REFINITIV MARKETPSYCH ANALYTICS

USER GUIDE

MARKETPSYCH ANALYTICS VERSION 4.0

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REFINITIV™

CONTENTS

ABOUT THIS DOCUMENT

INTENDED READERSHIP

This guide is primarily intended for individuals with responsibility to develop applications to consume Refinitiv MarketPsych Analytics (RMA) messages. The information contained within this document is also of use to anyone working with the associated archive files.

IN THIS GUIDE

This document describes the format of RMA output images. It is applicable to both the live data and the archive files. All assets referenced in this guide are generated using RMA version 4.0.

FEEDBACK

If you have any comments on this document, please contact the Thomson Reuters Machine Readable News team at MachineReadableNewsProductManagement@refinitiv.com.

CHAPTER 1 INTRODUCTION

OVERVIEW

Refinitiv MarketPsych Analytics (RMA) analyze news and social media in real-time. Powered by MarketPsych Data's natural language processing (NLP) engine, the scores are derived from millions of articles published daily in thousands of global media outlets. They are numerical insights designed to drive better decisions. The scores - herein referred to as indices, scores or metrics - are delivered as real-time data series that can easily be incorporated into your investment and analysis processes, quantitative or qualitative.

Three types of indicators are provided:

- Emotional indicators such as **Anger**, **Fear** and **Joy**
- Macroeconomic metrics including **Earnings Forecast**, **Interest Rate Forecast**, **Long vs. Short**
- ESG measures including **CarbonEmissionsControversy, ManagementTrust, and WorkplaceSafety**
- Buzz metrics on the asset level, i.e., **Buzz**, and on market-moving topics for that asset, such as **Litigation**, **Regulatory Crackdown**, **Mergers** and **Volatility**

The indicators are updated every minute for companies, sectors, regions, countries, commodities and energy topics, indices and currencies. They can be translated directly into spreadsheets or charts that can be monitored by traders, risk managers or analysts – or they can be plugged straight into your algorithms for low frequency or longer-term asset allocation or sector rotation decisions.

CONTACT INFORMATION

For Production Customers

Production customers should direct their RMA questions or support issues via one of the following:

- Phone: Call +1 877-814-3571 and choose option 2.
- Electronic: Visit the "Contact Us" or "RAISE A CASE" link on My Account. In filling out the form, type in "Refinitiv RMA Scores" as the product name.

For Trial Customers

Trial customers are assigned a dedicated Presales Technical Engineer to assist with technical questions during the trial. During the trial, all questions should be sent directly to the Presales Technical Engineer.

DOCUMENTATION AND NOTIFICATIONS

Client-facing documentation may be found on the RMA My Account page, located here. Other information may be found on the MRN (Machine Readable News) SFTP site, as described in Chapter 14.

Clients are advised to subscribe to service alerts regarding the live and archive Refinitiv MarketPsych Analytics (RMA) services. To subscribe, go the Service Alert-Edit Subscriptions page, here. Then check the box at Application -> Financial Information Applications -> Enterprise Information Products ->Refinitiv Machine Readable News -> Refinitiv MarketPsych Analytics. Then click the Update button at bottom right.

For updates on releases of new versions of RMA, clients should sign up for Product Client Notifications (PCNs). This will send advance email notifications on relevant releases and updates. To sign up for PCNs on RMA Scores, go to the PCN subscription page, here. Check the box at All Products -> Reuters Enterprise Information -> Refinitiv RMA Scores. Toward the bottom, make sure that the box for "All Client impacts", or at least "For Action" under that, is checked. Then click the submit link in the lower or upper right to confirm your selection.

CHAPTER 2 WINDOW LENGTHS AND UPDATE FREQUENCIES

OVERVIEW

RMAs are asset-level scores on a collection of content. There are two time-related metrics that determine RMA scores. The **window length** determines what range of content is scored in generating a set of RMAs. For live content, all content collected by MarketPsych within that time period will be incorporated into the corresponding window. The **update frequency** determines the time between consecutive RMA scores. (See Chapter 5 for more information on content types.)

FILE NAMING CONVENTION

For files on the SFTP site, the convention for denoting the combination of window length and update frequency shall be

W[Period Length]_U[Period Length], where *W* denotes window length and *U* denotes update frequency.

Period lengths can be any of the following:

- 01M: 1 minute
- HOU: hourly (60 minutes)
- DAI: daily (1440 minutes)

AVAILABLE COMBINATIONS

Window Length	Update Frequency	SFTP File Abbreviation
1 minute	1 minute	W01M_U01M
1440 minutes / 24 hours	1 hour	WDAI_UHOU
1440 minutes / 24 hours	Daily, at 3:30 Eastern time	WDAI_UDAI

HOU EXAMPLE

To illustrate with the WDAI_UHOU data, one series of RMA scores occurs with data collected between December 22, 2016 15:00:00 UTC and December 23, 2016 15:00:00 UTC, a 1440-minute / 24-hour **window length**. The next set of scores would occur with data collected between December 22, 2016 16:00:00 UTC and December 23, 2016 16:00:00 UTC, because of the 60-minute **update frequency**.

DAILY UPDATE FREQUENCY ANOMALY

Daily update frequency refers to RMA windows that end at 3:30pm Eastern time. Because this time zone is subject to daylight savings time adjustments, there is a biannual anomaly around the 24-hour / 1440-minute window length. When a daylight savings hour is added or subtracted in the previous 24 hours, the time since the last update can be 25 or 23 hours, respectively. As a result, the window length also changes to 25 or 23 hours.

CHAPTER 3 GENERAL COMMENTS ABOUT INDEX VALUES

”NA” INDEX VALUES

As mentioned in Chapter 2, all RMAs are based on relevant text collected over a window of content.

If over that window there is no relevant text identified for a particular index, then the correct index value is “NA”, not zero, and the index will appear blank. For example, this could happen for the governmentTrust index on Australia (AU) if there were no discussions of trust or mistrust in the Australian government found in media over the content collected in that window.

NA differs in meaning from true zero in that true zero represents the presence of text corresponding to positive and negative values that add up to zero. In other words, a zero value reflects that relevant text was found and its sentiment implications net to zero. In contrast, NA represents the absence of any relevant text and of any resultant measurement.

Note that when the Buzz is zero, this means that no values were detected for any of the scores and thus all index values necessarily will be NA. See Chapter 5 for more information on Buzz.

To facilitate analysis, Daily (DAI) data files are “filled” with 0 Buzz on days when there was no buzz. Hourly (HOU) and minutely (01M) are not filled, and records without buzz are omitted.

NEGATIVE VALUES IN UNIPOLAR SCORES

The indices are marked as ranging from either -1 to 1 or 0 to 1, corresponding to bipolar and unipolar indices, respectively. In practice, those denoted as “unipolar” can in fact range below 0, although not below -1. This occurs because unipolar indices reflect the orthogonal nature of many single emotions and topics. A negative comment such as, “I don’t enjoy owning this stock” is not emotively equivalent to, “I am pessimistic about the stock’s prospects” or “I am angry with the company’s management.” The initial statement is specifically one of negative Joy, which decreases the overall Joy index for assets related to that company. When there are many such negative Joy comments for an asset, the Joy index itself may show negative values.

Nonetheless, in practice unipolar scores are positive over 90% of the time, because language typically reflects positive assertions.

Thus, in the sections below we will mark this range as “0 to 1*”.

CHAPTER 4 UNDERLYING CONTENT SOURCES

OVERVIEW

RMAs are evaluated on three different content sets: news, social media, and the combined content. Press releases are excluded from news. History on all content dates back to the beginning of 1998 for all assets except cryptocurrencies. Cryptocurrency history extends back to 2009.

LANGUAGES COVERED

Exclusively English-language text is used until February 2020, at which time Arabic, Chinese, Japanese, and Portuguese-language news sources were included in MarketPsych's real-time translation and analysis engine. In January 2021 Dutch, French, German, Indonesian, Italian, Korean, Russian, and Spanish language sources were added.

NEWS

Reuters news is present in the entire historical news dataset, as are a host of mainstream news sources collected by MarketPsych Data. During 2005, the archive began including Internet news content collected by LexisNexis. The LexisNexis content is restricted to those from top international ESG and business news sources, top regional news sources, and leading industry and ESG sources. In 2017 MarketPsych Data added additional cryptocurrency specific sources to the cryptocurrencies asset class feed. The ESG news content set includes an additional 2,000 ESG-focused news providers.

SOCIAL MEDIA

The social media collection process is more diverse. It begins in 1998 with Internet forum and message board content. Starting in late 2008, LexisNexis social media content was added. Starting in late 2009, tweets were included. Using popularity ranks measured by incoming links, this includes generally the top 20% of blogs, microblogs, and other financial and ESG social media content. MarketPsych Data also included content from hundreds of less-popular asset-specific blogs and forums.

Note that the entire LexisNexis social media content set for top source ranks is included in the country (COU) social media dataset, while other assets contain specifically selected social media content sources.

CHAPTER 5 FIELDS GENERIC TO ALL ASSET CLASSES

ID

The id field identifies the data row. It is composed according to the following:

{feedFamilyCode}:{windowTimestamp in yyyy-mm-dd_hh.mm.ss}.{ dataType}.{assetClass}

Feed Family Code

The feedFamilyCode field describes the "feed" that delivers the raw content being scored by the RMA system.

For RMA it is "mp", because MarketPsych Data centrally collects and filters the content scored by RMA.

Other Components

See Incoming Sources section below on the dataType field and the Asset Code section for a list of assetClass values.

ASSET CODE

The assetCode field represents the code used to denote the asset scored, where the asset code type varies by Asset Class.

Asset Class	Asset Class Abbreviation	Type of Asset Code Identifier
Individual companies	CMPNY CMPNY_AMER CMPNY_APAC CMPNY_EMEA	Organizational PermId
Company groups	CMPNY_GRP	MarketPsych-originated code
Currencies	CUR	Three-character ISO-4217 code
Agricultural commodities	COM_AGR	Topic code
Energy & material commodities	COM_ENM	
Countries	COU	Topic code, referring to the home country. Also corresponds to ISO 3166-1 code.
Country markets	COU_MKT	
Cryptocurrencies	CRYPTO	The coinmarketcap.com ticker identifier

WINDOW TIMESTAMP

As mentioned in Chapter 2, RMAs are based on content aggregated over a trailing window. The windowTimestamp field represents the endpoint of that period.

It is expressed in ISO-8601 format: "yyyymmddThh:mm:ss.000Z", where "000" represents the milliseconds and "Z" represents the time zone. The time zone is GMT/UTC.

INCOMING SOURCES

The dataType field represents the type of content source(s) on which these RMAs are based.

There are three possible values:

- "News" for news
- "Social" for social media
- "News_Social" for the combined content
- "News_Headline" for news headlines

See Chapter 4 for more information on these sources.

SYSTEM VERSION

The systemVersion field represents an overall build for the MarketPsych Analytics. Different versions may lead to different scores as enhancements are made and bugs are fixed. It is thus used for version control.

It consists of a three-level version string preceded by an “MP” prefix denoting the MarketPsych scoring engine, e.g., “MP:4.0.09”.

The third digit of the System Version increases by one, for all asset classes, in conjunction with monthly updates to the companies coverage list.

BUZZ

The buzz fields represent a sum of entity-specific words and phrases used in RMA computations. It can be non-integer when any of the words/phrases are described with a “minimizer”, which reduces the intensity of the primary word or phrase. For example, in the phrase “less concerned” the score of the word “concerned” is minimized by “less”.

CHAPTER 6 COMPANIES AND COMPANY GROUPS

COMPANIES ASSETS

RMA Companies data covers more than 20,000 active companies from over 120 countries, across the feeds and archives. In general, these companies were selected for inclusion based on domicile, listed market capitalization, and/or economic/industry significance. Coverage includes all companies that are or were constituents of a company groups asset. Coverage is updated monthly.

A list of the covered companies and monthly changes in coverage is available on the MRN SFTP site. See Chapter 14 for information on the files and how to access them.

Constitution of AMER, APAC, and EMEA Regional Groups

The CMPNY asset class consists of companies domiciled in the following countries. Clients who subscribe to a regional asset class receive companies domiciled in the respective region.

CMPNY_AMER

Companies included in the Americas (CMPNY_AMER) sub-grouping include those domiciled in the following countries.

Asset Code	Country
AR	Argentina
BB	Barbados
BR	Brazil
CA	Canada
CL	Chile
CO	Colombia
CW	Curacao
EC	Ecuador
JM	Jamaica
KY	Cayman Islands
MX	Mexico
PA	Panama
PE	Peru
PR	Puerto Rico
PY	Paraguay
US	United States
VE	Venezuela
VG	Virgin Islands (British)

CMPNY_APAC

Companies included in the Asia and Pacific (CMPNY_APAC) sub-grouping include those domiciled in the following countries.

Asset Code	Country
AU	Australia
AZ	Azerbaijan
BD	Bangladesh
CN	China
FJ	Fiji
GE	Georgia
HK	Hong Kong
ID	Indonesia
IN	India
JP	Japan
KG	Kyrgyzstan
KR	South Korea
KZ	Kazakhstan
LK	Sri Lanka
MH	Marshall Islands
MN	Mongolia
MO	Macau
MY	Malaysia
NZ	New Zealand
PG	Papua New Guinea
PH	Philippines
PK	Pakistan
SG	Singapore
TH	Thailand
TW	Taiwan
VN	Vietnam

CMPNY_EMEA

Companies included in the Europe, Middle East, and Africa (CMPNY_EMEA) sub-grouping include those domiciled in the following countries.

Asset Code	Country
AE	United Arab Emirates
AT	Austria
BE	Belgium
BH	Bahrain

BM	Bermuda
CH	Switzerland
CY	Cyprus
CZ	Czech Republic
DE	Germany
DK	Denmark
EG	Egypt
ES	Spain
FI	Finland
FR	France
GB	United Kingdom
GG	Guernsey
GI	Gibraltar
GR	Greece
HR	Croatia
HU	Hungary
IE	Ireland
IL	Israel
IM	Isle of Man
IQ	Iraq
IS	Iceland
IT	Italy
JE	Jersey
KE	Kenya
KW	Kuwait
LB	Lebanon
LU	Luxembourg
MA	Morocco
MC	Monaco
MT	Malta
NG	Nigeria
NL	Netherlands
NO	Norway
OM	Oman
PL	Poland
PT	Portugal
QA	Qatar
RO	Romania
RU	Russia
SA	Saudi Arabia
SE	Sweden
SK	Slovakia
TG	Togo
TR	Turkey
TZ	Tanzania
UA	Ukraine
ZA	South Africa
ZM	Zambia

COMPANY GROUPS ASSETS

RMA Company Groups data covers 137 assets corresponding to groups of companies assembled according to domicile, market capitalization, and/or business classification. Another 39 correspond to general industry group references in the media.

Many of these correspond to grouping in the hierarchical Thomson Reuters Business Classification (TRBC) system. In descending order of hierarchy, the four levels are economic sector, business sector, industry group and industry. For more information on TRBC, please see https://my.refinitiv.com/content/mytr/en/product/thomson-reuters-business-classification.html/. All TRBC codes below are extant in the TRBC 2020 system.

The 137 assets are characterized by their constituents. 27 are composed of US-based companies, while 29 are for non-US companies and another 81 are global. 29 resemble equity indexes and are filtered chiefly by market cap ranks, while the other 81 are composed according to a combination of TRBC code, domicile, and market cap above $100 million USD.

Note that because these groups are calculated with approximate point-in-time composition, all the asset codes used here were invented for this application. They are not RICs.

US-based Company Groups (27)

Index-oriented Assets (5)

All internal rankings are by market capitalization.

Asset Code	Description	Resembling Index
MPTRXUS30	Top 30 US-based companies	Dow Jones Industrial Average
MPTRXUS500	Top 500 US-based companies	S&P 500
MPTRXUS1000	Top 1000 US-based companies	S&P 1000
MPTRXUSMID2000	Ranks 2001-3000 of US-based companies	Russell 2000
MPTRXUSNAS100	Top 100 Nasdaq-based companies	Nasdaq 100

TRBC Economic Sector-based Assets (10)

Asset Code	Description	TRBC Code
MPTRXUSENE	Energy (US)	50
MPTRXUSMAT	Basic Materials (US)	51
MPTRXUSIND	Industrials (US)	52
MPTRXUSYCY	Cyclical Consumer Goods & Services (US)	53
MPTRXUSNCY	Non-Cyclical Consumer Goods & Services (US)	54
MPTRXUSFIN	Financials (US)	55
MPTRXUSHLC	Healthcare (US)	56
MPTRXUSTEC	Technology (US)	57
MPTRXUSUTL	Utilities (US)	59
MPTRXUSREL	Real Estate (US)	60

TRBC Business Sector-based Assets (4)

Asset Code	Description	TRBC Code
MPTRXUSI4	Transportation (US)	5240
MPTRXUSY3	Cyclical Consumer Services (US)	5330
MPTRXUSY4	Retailers (US)	5340
MPTRXUSN1	Food & Beverages (US)	5410

TRBC Industry Group-based Assets (3)

Asset Code	Description	TRBC Code
MPTRXUSOILS	Oil & Gas Related Equipment and Services (US)	501030
MPTRXUSAERO	Aerospace & Defense (US)	521010
MPTRXUSREIT	Residential & Commercial REITs (US)	601020

TRBC Industry-based Assets (5)

Asset Code	Description	TRBC Code
MPTRXUSOILE	Oil & Gas Exploration and Production (US)	50102020
MPTRXUSWAST	Environmental Services (US)	52203010
MPTRXUSAIRL	Airlines (US)	52406010
MPTRXUSHBLD	Homebuilding & Construction Supplies (US)	53203010
MPTRXUSBANK	Banks (US)	55101010

Non-US- based Company Groups (100)

Index-oriented Assets (29)

All internal rankings are by market capitalization.

Asset Code	Description	Resembling Index
MPTRXAU500	Top 500 Australia-based companies	ASX All Ordinaries
MPTRXBR50	Top 50 Brazil-based companies	IBRX 50
MPTRXCA250	Top 250 Canada-based & Toronto-listed companies	S&P/TSX Composite
MPTRXCL40	Top 40 Chile-based companies	IPSA 40
MPTRXCN300	Top 300 China-based companies	CSI 300
MPTRXEM50	Top 50 Emerging markets-based companies	MSCI 50
MPTRXEU50	Top 50 pan-European companies	EURO STOXX 50
MPTRXFR40	Top 40 France-based companies	CAC 40
MPTRXDE30	Top 30 Germany-based companies	Deutsche Börse DAX 30
MPTRX4000	Top 4000 Global companies	Thomson Reuters 4000
MPTRXHK50	Top 50 Hong Kong-listed companies based in Hong Kong and China	Hang Seng
MPTRXIN50	Top 50 India-based companies	Nifty 50
MPTRXIN500	Top 500 India-based companies	S&P BSE 500
MPTRXJP2000	Top 2000 Japan-based companies	Japan 2000
MPTRXJP225	Top 225 Japan-based companies	Nikkei 225
MPTRXKR100	Top 100 South Korea-based companies	KOSPI Composite Index

MPTRXKR30	Top 30 South Korea-based companies	KOSPI 30
MPTRXMY30	Top 30 Malaysia-based companies	FTSE Bursa Malaysia KLCI
MPTRXNL50	Top 50 Netherlands-based companies	AEX index
MPTRXWIG30	Top 30 Poland-based companies	WIG30
MPTRXRU50	Top 50 Russia-based companies	RTS
MPTRXSG30	Top 30 Singapore-based companies	FTSE Straits Times
MPTRXZA100	Top 100 South Africa-based companies	JSE FTSE 100
MPTRXES35	Top 35 Spain-based companies	IBEX 35
MPTRXCH20	Top 20 Switzerland-based companies	Swiss Market
MPTRXTW100	Top 100 Taiwan-based companies	TAIEX
MPTRXTH50	Top 50 Thailand-based companies	SET100 Index
MPTRXGBMID250	Ranks 101-350 UK-based companies	FTSE Mid 250
MPTRXGB100	Top 100 UK-based companies	FTSE 100

Global Company Groups (81)

TRBC Economic Sector-based Assets (70)
Covering Global, Australia (AU), China (CN), Eurozone (EZ), India (IN), Japan (JP), United Kingdom (GB) regions*

Asset Code	TRBC Description	TRBC Code
MPTRX{XX}ENE	Energy (XX)	50
MPTRX{XX}MAT	Basic Materials (XX)	51
MPTRX{XX}IND	Industrials (XX)	52
MPTRX{XX}YCY	Cyclical Consumer Goods & Services (XX)	53
MPTRX{XX}NCY	Non-Cyclical Consumer Goods & Services (XX)	54
MPTRX{XX}FIN	Financials (XX)	55
MPTRX{XX}HLC	Healthcare (XX)	56
MPTRX{XX}TEC	Technology (XX)	57
MPTRX{XX}UTL	Utilities (XX)	59
MPTRX{XX}REL	Real Estate (XX)	60

* **XX in the Asset Code description is replaced by the respective country code, or excluded when global.**

TRBC Industry Group-based Assets (3)

Asset Code	TRBC Description	TRBC Code
MPTRXCOAL	Coal	501010
MPTRXBIOT	Biotechnology & Medical Research	562020
MPTRXT11	Semiconductors & Semiconductor Equipment	571010

TRBC Industry-based Assets (3)

Asset Code	TRBC Description	TRBC Code
MPTRXGOLD	Gold mining and processing	51201060
MPTRXPREC	Non-Gold Precious Metals & Minerals	51201010
MPTRXGAMI	Casinos & Gaming	53301030

TRBC Hybrid-driven Assets (5)

Asset Code	TRBC Description	TRBC Code
MPTRXPKB	Construction Materials	512020
	Construction & Engineering	522010
	Homebuilding & Construction Supplies	532030
MPTRXPEJ	Leisure Products	532050
	Hotels & Entertainment Services	533010
MPTRXWIND	Wind Systems & Equipment	5020101011
		5910101023
MPTRXSOLR	Solar Electric Utilities	5910101022
		5020101013
		5020101014
MPTRXE14	Renewable Energy	5020
	Renewable Utilities	5910101011
	Renewable IPPs	5910102012

Industry Groups and ETFs (39)

References to ETFs, industries, sectors, and market scores associated with a focused business activity were aggregated into 39 scores, new for version 4.

ETF3D	3D-Printing Industry
ETFAI	Artificial Intelligence (AI) Industry
ETFAIRL	Airlines Industry
ETFARMY	Defense & Aerospace Industry
ETFAUTO	Automobile Industry
ETFBANK	Bank Industry
ETFBIOT	Biotechnology Industry
ETFBUILD	Construction Industry
ETFCOMS	Telecom Industry
ETFEMM	Emerging Markets
ETFENE	Energy Sector
ETFFIN	Financials Sector
ETFFINTECH	Fintech Industry
ETFFOOD	Food and Beverage Industry
ETFGOLD	Gold Mining Industry
ETFGREEN	Renewable Energy Industry
ETFHLC	Healthcare Sector
ETFIND	Industrials Sector
ETFINFRA	Infrastructure Industry
ETFMAT	Materials Sector
ETFMINE	Precious (Gold and Silver) Metals Mining Industry

ETFMOVE	Transportation Industry
ETFNANO	Nanotechnology Industry
ETFNCY	Non-Cyclicals Sector
ETFOILGAS	Oil & Gas Industry
ETFRES	Real Estate Sector
ETFRETAIL	Retail Industry
ETFROBO	Robotics Industry
ETFSI	Semiconductor Industry
ETFTEC	Technology Sector
ETFTRIP	Tourism Industry
ETFUS2000	Russell 2000 & Related ETF References
ETFUS30	DJIA & Related ETF References
ETFUS500	S&P 500 & Related ETF References
ETFUSNAS	NASDAQ Composite & Related ETF References
ETFUTL	Utilities Sector
ETFWORLD	Global Stock Markets
ETFWWW	Internet Industry
ETFYCY	Consumer Cyclicals Sector

Constitution of Company Groups Assets in the RMA Archives and Feed

The constituent companies of these assets change over time. In the archives, the TRBC-based constituent lists are refreshed monthly starting on January 1, 1998.

In the live data, the systemVersion value will increase with each monthly update.

COMPANIES AND COMPANY GROUP RMA SCORES

The 54 RMA scores for the companies and company groups carry six significant digits past the decimal point. Negative numbers have a leading minus (-) sign. The table below summarizes these fields. For more information on those with range “0 to 1*”, see Chapter 3 above.

Index	**Description:** *references in news and social media to...*	**Range**
sentiment	overall positive references, net of negative references	-1 to 1
negative	overall negative references	0 to 1*
positive	overall positive references	0 to 1*
optimism	connoting optimism, future-tense positive	0 to 1*
pessimism	connoting pessimism, future-tense negative	0 to 1*
joy	happiness and affection	0 to 1*
loveHate	love, net of references to hate	-1 to 1
trust	trustworthiness, net of references connoting corruption	-1 to 1
anger	anger and disgust	0 to 1*

disagreement	dispute net of agreement and conciliation	-1 to 1
fear	fear and anxiety	0 to 1*
gloom	gloom and negative future outlook	0 to 1*
stress	arousal and intensity, weighted towards distress	0 to 1*
surprise	unexpected events and surprise	0 to 1*
timeUrgency	urgency and timeliness, net of references to tardiness and delays	-1 to 1
uncertainty	uncertainty and confusion	0 to 1*
violence	violent crime, terrorism, and war	0 to 1*
emotionVsFact	all emotional sentiments, net of all factual and topical references	-1 to 1
shortVsLongTerm	immediate and short-term timeframes versus long term	-1 to 1
longShort	buying, net of references to shorting or selling	-1 to 1
longShortForecast	forecasts of buying, net of forecasts of shorting or selling	-1 to 1
priceDirection	price increases, net of price decreases	-1 to 1
priceDown	price decreases	0 to 1*
priceForecast	forecasts of asset price rises, net of references to forecasts of asset price drops	-1 to 1
priceUp	price increases	0 to 1*
marketRisk	positive emotionality and positive expectations net of negative emotionality and negative expectations. Includes factors from social media found characteristic of speculative bubbles – higher values indicate greater bubble risk. Also known as the “Bubbleometer.”	-1 to 1
topVsBottom	asset price topping, expensive valuations, and excessive speculation versus bottoming and relatively inexpensive prices	-1 to 1
overvaluedVsUndervalued	expensively versus cheaply-valued asset prices	-1 to 1
volatility	volatility in market prices or business conditions	0 to 1*
analystRating	upgrade activity, net of references to downgrade activity	-1 to 1
debtDefault	debt defaults and bankruptcies	0 to 1*
dividends	dividends rising, net of references to dividends falling	-1 to 1
innovation	innovativeness	0 to 1*
earningsDirection	rising earnings, less those of declining earnings	-1 to 1
earningsForecast	expectations about improving earnings, less those of worsening earnings	-1 to 1
accountingSentiment	positivity about accounting fundamentals, net of references to negativity about accounting fundamentals	-1 to 1
accountingNegative	negativity about accounting fundamentals	0 to 1*
accountingPositive	positivity about accounting fundamentals	0 to 1*

accountingRestatement	accounting restatements	0 to 1*
revenueDirection	rising revenue, less those of declining revenue	-1 to 1
revenueForecast	expectations about improving revenue, less those of worsening revenue	-1 to 1
intangiblesSentiment	positivity about accounting intangibles, net of negativity	-1 to 1
productSentiment	positivity about product quality, net of negativity	-1 to 1
laborDispute	labor unrest and work stoppages	0 to 1*
layoffs	staff reductions and layoffs	0 to 1*
litigation	litigation and legal activity	0 to 1*
insiderLongShort	insider buying versus selling	-1 to 1
managementSentiment	positive traits of a company's management team, net of negative	-1 to 1
managementChange	changes in a company's management team, net of references to stability in the management team	-1 to 1
managementTrust	trust expressed in a company's management team, net of references to reports of unethical behavior amongst the management team	-1 to 1
partnership	partnership or collaboration activity	0 to 1*
mergers	merger or acquisition activity	0 to 1*
cyberCrime	cyberattacks and data breaches	0 to 1*
futureVsPast	references to future events, net of references to past	-1 to 1

CHAPTER 7 CURRENCIES

CURRENCIES ASSETS

There are 44 currencies, listed in the table below.

Asset Code	Currency
ARS	Argentine Peso
AUD	Australian Dollar
BDT	Bangladeshi Taka
BRL	Brazilian Real
CAD	Canadian Dollar
CLP	Chilean Peso
CNY	Chinese Yuan Renminbi
COP	Colombian Peso
CZK	Czech Koruna
EGP	Egyptian Pound
EUR	Euro
HKD	Hong Kong Dollar
HUF	Hungarian Forint
INR	Indian Rupee
IDR	Indonesian Rupiah
IRR	Iranian Rial
ILS	Israeli Shekel
JPY	Japanese Yen
MYR	Malaysian Ringgit
MXN	Mexican Peso
NZD	New Zealand Dollar
NGN	Nigerian Naira
NOK	Norwegian Krone

Asset Code	Currency
PKR	Pakistani Rupee
PEN	Peruvian Sol
PHP	Philippine Peso
PLN	Polish Zloty
RON	Romanian Leu
RUB	Russian Ruble
SAR	Saudi Riyal
SGD	Singapore Dollar
ZAR	South African Rand
KRW	South Korean Won
SEK	Swedish Krona
CHF	Swiss Franc
TWD	Taiwanese Dollar
THB	Thai Baht
TRY	Turkish Lira
USD	U.S. Dollar
UAH	Ukrainian Hryvnia
AED	United Arab Emirates Dirham
GBP	United Kingdom Pound Sterling
VEF	Venezuelan Bolívar
VND	Vietnam Dong

CURRENCIES RMA SCORES

The 33 RMA scores for the currencies asset class carry six significant digits past the decimal point. Negative numbers have a leading minus (-) sign. The table below summarizes these fields. For more information on those with range “0 to 1*”, see Chapter 3 above.

Index	Description: *references in news and social media to...*	Range
sentiment	overall positive references, net of negative references	-1 to 1
negative	overall negative references	0 to 1*
positive	overall positive references	0 to 1*
optimism	references connoting optimism, future-tense positive	0 to 1*
pessimism	references connoting pessimism, future-tense negative	0 to 1*
joy	happiness and affection	0 to 1*
loveHate	love, net of references to hate	-1 to 1

trust	trustworthiness, net of references connoting corruption	-1 to 1
anger	anger and disgust	0 to 1*
disagreement	dispute net of agreement and conciliation	-1 to 1
fear	fear and anxiety	0 to 1*
gloom	gloom and negative future outlook	0 to 1*
stress	arousal and intensity, weighted towards distress	0 to 1*
surprise	unexpected events and surprise	0 to 1*
timeUrgency	urgency and timeliness, net of references to tardiness and delays	-1 to 1
uncertainty	uncertainty and confusion	0 to 1*
violence	violent crime, terrorism, and war	0 to 1*
emotionVsFact	all emotional sentiments, net of all factual and topical references	-1 to 1
shortVsLongTerm	references to immediate and short-term timeframes versus long term	-1 to 1
marketRisk	positive emotionality and positive expectations net of negative emotionality and negative expectations. Includes factors from social media found characteristic of speculative bubbles – higher values indicate greater bubble risk. Also known as the "Bubbleometer."	-1 to 1
longShort	buying, net of references to shorting or selling	-1 to 1
longShortForecast	forecasts of buying, net of references to forecasts of shorting or selling	-1 to 1
priceDirection	price increases, net of references to price decreases	-1 to 1
priceDown	references to price decreases	0 to 1*
priceUp	asset price increases	0 to 1*
priceForecast	forecasts of asset price rises, net of references to forecasts of asset price drops	-1 to 1
priceMomentum	currency price trend strength, net of references to trend weakness	-1 to 1
topVsBottom	net references to asset price topping, expensive valuations, and excessive speculation versus bottoming and relatively inexpensive prices	-1 to 1
overvaluedVsUndervalued	expensive versus inexpensive valuation	-1 to 1
volatility	volatility in market prices or business conditions	0 to 1*
carryTrade	carry trade	0 to 1*
currencyPegInstability	the instability of a currency peg, net of references to the stability of a currency peg	-1 to 1
futureVsPast	references to future events, net of references to past	-1 to 1

CHAPTER 8 AGRICULTURAL COMMODITIES

AGRICULTURAL COMMODITIES ASSETS

There are 17 agricultural commodities being scored. The asset codes correspond to Thomson Reuters topic codes found in news stories.

Asset Code	Commodity
RAPOIL	Canola
CTTL	Cattle
COC	Cocoa
COF	Coffee
COR	Corn
COT	Cotton
HOGS	Hogs
TMBR	Lumber
OATS	Oats
ORJ	Orange Juice
POIL	Palm Oil
RICE1	Rice
SOIL	Soybean Oil
SOY1	Soybeans
SUG	Sugar
WHT	Wheat
WOO	Wool

AGRICULTURAL COMMODITIES RMA SCORES

The 40 RMA scores for the agricultural commodities asset class carry six significant digits past the decimal point. Negative numbers have a leading minus (-) sign. The table below summarizes these fields. For more information on those with range “0 to 1*”, see Chapter 3 above.

Index	Description: *references in news and social media to...*	Range
sentiment	overall positive references, net of negative references	-1 to 1
negative	overall negative references	0 to 1*
positive	overall positive references	0 to 1*
optimism	references connoting optimism, future-tense positive	0 to 1*
pessimism	references connoting pessimism, future-tense negative	0 to 1*
joy	happiness and affection	0 to 1*
loveHate	love, net of references to hate	-1 to 1
trust	trustworthiness, net of references connoting corruption	-1 to 1
anger	anger and disgust	0 to 1*
disagreement	dispute net of agreement and conciliation	-1 to 1
fear	fear and anxiety	0 to 1*
gloom	gloom and negative future outlook	0 to 1*

stress	arousal and intensity, weighted towards distress	0 to 1*
surprise	unexpected events and surprise	0 to 1*
timeUrgency	urgency and timeliness, net of references to tardiness and delays	-1 to 1
uncertainty	uncertainty and confusion	0 to 1*
violence	violent crime, terrorism, and war	0 to 1*
emotionVsFact	all emotional sentiments, net of all factual and topical references	-1 to 1
shortVsLongTerm	references to immediate and short-term timeframes versus long term	-1 to 1
longShort	buying, net of references to shorting or selling	-1 to 1
longShortForecast	forecasts of buying, net of references to forecasts of shorting or selling	-1 to 1
priceDirection	price increases, net of references to price decreases	-1 to 1
priceDown	references to price decreases	0 to 1*
priceForecast	forecasts of asset price rises, net of references to forecasts of asset price drops	-1 to 1
priceUp	asset price increases	0 to 1*
topVsBottom	net references to asset price topping, expensive valuations, and excessive speculation versus bottoming and relatively inexpensive prices	-1 to 1
overvaluedVsUndervalued	references to expensively versus cheaply-valued asset prices	-1 to 1
volatility	volatility in market prices or business conditions	0 to 1*
consumptionVolume	Increasing, net of decreasing, commodity consumption	-1 to 1
productionVolume	Increasing, net of decreasing, commodity production	-1 to 1
regulatoryIssues	regulatory changes affecting the commodity	0 to 1*
supplyVsDemand	surplus supply and lack of demand, net of references to supply shortage and high demand	-1 to 1
supplyVsDemandForecast	expectations of supply outstripping demand, net of references to expectations of demand outstripping supply	-1 to 1
acreageCultivated	increases in acreage and crop cultivation, net or references to decreases in acreage and crop cultivation	-1 to 1
agDisease	commodity disease	0 to 1*
agStress	production stress related to disease, water, or weather	0 to 1*
subsidies	subsidies affecting commodity prices	0 to 1*
subsidiesSentiment	increases in subsidies, net of references to decreases in subsidies	-1 to 1
weatherDamage	commodity weather risk and damage	0 to 1*
futureVsPast	references to future events, net of references to past	-1 to 1

CHAPTER 9 ENERGY & MATERIAL COMMODITIES

ENERGY & MATERIAL COMMODITIES ASSETS

There are 34 energy & material commodities being scored. The asset codes correspond to Thomson Reuters topic codes found in news stories.

Asset Code	Commodity
ALU	Aluminum
ANGS	Asian Natural Gas
BIODSL	BioDiesel
BIOF	Biofuels
CO2	Carbon Credit
COA	Coal
CBLT	Cobalt
CPPR	Copper
CRU	Crude Oil
DIESEL	Diesel Fuel
EUNGS	EU Natural Gas
BIOETH	Ethanol
RFO	Fuel Oil
MOG	Gasoline
GOL	Gold
HOIL	Heating Oil
IRN	Iron
JET	Jet Fuel
LNG	Liquefied Natural Gas
LITH	Lithium
MLDM	Molybdenum
NAP	Naphtha
NGS	Natural Gas
NKL	Nickel
NSEA	North Sea Oil
PALL	Palladium
PLAT	Platinum
RAREE	Rare Earth Minerals
SLVR	Silver
STEE	Steel
TIN1	Tin
USCRU	US Crude Oil
URAN	Uranium
ZNC	Zinc

ENERGY & MATERIAL COMMODITIES RMA SCORES

The 36 RMA scores for the energy & material commodities asset class carry six significant digits past the decimal point. Negative numbers have a leading minus (-) sign. The table below summarizes these fields. For more information on those with range “0 to 1*”, see Chapter 3 above.

Index **Description:** *references in news and social media to...* **Range**

sentiment	overall positive references, net of negative references	-1 to 1
negative	overall negative references	0 to 1*
positive	overall positive references	0 to 1*
optimism	references connoting optimism, future-tense positive	0 to 1*
pessimism	references connoting pessimism, future-tense negative	0 to 1*
joy	happiness and affection	0 to 1*
loveHate	love, net of references to hate	-1 to 1
trust	trustworthiness, net of references connoting corruption	-1 to 1
anger	anger and disgust	0 to 1*
disagreement	dispute net of agreement and conciliation	-1 to 1
fear	fear and anxiety	0 to 1*
gloom	gloom and negative future outlook	0 to 1*
stress	arousal and intensity, weighted towards distress	0 to 1*
surprise	unexpected events and surprise	0 to 1*
timeUrgency	urgency and timeliness, net of references to tardiness and delays	-1 to 1
uncertainty	uncertainty and confusion	0 to 1*
violence	violent crime, terrorism, and war	0 to 1*
emotionVsFact	all emotional sentiments, net of all factual and topical references	-1 to 1
shortVsLongTerm	references to immediate and short-term timeframes versus long term	-1 to 1
longShort	buying, net of references to shorting or selling	-1 to 1
longShortForecast	forecasts of buying, net of references to forecasts of shorting or selling	-1 to 1
priceDirection	price increases, net of references to price decreases	-1 to 1
priceDown	references to price decreases	0 to 1*
priceForecast	forecasts of asset price rises, net of references to forecasts of asset price drops	-1 to 1
priceUp	asset price increases	0 to 1*
topVsBottom	net references to asset price topping, expensive valuations, and excessive speculation versus bottoming and relatively inexpensive prices	-1 to 1
overvaluedVsUndervalued	references to expensively versus cheaply-valued asset prices	-1 to 1
volatility	volatility in market prices or business conditions	0 to 1*
consumptionVolume	increasing, net of decreasing, commodity consumption	-1 to 1
productionVolume	increasing, net of decreasing, commodity production	-1 to 1
regulatoryIssues	regulatory changes affecting the commodity	0 to 1*

supplyVsDemand	surplus supply and lack of demand, net of references to supply shortage and high demand	-1 to 1
supplyVsDemandForecast	expectations of supply outstripping demand, net of references to expectations of demand outstripping supply	-1 to 1
newExploration	new ventures/exploration	0 to 1*
safetyAccident	safety accidents	0 to 1*
futureVsPast	references to future events, net of references to past	-1 to 1

CHAPTER 10 COUNTRIES

COUNTRIES ASSETS

There are 252 countries or regions being scored. Note that these scores are based on text not only of the country/region, but also based on cities and other place names inside those geographies.

The asset codes correspond to Thomson Reuters topic codes for geopolitical units. The table below is sorted by Country/Region.

Asset Code	Country/Region
AF	Afghanistan
AX	Aland Islands
AL	Albania
DZ	Algeria
AS	American Samoa
AD	Andorra
AO	Angola
AI	Anguilla
AQ	Antarctica
AG	Antigua and Barbuda
AR	Argentina
AM	Armenia
AW	Aruba
AU	Australia
AT	Austria
AZ	Azerbaijan
BS	Bahamas
BH	Bahrain
BD	Bangladesh
BB	Barbados
BY	Belarus
BE	Belgium
BZ	Belize
BJ	Benin
BM	Bermuda
BT	Bhutan
BO	Bolivia
BQ	Bonaire
BA	Bosnia and Herzegovina
BW	Botswana
BV	Bouvet Island
BR	Brazil
IO	British Indian Ocean Territory
VG	British Virgin Islands
BN	Brunei
BG	Bulgaria
BF	Burkina Faso
BI	Burundi

Asset Code	Country/Region
KH	Cambodia
CM	Cameroon
CA	Canada
CV	Cape Verde
KY	Cayman Islands
CF	Central African Republic
TD	Chad
CL	Chile
CN	China
CX	Christmas Island
CC	Cocos Islands
MF	Collectivity of Saint Martin
CO	Colombia
KM	Comoros
CD	Congo
CK	Cook Islands
CR	Costa Rica
CI	Cote D'Ivoire (Ivory Coast)
HR	Croatia
CU	Cuba
CW	Curacao
CY	Cyprus
CZ	Czech Republic
DK	Denmark
DJ	Djibouti
DM	Dominica
DO	Dominican Republic
EC	Ecuador
EG	Egypt
SV	El Salvador
GQ	Equatorial Guinea
ER	Eritrea
EE	Estonia
ET	Ethiopia
EZ	Eurozone
FK	Falkland Islands
FO	Faroe Islands
FJ	Fiji

Asset Code	Country/Region
FI	Finland
FR	France
GF	French Guiana
PF	French Polynesia
TF	French Southern Territories
GA	Gabon
GM	Gambia
GE	Georgia
DE	Germany
GH	Ghana
GI	Gibraltar
GR	Greece
GL	Greenland
GD	Grenada
GP	Guadeloupe
GU	Guam
GT	Guatemala
GG	Guernsey
GN	Guinea
GW	Guinea-Bissau
GY	Guyana
HT	Haiti
HM	Heard Island
HN	Honduras
HK	Hong Kong
HU	Hungary
IS	Iceland
IN	India
ID	Indonesia
IR	Iran
IQ	Iraq
IE	Ireland
IM	Isle of Man
IL	Israel
IT	Italy
JM	Jamaica
JP	Japan
JE	Jersey
JO	Jordan
KZ	Kazakhstan
KE	Kenya
KI	Kiribati
XK	Kosovo
KW	Kuwait
KG	Kyrgyzstan
LA	Laos
LV	Latvia

Asset Code	Country/Region
LB	Lebanon
LS	Lesotho
LR	Liberia
LY	Libya
LI	Liechtenstein
LT	Lithuania
LU	Luxembourg
MO	Macau
MK	Macedonia
MG	Madagascar
MW	Malawi
MY	Malaysia
MV	Maldives
ML	Mali
MT	Malta
MH	Marshall Islands
MQ	Martinique
MR	Mauritania
MU	Mauritius
YT	Mayotte
MX	Mexico
FM	Micronesia
MD	Moldova
MC	Monaco
MN	Mongolia
ME	Montenegro
MS	Montserrat
MA	Morocco
MZ	Mozambique
MM	Myanmar
NA	Namibia
NR	Nauru
NP	Nepal
NL	Netherlands
NC	New Caledonia
NZ	New Zealand
NI	Nicaragua
NE	Niger
NG	Nigeria
NU	Niue
NF	Norfolk Island
KP	North Korea
MP	Northern Mariana Islands
NO	Norway
OM	Oman
PK	Pakistan
PW	Palau

Asset Code	Country/Region
PS	Palestinian Territories
PA	Panama
PG	Papua New Guinea
PY	Paraguay
PE	Peru
PH	Philippines
PN	Pitcairn
PL	Poland
PT	Portugal
PR	Puerto Rico
QA	Qatar
CG	Republic of the Congo
RE	Reunion
RO	Romania
RU	Russia
RW	Rwanda
BL	Saint Barthelemy
SH	Saint Helena
KN	Saint Kitts and Nevis
LC	Saint Lucia
PM	Saint Pierre
VC	Saint Vincent
WS	Samoa
SM	San Marino
ST	Sao Tome and Principe
SA	Saudi Arabia
SN	Senegal
RS	Serbia
SC	Seychelles
SL	Sierra Leone
SG	Singapore
SX	Sint Maarten
SK	Slovakia
SI	Slovenia
SB	Solomon Islands
SO	Somalia
XS	Somaliland
ZA	South Africa
GS	South Georgia and the South Sandwich Islands
KR	South Korea
SS	South Sudan

Asset Code	Country/Region
ES	Spain
LK	Sri Lanka
SD	Sudan
SR	Suriname
SJ	Svalbard
SZ	Swaziland
SE	Sweden
CH	Switzerland
SY	Syria
TW	Taiwan
TJ	Tajikistan
TZ	Tanzania
TH	Thailand
TL	Timor-Leste
TG	Togo
TK	Tokelau
TO	Tonga
TT	Trinidad and Tobago
TN	Tunisia
TR	Turkey
TM	Turkmenistan
TC	Turks and Caicos
TV	Tuvalu
UG	Uganda
UA	Ukraine
AE	United Arab Emirates
GB	United Kingdom
US	United States
UM	United States Minor Outlying Islands
VI	United States Virgin Islands
UY	Uruguay
UZ	Uzbekistan
VU	Vanuatu
VA	Vatican
VE	Venezuela
VN	Vietnam
WF	Wallis and Futuna
EH	Western Sahara
YE	Yemen
ZM	Zambia
ZW	Zimbabwe

COUNTRIES RMA SCORES

The 69 RMA scores for the countries asset class carry six significant digits past the decimal point. Negative numbers have a leading minus (-) sign. The table below summarizes these fields. For more information on those with range "0 to 1*", see Chapter 3 above.

Index	**Description:** *references in news and social media to...*	**Range**
sentiment	overall positive references, net of negative references	-1 to 1
negative	overall negative references	0 to 1*
positive	overall positive references	0 to 1*
optimism	references connoting optimism, future-tense positive	0 to 1*
pessimism	references connoting pessimism, future-tense negative	0 to 1*
joy	happiness and affection	0 to 1*
loveHate	love, net of references to hate	-1 to 1
trust	trustworthiness, net of references connoting corruption	-1 to 1
anger	anger and disgust	0 to 1*
disagreement	dispute net of agreement and conciliation	-1 to 1
fear	fear and anxiety	0 to 1*
gloom	gloom and negative future outlook	0 to 1*
stress	arousal and intensity, weighted towards distress	0 to 1*
surprise	unexpected events and surprise	0 to 1*
timeUrgency	urgency and timeliness, net of references to tardiness and delays	-1 to 1
uncertainty	uncertainty and confusion	0 to 1*
emotionVsFact	all emotional sentiments, net of all factual and topical references	-1 to 1
shortVsLongTerm	references to immediate and short-term timeframes versus long term	-1 to 1
marketRisk	positive emotionality and positive expectations net of negative emotionality and negative expectations. Includes factors from social media found characteristic of speculative bubbles – higher values indicate greater bubble risk. Also known as the "Bubbleometer."	-1 to 1
budgetDeficit	a budget deficit, net of references to a surplus	-1 to 1
businessExpansion	businesses expanding, net of references to contraction	-1 to 1
consumerSentiment	positive consumer sentiment, net of references to negative consumer sentiment	-1 to 1
creditEasyVsTight	credit conditions being easy, net of references to credit conditions being tight	-1 to 1
economicGrowth	increased business activity, net of references to decreased business activity	-1 to 1

economicUncertainty	uncertainty about business climate net of confidence and certainty	-1 to 1
economicVolatility	increasing economic volatility, net of economic stability	-1 to 1
financialSystemInstability	financial system instability, net of references to financial system stability	-1 to 1
fiscalPolicyLooseVsTight	fiscal policy being loose, net of references to fiscal policy being tight	-1 to 1
inflation	consumer price increases, net of references to consumer price decreases	-1 to 1
inflationForecast	forecasts of consumer price increases, net of forecasts of consumer price decreases (deflation)	-1 to 1
infrastructureSentiment	positive net of negative references to institutions, facilities, transportation, and industry	-1 to 1
innovation	innovativeness	0 to 1*
investmentFlows	investment inflows, net of references to investment outflows	-1 to 1
tariffs	references to tariffs and duties rising net of falling	-1 to 1
taxCorporate	references to corporate taxes rising net of falling	-1 to 1
taxDirection	overall references to taxation rising net of falling	-1 to 1
taxForecast	net forecast of taxes rising versus falling	-1 to 1
tradeBalance	exports, net of references to imports	-1 to 1
unemployment	unemployment rising, net of references to unemployment falling	-1 to 1
unemploymentForecast	unemployment rising, net of references to unemployment falling in the future tense	-1 to 1
governmentAnger	anger and disgust about government officials and departments	0 to 1*
governmentCorruption	fraud, deceit, and corruption in government	0 to 1*
governmentInstability	governmental instability, net of references to governmental stability	-1 to 1
politicalSentiment	positive sentiment expressed about political parties and institutions net of negative sentiment	-1 to 1
regimeChange	regime change	0 to 1*
sanctions	sanctions or embargoes emanating from or against a country	0 to 1*
tradeWar	references to trade conflict	0 to 1*
tradeTalks	references to trade negotiations	0 to 1*
socialInequality	social inequality	0 to 1*
socialUnrest	social unrest and calls for political change	0 to 1*
cyberCrime	cyberattacks, data leaks, and electronic espionage	0 to 1*
terrorism	terrorist threats and activities	0 to 1*

violentCrime	criminal violence	0 to 1*
war	war and militant activity	0 to 1*
agriculturalStress	agricultural failures and production deficiencies	0 to 1*
coldWave	unusually cold weather	0 to 1*
drought	lack of rain with environmental consequences	0 to 1*
earthquake	seismic activity	0 to 1*
fire	forest, brush, and structural fires	0 to 1*
flood	rising water levels with economic consequences	0 to 1*
heatwave	unusually hot weather	0 to 1*
humanInfectiousDisease	presence and outbreaks of contagious or epidemic diseases	0 to 1*
hunger	human caloric deficiency	0 to 1*
volcanicActivity	volcanic eruption	0 to 1*
windStorm	cyclonic storms and extreme wind weather events	0 to 1*
diseaseBurden	reports of diseases burdening public health systems, including treatments for those diseases	-1 to 1
humanDiseaseGI	reports of gastrointestinal disease	-1 to 1
humanDiseasePulm	reports of respiratory and pulmonary disease	-1 to 1
futureVsPast	references to future events, net of references to past	-1 to 1

CHAPTER 11 COUNTRY MARKETS

COUNTRY MARKETS ASSETS

There are 62 countries or regions with the largest economic output being distributed. The asset codes correspond to Thomson Reuters topic codes for geopolitical units.

The table below is sorted by Country/Region.

Asset Code	Country/Region
DZ	Algeria
AR	Argentina
AU	Australia
AT	Austria
BD	Bangladesh
BE	Belgium
BR	Brazil
CA	Canada
CL	Chile
CN	China
CO	Colombia
CZ	Czech Republic
DK	Denmark
EG	Egypt
EZ	Eurozone
FI	Finland
FR	France
DE	Germany
GR	Greece
HK	Hong Kong
HU	Hungary
IN	India
ID	Indonesia
IR	Iran
IQ	Iraq
IE	Ireland
IL	Israel
IT	Italy
JP	Japan
KZ	Kazakhstan
KW	Kuwait
MY	Malaysia

Asset Code	Country/Region
MX	Mexico
MA	Morocco
NL	Netherlands
NZ	New Zealand
NG	Nigeria
NO	Norway
PK	Pakistan
PE	Peru
PH	Philippines
PL	Poland
PT	Portugal
QA	Qatar
RO	Romania
RU	Russia
SA	Saudi Arabia
SG	Singapore
ZA	South Africa
KR	South Korea
ES	Spain
SE	Sweden
CH	Switzerland
TW	Taiwan
TH	Thailand
TR	Turkey
UA	Ukraine
AE	United Arab Emirates
GB	United Kingdom
US	United States
VE	Venezuela
VN	Vietnam

COUNTRY MARKETS RMA SCORES

The 42 RMA scores for the country markets asset class carry six significant digits past the decimal point. Negative numbers have a leading minus (-) sign. The table below summarizes these fields. For more information on those with range “0 to 1*”, see Chapter 3 above.

The table below is broken into four sections: bonds, rates, real estate, and stocks. Each has its own buzz.

Index	**Description:** *references in news and social media to the country's major stock indexes and shares traded in that country...*	Range
bondBuzz	sum of all references to the country's bonds and debt (excluding corporate debt) in that country	0 to Inf
ratesBuzz	sum of all references underlying the centralBank, debtDefault, interestRates, interestRatesForecast, and monetaryPolicyLooseVsTight RMA	0 to Inf
realEstateBuzz	sum of all references underlying the commercialRealEstateSentiment, residentialRealEstateGrowth, residentialRealEstateSales, residentialRealEstateSentiment, and residentialRealEstateValues RMA	0 to Inf
stockIndexBuzz	sum of all relevant references feeding into the RMA	0 to Inf
bondSentiment	overall positive references, net of negative references	-1 to 1
bondNegative	overall negative references	-1 to 1
bondPositive	overall positive references	-1 to 1
bondOptimism	optimistic references	-1 to 1
bondPessimism	pessimistic references	-1 to 1
bondTrust	trustworthiness, net of references connoting mistrust	-1 to 1
bondFear	fear and anxiety	0 to 1*
bondStress	arousal and intensity, weighted towards distress	0 to 1*
bondSurprise	unexpected events and surprise	0 to 1*
bondUncertainty	uncertainty and confusion	0 to 1*
bondCreditRisk	debt defaults, late payments, and bankruptcy	-1 to 1
bondVolatility	volatility in bond and debt values	0 to 1*
centralBank	country central bank references	0 to 1*
debtDefault	debt defaults and bankruptcies in a country	0 to 1*
interestRates	interest rates rising, net of references to rates falling	-1 to 1
interestRatesUp	interest rates rising	0 to 1*
interestRatesDown	references to rates falling	0 to 1*
interestRatesForecast	forecasts of interest rates rising, net of forecasts of rates falling	-1 to 1
interestRatesForecastUp	forecasts of interest rates rising	0 to 1*
interestRatesForecastDown	forecasts of interest rates falling	0 to 1*
monetaryPolicyLooseVsTight	monetary policy being loose, net of references to monetary policy being tight	-1 to 1
commercialRealEstateSentiment	positive references to commercial real estate, net of negative references	-1 to 1
residentialRealEstateGrowth	residential real estate expansion, net of references to contraction	-1 to 1

residentialRealEstateSales	residential real estate sales rising, net of references to sales decreasing	-1 to 1
residentialRealEstateSentiment	positive references to residential real estate, net of negative references	-1 to 1
residentialRealEstateValues	residential real estate values rising, net of references to declining values	-1 to 1
stockIndexSentiment	overall positive references, net of negative references	-1 to 1
stockIndexNegative	overall negative references	0 to 1*
stockIndexPositive	overall positive references	0 to 1*
stockIndexOptimism	references to optimism	0 to 1*
stockIndexPessimism	references to pessimism	0 to 1*
stockIndexTrust	trustworthiness, net of references connoting mistrust	-1 to 1
stockIndexFear	fear and anxiety	0 to 1*
stockIndexStress	arousal and intensity, weighted towards distress	0 to 1*
stockIndexSurprise	unexpected events and surprise	0 to 1*
stockIndexUncertainty	uncertainty and confusion	0 to 1*
stockIndexMarketRisk	positive emotionality and positive expectations net of negative emotionality and negative expectations. Includes factors from social media found characteristic of speculative bubbles – higher values indicate greater bubble risk. Also known as the "Bubbleometer."	-1 to 1
stockIndexPriceDirection	stock price increases, net of references to price decreases	-1 to 1
stockIndexPriceDown	stock price decreases	0 to 1*
stockIndexPriceUp	stock price increases	0 to 1*
stockIndexPriceForecast	forecasts of stock price rises, net of references to forecasts of asset price drops	-1 to 1
stockIndexPriceForecastDown	forecasts of stock price drops	0 to 1*
stockIndexPriceForecastUp	forecasts of stock price rises	0 to 1*
stockIndexTopVsBottom	references to asset price topping, expensive valuations, and excessive speculation net of bottoming and inexpensive prices	-1 to 1
stockIndexOvervaluedVsUndervalued	references to expensive, net of cheap, valuation	-1 to 1
stockIndexVolatility	volatility in stock market prices	0 to 1*

CHAPTER 12 CRYPTOCURRENCIES

CRYPTOCURRENCY ASSETS

RMA Cryptocurrencies data covers more than 150 active cryptocurrencies. Cryptocurrencies were selected for inclusion based on listed market capitalization and/or technological significance. Coverage includes all cryptocurrencies present in the coinmarketcap.com ranking of the top 20 cryptocurrencies by market capitalization starting in November 2017. Coverage is updated monthly to include new entrants from the top 20 list. Once covered, cryptocurrencies remain in the feed until trading activity ceases.

A list of the covered cryptocurrencies and monthly changes in coverage is available on the MRN SFTP site. See Chapter 14 for information on the files and how to access them.

CRYPTOCURRENCY RMA SCORES

The 54 RMA scores for the cryptocurrency asset class carry six significant digits past the decimal point. Negative numbers have a leading minus (-) sign. The table below summarizes these fields. For more information on those with range "0 to 1*", see Chapter 3 above.

Index	**Description:** *references in news and social media to...*	**Range**
sentiment	overall positive references, net of negative references	-1 to 1
negative	overall negative references	0 to 1*
positive	overall positive references	0 to 1*
optimism	references connoting optimism, future-tense positive	0 to 1*
pessimism	references connoting pessimism, future-tense negative	0 to 1*
joy	happiness and affection	0 to 1*
loveHate	love, net of references to hate	-1 to 1
trust	trustworthiness, net of references connoting corruption	-1 to 1
anger	anger and disgust	0 to 1*
disagreement	dispute net of agreement and conciliation	-1 to 1
fear	fear and anxiety	0 to 1*
gloom	gloom and negative future outlook	0 to 1*
stress	arousal and intensity, weighted towards distress	0 to 1*
violence	violent crime, terrorism, and war	0 to 1*
surprise	unexpected events and surprise	0 to 1*
timeUrgency	urgency and timeliness, net of references to tardiness and delays	-1 to 1
uncertainty	uncertainty and confusion	0 to 1*
emotionVsFact	all emotional sentiments, net of all factual and topical references	-1 to 1
shortVsLongTerm	references to immediate and short-term timeframes versus long term	-1 to 1
marketRisk	positive emotionality and positive expectations net of negative emotionality and negative expectations. Includes factors from social media found characteristic of speculative bubbles –	-1 to 1

	higher values indicate greater bubble risk. Also known as the "Bubbleometer."	
longShort	buying, net of references to shorting or selling	-1 to 1
longShortForecast	forecasts of buying, net of references to forecasts of shorting or selling	-1 to 1
priceDirection	price increases, net of references to price decreases	-1 to 1
priceDown	references to price decreases	0 to 1*
priceForecast	forecasts of asset price rises, net of references to forecasts of asset price drops	-1 to 1
priceUp	asset price increases	0 to 1*
priceMomentum	currency price trend strength, net of references to trend weakness	-1 to 1
topVsBottom	net references to asset price topping, expensive valuations, and excessive speculation versus bottoming and relatively inexpensive prices	-1 to 1
overvaluedVsUndervalued	references to expensively versus cheaply valued asset prices	-1 to 1
volatility	volatility in market prices or business conditions	0 to 1*
adoption	acceptance and widespread adoption	0 to 1*
adoptionForecast	forecasts of acceptance and widespread adoption	0 to 1*
anonymity	user anonymity in transactions	0 to 1*
attack	hacks and other cyberattacks related to the coin	0 to 1*
codeSentiment	overall positive references to the code base, net of negative references	-1 to 1
codeUpgrade	code upgrades and enhancements	0 to 1*
criminalActivity	criminal activity involving the cryptocurrency or community	0 to 1*
developerSentiment	overall positive references to the development team, net of negative references	0 to 1*
fOMO	fear of missing out	0 to 1*
fork	fork in the blockchain	0 to 1*
forkForecast	forecasts of a fork in the blockchain	0 to 1*
hodl	holding on for dear life	0 to 1*
innovation	innovativeness	0 to 1*
litigation	litigation and lawsuits involving the cryptocurrency or community	0 to 1*
majorityAttack	majority of miners attacking the blockchain	0 to 1*
noobs	amateur and naive investor activity	0 to 1*
regulatoryCrackdown	regulatory crackdown on cryptocurrency-related activities	0 to 1*
regulatoryIssues	tax or securities authority's intervention or legislation	0 to 1*
scam	fraudulent activity or references to scams associated with the cryptocurrency	0 to 1*

transactionSpeed	fast versus slow transactions speeds for the cryptocurrency	-1 to 1
vulnerability	vulnerabilities or weaknesses in the code	0 to 1*
partnership	references to collaborations	0 to 1*
futureVsPast	references to future events, net of references to past	-1 to 1

CHAPTER 13 CONSTRUCTING RMA WITH GREATER WINDOW LENGTHS

BACKGROUND

RMAs are constructed internally as Buzz-weighted averages across various news and social media content sources. Custom RMA on greater window lengths can be constructed based on RMA of shorter window lengths.

CREATING CUSTOM RMA WINDOW LENGTHS

Users may construct custom RMAs of varying window lengths from Buzz-weighted averages of minutely RMA data.

For example, for a given company (*assetCode*), content source (*dataType*) and datetime (*windowTimestamp*), let $Buzz_0, Buzz_{-1}, ..., Buzz_{-(N-1)}$ and $RMA_0, RMA_{-1}, \ldots, RMA_{-(N-1)}$ represent the corresponding Buzz and RMA minutely data over the trailing *N* minutes. Then the Buzz-weighted average RMA over the trailing *N*-minute window length may be explicitly calculated as:

$$(Buzz_0*RMA_0 + Buzz_{-1}*RMA_{-1} + \ldots + Buzz_{-(N-1)}*RMA_{-(N-1)}) / (Buzz_0 + Buzz_{-1} + \ldots + Buzz_{-(N-1)})$$

COMPARING CONSTRUCTED RMA DATA TO ACTUAL RMA DATA

Note that the daily (WDAI_UDAI) and hourly (WDAI_UHOU) RMA data, which use a 24-hour/1440-minute trailing window[1], cannot be reproduced perfectly using minutely RMA data (W01M_U01M). This is because textual content is aggregated in the daily and hourly feeds based in part on their online availability (*publication timestamp*). Articles are excluded from the daily and hourly feeds 24 hours after publication, whereas content in the minutely feed is aggregated solely by its time of acquisition by MarketPsych crawlers (*crawl timestamp*). See “Timing of Social Media Articles in Archive” for more information about timestamps. The greater the delay between the publication and crawl timestamps, the fewer 1440-minute RMA windows will include that content. As a result, the Buzz of the artificially reconstructed 24-hour RMA will always match or exceed that of the actual 24-hour RMA.

[1] See “Daily Update Frequency Anomaly” section above for exceptions to when WDAI_UDAI data does not cover a 24-hour window.

CHAPTER 14 MRN SFTP SITE: DATA AND REFERENCE FILES

OVERVIEW

Refinitiv provides live and archive RMA data over SFTP.

Data is formatted as tab-delimited text files. Archive files are compressed in .zip format.

Production clients can access the full history, while trial clients may access a more limited period. Files for the two client types are stored in different directories.

The SFTP site also contains useful reference files for the Companies and Cryptocurrencies offerings:

- Listings of live and obsolete assets
- Mappings to common identifiers, including CUSIP, ISIN, and SEDOL for companies and coinmarketcap.com tickers and name identifiers for cryptocurrencies.
- Changes in coverage

ACCESS

Production and most trial users are granted access to the SFTP site. Trial users who convert to paid customers should have their credentials upgraded to full-history access. Users should contact their sales specialist or account manager to obtain login credentials.

The SFTP site is available on public internet at sftp.news.refinitiv.com, or 3.225.149.227 / 3.222.233.255:22 using key file authentication. SFTP file directories will include root /mrn-mi-w/Files/ at the beginning of all file paths

WINDOW LENGTHS AND UPDATE FREQUENCIES

Chapter 2 explained that RMA are produced over varying window lengths and update frequencies. The excerpted table below shows which combinations are available.

Window Length	Update Frequency	SFTP File Abbreviation
1 minute	1 minute	W01M_U01M
1440 minutes / 24 hours	1 hour	WDAI_UHOU
1440 minutes / 24 hours	Daily, at 3:30 Eastern time	WDAI_UDAI

FILES

Each file contains all the scores for an asset class, for a certain window length and update frequency.

Non-zero Buzz Records and Files

Only rows with non-zero Buzz appear in these files. Moreover, if there are no non-zero Buzz rows to include in a file, then that file will not be published.

Directory Structure

{Package}/{Asset Class}/{Time Bucket}/{Time Abbreviation}

- *{Package}* can take one of the following values:
  - FTA: Free to Air redistribution
  - PVT: Private redistribution
  - PRO: Professional redistribution and Quant
  - Mapping: Mapping files

- *{Asset Class}* can take one of the following values:
    - CMPNY: all individual companies
    - CMPNY_AMER: individual companies domiciled in the Americas
    - CMPNY_EMEA: individual companies domiciled in Europe, the Middle East, and Africa
    - CMPNY_APAC: individual companies domiciled in Asia and the Pacific
    - CMPNY_GRP: company groups
    - COM_AGR: agricultural commodities
    - COM_ENM: energy & material commodities
    - COU: countries
    - COU_MKT: country markets
    - CRYPTO: cryptocurrencies
    - CUR: currencies
- *{Time Abbreviation}* describes the combination of window length and update frequency, as per the table above
    - W01M_U01M
    - WDAI_UHOU
    - WDAI_UDAI *(Note: new WDAI_UDAI files will be posted at 15:30 ET)*
- *{Time Bucket}* describes the history of data in the files, and can take one of the following values:
    - monthly- provides monthly packaged files for all history up to the latest complete month. Files can expect to be posted 10 to 15 days after month's end.
    - daily- provides daily packaged files for the last complete 60 days, Files 61 days and older will be deleted.
    - minutely- provides hourly and minutely packaged files for the last 48 hours

File Naming

{Package}.Archive.{Asset Class}.{Time Abbreviation}.{Time Period}.{System Version, converted}.txt, such that

- *{Package}* as per above
- *{Asset Class}* as per above
- *{Time Abbreviation}* as per above
- *{Time Period}* will be in "yyyymmdd-hhmm" format. Note that boundaries are according to UTC and mark the end of the content window.
- *{System Version, converted}*. The systemVersion value, "MP:4.0.0" will be converted to "0400". Note that this string's length reaches five characters when the third number in the systemVersion exceeds 9, e.g., "4.0.10" will be converted to "04010".

Fields

See Chapter 5 for information on fields that are generic to all RMA asset classes.

- id
- assetCode

- ticker: only for Companies. Note that ticker is generally not point-in-time, although it can vary across System Version values.
- windowTimestamp
- dataType: “News”, “Social”, “News_Social”, or “News_Headline”
- systemVersion, excluding its prefix
- mentions
- buzz
- non-generic scores: sentiment, managementTrust, et al.

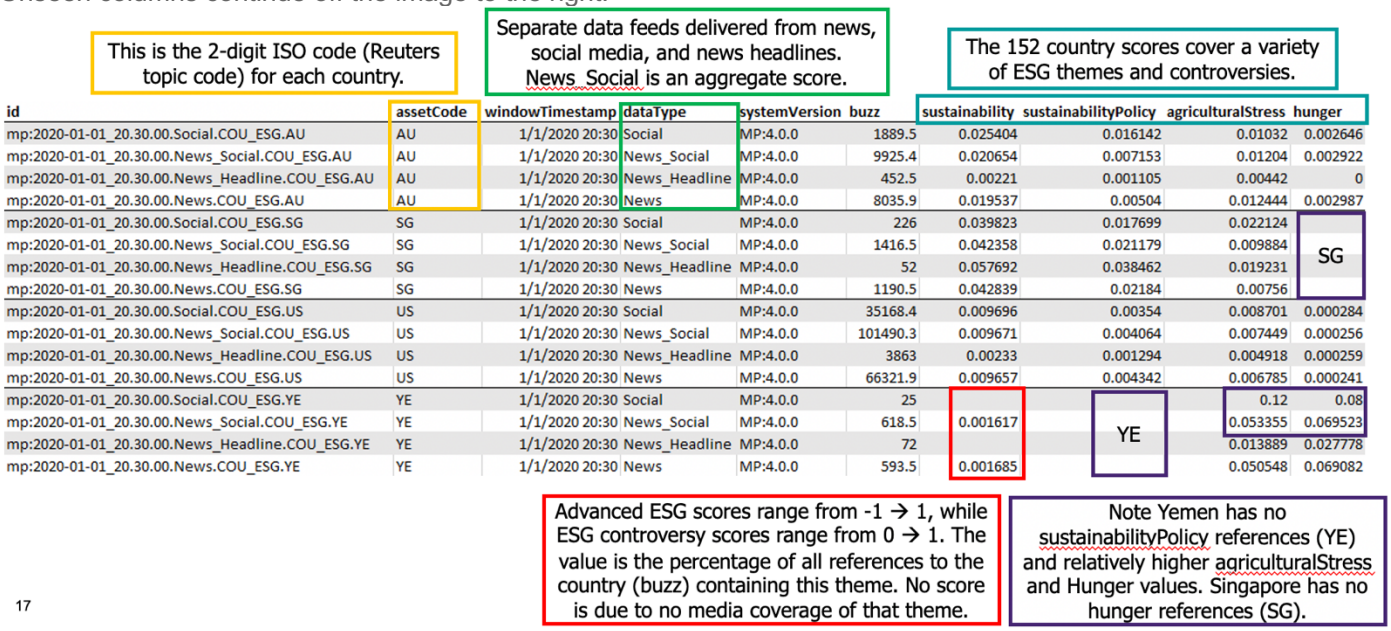
Sort Order

- assetCode
- datatype

File Examples

The below is a truncated screenshot of a Company’s (ESG) Advanced archive file. This format is shared with all asset classes in RMA v4. The file is labelled to emphasize key aspects of the data presentation.

Unseen columns continue off the image to the right.



id	assetCode	windowTimestamp	dataType	systemVersion	buzz	sustainability	sustainabilityPolicy	agriculturalStress	hunger
mp:2020-01-01_20.30.00.Social.COU_ESG.AU	AU	1/1/2020 20:30	Social	MP:4.0.0	1889.5	0.025404	0.016142	0.01032	0.002646
mp:2020-01-01_20.30.00.News_Social.COU_ESG.AU	AU	1/1/2020 20:30	News_Social	MP:4.0.0	9925.4	0.020654	0.007153	0.01204	0.002922
mp:2020-01-01_20.30.00.News_Headline.COU_ESG.AU	AU	1/1/2020 20:30	News_Headline	MP:4.0.0	452.5	0.00221	0.001105	0.00442	0
mp:2020-01-01_20.30.00.News.COU_ESG.AU	AU	1/1/2020 20:30	News	MP:4.0.0	8035.9	0.019537	0.00504	0.012444	0.002987
mp:2020-01-01_20.30.00.Social.COU_ESG.SG	SG	1/1/2020 20:30	Social	MP:4.0.0	226	0.039823	0.017699	0.022124	
mp:2020-01-01_20.30.00.News_Social.COU_ESG.SG	SG	1/1/2020 20:30	News_Social	MP:4.0.0	1416.5	0.042358	0.021179	0.009884	
mp:2020-01-01_20.30.00.News_Headline.COU_ESG.SG	SG	1/1/2020 20:30	News_Headline	MP:4.0.0	52	0.057692	0.038462	0.019231	
mp:2020-01-01_20.30.00.News.COU_ESG.SG	SG	1/1/2020 20:30	News	MP:4.0.0	1190.5	0.042839	0.02184	0.00756	
mp:2020-01-01_20.30.00.Social.COU_ESG.US	US	1/1/2020 20:30	Social	MP:4.0.0	35168.4	0.009696	0.00354	0.008701	0.000284
mp:2020-01-01_20.30.00.News_Social.COU_ESG.US	US	1/1/2020 20:30	News_Social	MP:4.0.0	101490.3	0.009671	0.004064	0.007449	0.000256
mp:2020-01-01_20.30.00.News_Headline.COU_ESG.US	US	1/1/2020 20:30	News_Headline	MP:4.0.0	3863	0.00233	0.001294	0.004918	0.000259
mp:2020-01-01_20.30.00.News.COU_ESG.US	US	1/1/2020 20:30	News	MP:4.0.0	66321.9	0.009657	0.004342	0.006785	0.000241
mp:2020-01-01_20.30.00.Social.COU_ESG.YE	YE	1/1/2020 20:30	Social	MP:4.0.0	25			0.12	0.08
mp:2020-01-01_20.30.00.News_Social.COU_ESG.YE	YE	1/1/2020 20:30	News_Social	MP:4.0.0	618.5	0.001617		0.053355	0.069523
mp:2020-01-01_20.30.00.News_Headline.COU_ESG.YE	YE	1/1/2020 20:30	News_Headline	MP:4.0.0	72			0.013889	0.027778
mp:2020-01-01_20.30.00.News.COU_ESG.YE	YE	1/1/2020 20:30	News	MP:4.0.0	593.5	0.001685		0.050548	0.069082

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Timing of Social Media Articles in Archive

As background, there are three timestamps used in assigning timestamps to content.

- Publication time: a timestamp from the data itself that may be assumed to represent when the content was published
- Acquisition time: MarketPsych-assigned timestamp, for when MarketPsych obtained the data. For some content sources, the difference between the publication time and acquisition time is consistently ~1 second or less, but for certain significant social media sources this can average in the tens of minutes. This large difference is especially problematic for certain sources that MarketPsych did not collect live.
- Aggregation time: MarketPsych-assigned timestamp describing when the component RMA scores from content are finalized. For aligning live feed data and pro forma archives, aggregation time showed the best performance.

For all asset classes except cryptocurrencies, over different periods, the timestamp used for archive calculation changed.

- 1998 - February 2013: publication time
- March 2013 - August 2015: acquisition time. For RMA data that uses a 1440-minute/24-hour window length, the live feed and all archives are aggregated from article acquisition time to publication time plus 24 hours.
- September 2015 - present: aggregation time.

For cryptocurrencies, the publication time was used until April 1, 2018, at which time aggregation time is used for archive calculation.

Using aggregation time, although single-minute differences between the live feed and archive buzz remain, they affect well under 1% of buzz scores in the minute-window data.

Archive Backfills

As might be expected for data derived from numerous textual sources, the processing of MarketPsych Analytics undergoes intermittent changes to its content inputs and filtering algorithms. These changes generally are introduced in the live data and in monthly archive updates, on a pro forma basis. Full-history RMA archives are backfilled to reflect these content changes on an occasional basis, often in tandem with a major version upgrade.

Non-zero Buzz Records

Only rows with non-zero Buzz appear in these files, except for daily updating files (WDAI_UDAI) for non-Companies data.

VERSION UPDATES

The file system version is updated in one of three digits. The first digit of the version is updated (e.g., from version 3 to 4) approximately every three years due to advancements in the NLP and overhauls in source constituents. Such major versions are run in production in parallel while customers upgrade over 12 to 18 months. For the most recent major versions, version 2 NLP was frozen in March 2014, version 3 NLP was frozen in March 2017, and version 4 NLP was frozen in December 2020.

The second digits in the version number are updated if an urgent patch is made. For example, between versions 3.0/3.1 and 3.2/3.3 a source-level change affecting media acquisition led to excessive buzz in some assets. The change was identified, its effect was quantified, and a minor version update restores the feed to regain consistency from that source. The second digits are also updated when a forked sub-feed is launched. For example, the cryptocurrency sentiment feed was forked from v3.0 and launched as v3.1 due to minor NLP changes to account for cryptocurrency source-specific linguistic differences.

The third digits of the version number are updated monthly to reflect the inclusion of IPOs, company additions, corporate name changes, mergers, and buyout activity. These minor version updates include additional corporate aliases and changes in corporate aliasing. Updates reflected in second and third version number digits do not reflect NLP or text analysis alterations.

COMPANIES AND CRYPTOCURRENCIES REFERENCE FILES

Companies and cryptocurrencies reference files serve several purposes. The files list companies and cryptocurrencies that can be found in the archive scores. Reference files add supporting information on the company or cryptocurrency and on its primary quote. Additionally, for companies the third-party identifiers – CUSIP, ISIN, and SEDOL – are also available. CUSIP and ISIN require a license with Standard & Poor's for CUSIPs. ISINs are included because some ISINs are CUSIP-based. SEDOL access requires a license with the London Stock Exchange.

Please contact your Account Manager or Sales Specialist if you are interested in viewing these third-party identifiers for companies and have a requisite license. Refinitiv will contact the identifier issuer(s) to verify the license(s).

Directories

Companies

/MAPPING/RMA4/CMPNY/[BASIC/CUSIPISIN/SEDOL/CUSIPISINSEDOL]/

Notes:

- The third level directory is permissioned according to user's combination of licenses for third-party identifiers. Access will be given to exactly one such directory. By default, users are granted access to the BASIC directory.

Cryptocurrencies

/MAPPING/RMA4/CRYPTO/[BASIC]/

Asset Lists and Mappings Files

Companies

RMA.Companies.[BASIC/CUSIPISIN/SEDOL/CUSIPISINSEDOL].{System Version, converted}.txt

Notes:

- *{System Version, converted}*. The systemVersion value, "MP:4.0.0" will be converted to "0400". Note that this string's length reaches five characters when the third number in the systemVersion exceeds 9, e.g., "4.0.10" will be converted to "04010".

Fields:

- PermId: Thomson Reuters organizational identifier.
- companyName
- countryOfDomicile: two-character ISO 3166-1 country code
- TRBCEconomicSector: plain-text description of Thomson Reuters Business Classification (TRBC) economic sector
- status: "active" if the PermId may be scored in a live feed. Otherwise, "inactive".
- RIC: main RIC for this company.
- ticker: Because ticker is in the score files, it shall be populated for all companies. Private companies shall have a MarketPsych-designated ticker beginning with "PVT-".
- marketMIC: ISO 10383 code for market or exchange identification. Value may differ from similar value maintained by London Stock Exchange.
- CUSIP: only available in files with "CUSIPISIN" in the file name
- ISIN: only available in files with "CUSIPISIN" in the file name
- SEDOL: only available in files with "SEDOL" in the file name

Values on inactive companies shall attempt to represent their most recent values, including after delisting. Some values may be blank.

Cryptocurrencies

RMA.Crypto.[BASIC].{System Version, converted}.txt

Notes:

- *{System Version, converted}*. The systemVersion value, "MP:4.0.0" will be converted to "0400". Note that this string's length reaches five characters when the third number in the systemVersion exceeds 9, e.g., "4.0.10" will be converted to "04010".

Fields:

- assetCode
- cryptocurrencyName
- status: “active” if the cryptocurrency may be scored in a live feed; otherwise “inactive”.

Changes File

The second is a file of changes since the previous System Version.

Companies

RMA.Companies.Changes.{System Version, converted}.txt, such that

- *{System Version, converted}*. The systemVersion value, “MP:4.0.0” will be converted to “0400”. Note that this string’s length reaches five characters when the third number in the systemVersion exceeds 9, e.g., “4.0.10” will be converted to “04010”.

File contents:

- First line: “RMA Companies list for systemVersion [*systemVersion*] was created on [*yyyy-mm-dd*].”
- Further lines:
  - “PermId [*xxxxxxxxxx*], [*companyName*], became active.”
  - “PermId [*xxxxxxxxxx*], [*companyName*], became inactive.”

Cryptocurrencies

RMA.Crypto.Changes.{System Version, converted}.txt, such that

- *{System Version, converted}*. The systemVersion value, “MP:4.0.0” will be converted to “0400”. Note that this string’s length reaches five characters when the third number in the systemVersion exceeds 9, e.g., “4.0.10” will be converted to “04010”.

File contents:

- First line: “RMA Cryptocurrencies list for systemVersion [*systemVersion*] was created on [*yyyy-mm-dd*].”
- Further lines:
  - “assetCode [*xxxxxxxxxx*], [*cryptocurrencyName*], became active.”
  - “assetCode [*xxxxxxxxxx*], [*cryptocurrencyName*], became inactive.”

TRIAL ACCESS COMPARED TO PRODUCTION ACCESS

As mentioned in the overview to this chapter, trial clients can access less data than can production clients, and from a different directory. Thus, the files are the same, but the time duration is less.

Following are the key differences in directory structure for trial clients compared to production clients:

- Root directory is /RMA_TRIAL, instead of /RMA
- The third-level directory denotes the amount of data
- The directory level of Recent and Historical is absent

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