times \frac{CurrentCapitalization}{StartCapitalization} \times CC_{(t)}$$

Rebalance calculation

In case the calculation day occurs in the same week as the rebalance, the following process is applied:

1) The Friday's closing price or the most recent known closing price of the week is used for the index calculation. The first step in the index calculation is currency conversion to the base index currency (USD).

$$PD_{USD} = (CurrentLocalPrice + Dividend) \times USDEchangeRate$$

Where:

CurrentLocalPrice = Price of stock or unit in the local currency

Dividend = Paid dividend in the local currency

USDEchangeRate = Current rate of local currency to US Dollar

2) The Free Float reduction factor of constituents is calculated.

$$RFF = \frac{\text{OutstandingsShares} - \text{UnavailableShares}}{\text{OutstandigsShares}}$$

3) The Reduction Gas Ratio reduction factor is calculated.

4) Current capitalization of the index is calculated.

$$\text{CurrentCapitalization} = \sum_{i=1}^{N(t)} Q_i \times PD_i \times RFF \times RGR \times WRF$$

Where:

Q = number of stocks or units of the i-th index issue at time (t)

PD = Price with paid dividend in USD of the i-th index issue at time (t)

N(t) = number of base emissions in the index at time (t)

RFF = Free Float Factor

RGR = Reduction Gas Ratio

WRF = Weight Reduction Factor

5) The resulting values are applied to the index formula and the actual index value is calculated.

$$UP_{TR} \text{ index} = \text{BaseValue} \times \frac{\text{CurrentCapitalization}}{\text{StartCapitalization}} \times CC_{(t)}$$

Rebalance calculation with composition change

In case the calculation day falls on the same week as the rebalance and, additionally, the index undergoes composition changes via issue inclusion or exclusion, the following process is applied:

1) The Friday's closing price or the most recent known closing price of the week is used for the index calculation. The first step in the index calculation is currency conversion to the base index currency (USD).

$$PD_{USD} = (\text{CurrentLocalPrice} + \text{Dividend}) \times \text{USDEXchangeRate}$$

Where:

CurrentLocalPrice = Price of stock or unit in the local currency

Dividend = Paid dividend in the local currency

USDEchangeRate = Current rate of local currency to US Dollar

2) The Free Float reduction factor of constituents is calculated.

$$RFF = \frac{\text{OutstandingsShares} - \text{UnavailableShares}}{\text{OutstandigsShares}}$$

3) The Reduction Gas Ratio reduction factor is calculated.

4) Current capitalization of the index is calculated.

$$\text{CurrentCapitalization} = \sum^{N(t)} Q_i \times PD_i \times RFF \times RGR \times WRF$$

Where:

Q = number of stocks or units of the i-th index issue at time (t)

PD = Price with paid dividend in USD of the i-th index issue at time (t)

N(t) = number of base emissions in the index at time (t)

RFF = Free Float Factor

RGR = Reduction Gas Ratio

WRF = Weight Reduction Factor

5) The Concatenation coefficient is adjusted.

$$CC_{(t)} = CC_{(t-1)} \times \frac{\text{Index Capitalization}_{(t-1)}}{\text{Index Capitalization}_{(t)}}$$

6) The resulting values are applied to the index formula and the actual index value is calculated.

$$UP_{TR} \text{ index} = \text{BaseValue} \times \frac{\text{CurrentCapitalization}}{\text{StartCapitalization}} \times CC_{(t)}$$

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It is not possible to invest in the index.

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