

Picard Angst Commodity Index™

Construction and Calculation Methodology

Edition 2018

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Table of Contents

1	Index Overview	1
1.1	Introduction	1
1.2	Supervisory Committee.....	1
1.3	Construction Criteria.....	2
1.3.1	Simplicity and Parsimony	2
1.3.2	Economic Significance	2
1.3.3	Continuity.....	3
1.3.4	Diversification	3
1.4	Composition, Weights and Rebalancing	4
1.4.1	Component Selection and Weighting Rules	5
1.4.2	Rebalancing Process.....	5
2	Index Calculation Methodology.....	7
2.1	Base Parameters.....	7
2.2	Weighting and Rebalancing of Index Components	7
2.3	Index Roll Calendar and Methodology.....	8
2.3.1	Roll Calendar.....	8
2.3.2	Calculation of the PACI Excess Return Index	9
2.4	Calculation of the PACI Total Return Index.....	10
2.5	Market Disruption Events	11
2.6	Calculation of PACI Sub-Indices.....	13
3	Historical Index Data and Data Sources.....	14
3.1	Historical Index Returns.....	14
3.2	Market Data Sources	14
4	Index Publication.....	15
4.1	Picard Angst Website	15
4.2	Bloomberg	15
4.3	Reuters	15
4.4	Telekurs	16
4.5	VWD	16
5	Bibliography.....	18

1 Index Overview

1.1 Introduction

Today commodities are recognized as an essential ingredient to a diversified financial portfolio. The principal benefits of adding commodity exposure include¹:

- Negative correlation with other asset classes, particularly equities and bonds
- Positive correlation with inflation, thus acting as an inflation hedge
- Equity-like excess returns on a rebalanced portfolio of commodity futures

The Picard Angst Commodity Index™ (PACI) provides broad-based and balanced exposure to commodities as an asset class, since no single commodity or commodity sector dominates the index. It was created and launched by Picard Angst in 2008. The index is calculated and published on both an excess return and a total return basis².

This handbook provides a comprehensive description of the construction and calculation methodology of the index. It is revised annually following the convention of the index supervisory committee. In addition to being included in the handbook edition for the following year, modifications to the index composition or calculation methodology as well as any other material changes are also announced and disseminated on the website of Picard Angst AG.

1.2 Supervisory Committee

The Picard Angst Commodity Indices Supervisory Committee monitors as well as formulates and enacts all decisions regarding any necessary adjustments triggered by market events in the calculation, composition and management of the index. The committee convenes once per year during the month of November.

However, if exceptional market circumstances arise the committee may assemble additionally on any other day of the year (see also section 1.4).

The Picard Angst Commodity Indices Supervisory Committee is composed of:

- Rolf Beyeler, Member of the Board, Picard Angst AG
- Dr. Peter A. Pfister, Chairman of the Board, Picard Angst AG
- Maurice Picard, Partner, Picard Angst Holding AG

Changes to the composition of the index supervisory committee are at the sole discretion of Picard Angst AG.

¹ See e.g. Erb and Harvey (2006), Gorton and Rouwenhorst (2004).

² Throughout this handbook references to "PACI" and "index" refer to all related index versions unless explicitly noted otherwise.

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1.3 Construction Criteria

The value of the index is computed on the basis of hypothetical investments in the basket of commodities that make up the index. The index embodies four main principles in its design:

1.3.1 Simplicity and Parsimony

Over the past decade, a fair number of commodity indexes have been launched intended to serve as benchmarks and indicators of broad commodity price trends. Many of them employ elaborate weighting schemes based on historical liquidity measures and production figures as well as complex roll and rebalancing procedures. Frequently, this has resulted in such indexes exhibiting wide variations in component weightings and composition over time, thereby jeopardizing desirable index attributes such as diversification and continuity and failing to mirror the price trend of the broad asset class.

Conversely, the overarching principle in the design of the Picard Angst Commodity Index™ was simplicity and parsimony in construction and methodology. Specifically, this means that unnecessary complexity in the calculation methodology was avoided where possible while ensuring a balanced representation of global commodity trends based on long-term commodity consumption patterns.

Restriction to a core set of 10 commodity contracts allows for easy and transparent analysis of the impact of specific commodity sectors on index values. An algorithmic roll methodology and a roll calendar focused on those contract months with the highest liquidity contribute to minimizing the transaction cost overhead of replicating the index.

1.3.2 Economic Significance

A commodity index represents the importance of a diversified group of commodities to the world economy. The decisive criteria for inclusion of a commodity in the index and its weighting in the index are its role and importance in global consumption. The commodities reflected in the index represent the economically most significant commodities of their respective sector.

Worldwide consumption patterns are measured by tracking international production and import/export flows as well as domestic consumption environments of the world's primary commodity consumers. Contracts that exhibit only regional importance (e.g. North American natural gas futures as traded on NYMEX) are excluded from consideration.

To obtain an accurate picture of international commodities consumption, a wide range of sources on commodities demand and supply is consulted including:

- Commodity Trade Statistics Database, United Nations Statistics Division (New York)
- Foreign Agricultural Services Production, Supply and Distribution Database, U.S. Department of Agriculture (Washington, DC)
- Industrial Commodity Statistics Yearbook, United Nations (New York)
- Sugar Yearbook, International Sugar Organization (ISO) (London)

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- World Agriculture Assessments of Intergovernmental Groups, Food & Agriculture Organization of the United Nations (Rome)
- World Commodity Forecasts, Economist Intelligence Unit (London)
- World Metals Statistics, World Bureau of Metal Statistics (London)

1.3.3 Continuity

The Picard Angst Commodity Index™ aspires to reflect the changing nature of commodity markets in a manner that does not completely reshape the character of the index from year to year. It is intended to provide a stable benchmark, so that end-users may be reasonably confident that historical performance data is based on a structure that bears resemblance to both the current and future composition of the index.

The relative economic significance among commodity sectors and single commodities tends to be very stable over longer timeframes as evidenced by highly stationary properties of historical consumption ratios. Due to index weighting and rebalancing being determined on the basis of long-term global commodity consumption statistics, changes to the index composition and weights are very rare.

In addition to conservative component selection/modification rules (see section 1.4.1), the objective of index continuity is further ensured by a standardized rebalancing process (see section 1.4.2) and the diversification limits as set forth below in section 1.3.4.

1.3.4 Diversification

Another goal of the Picard Angst Commodity Index™ is to provide diversified exposure to commodities as an asset class. Disproportionate weighting of any particular commodity or commodity sector increases volatility and negates the concept of a broad-based and representative commodity index.

The following diversification rules have been established and are enforced annually:

- No single commodity may constitute less than 2% of the index.
- No single commodity may constitute more than 15% of the index.
- No commodity sector (e.g. energy, grains, precious metals etc.) may constitute more than 35% of the index.

1.4 Composition, Weights and Rebalancing

Following the principles and rules discussed above, the Picard Angst Commodity Index™ is composed of a set of 10 core commodities.

As a result of economic significance as evidenced by long-term global consumption statistics component percentage weights for the index year 2018 have been determined as follows:

Product	Symbol	Exchange	Currency	Weight
Brent Crude Oil	CO	ICE	USD	10%
Heating Oil	HO	NYMEX	USD	10%
Wheat	W	CBOT	USD	10%
Corn	C	CBOT	USD	10%
Soybeans	S	CBOT	USD	10%
Sugar #11	SB	NYBOT	USD	10%
LME Aluminium ³	LA	LME	USD	10%
LME Copper ³	LP	LME	USD	10%
Gold	GC	COMEX	USD	10%
Silver	SI	COMEX	USD	10%

Table 1: PACI 2018 index composition and component percentage weights

³ Effective as of the January 2010 index roll and rebalancing the designated contracts for LME Primary Aluminium and LME Copper have been changed from the rolling 3 month forward contracts to the corresponding third Wednesday prompt contracts. For LME prompt contracts, the real-time calculation uses the last official settlement price of the third Wednesday prompt contract adjusted by the real-time change in the corresponding 3 month forward contract.

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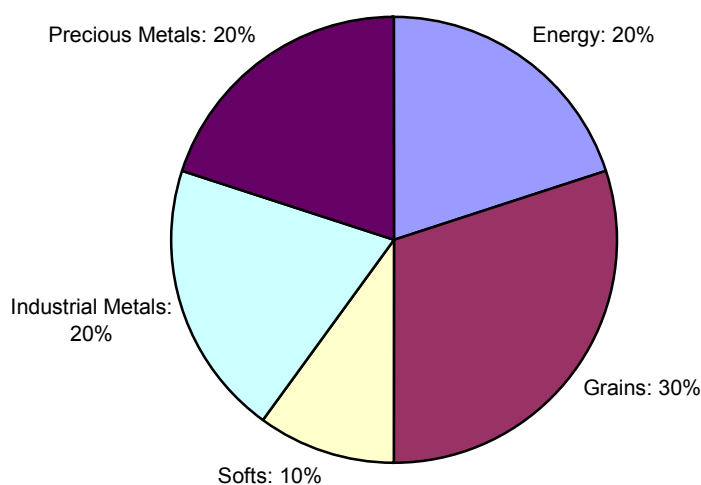


Figure 1: PACI 2018 initial index weights by commodity sector

1.4.1 Component Selection and Weighting Rules

Generally, the selection and weighting of the constituents of the index are monitored annually, and Component Percentage Weights (CPW) for the upcoming year are confirmed in November.

Pursuant to the design principle of continuity, the Picard Angst Commodity Index™ composition may be adjusted only under rare conditions, if required by the evolution of the markets. Changes will only be considered under the following circumstances:

1. Major market changes in long-term global commodity consumption patterns (cf. section 1.3.2)
2. Continuous averse trading conditions for a single contract (e.g. collapse in trading volume)
3. Termination or replacement of a futures contract by the exchange

All commodities included in the index must be publicly traded on exchanges to ensure ease of tracking and verification. If a commodity trades on more than one exchange the most liquid contract, in terms of trading volume and open interest combined, is selected.

1.4.2 Rebalancing Process

Due to their highly cyclical nature and in contrast to traditional asset classes like equities and bonds commodities exhibit pronounced mean reverting characteristics. Furthermore commodities do not produce periodic cash flows. This means that the choice of an opti-

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mal rebalancing strategy takes on added importance as rebalancing can contribute significantly to overall returns.

Research suggests that a rebalancing cycle of 250 trading days yields optimal risk-adjusted returns for broadly diversified commodity portfolios⁴. Thus, the index is rebalanced annually from the first to the fourth business day of the new year towards their confirmed component percentage weights.

⁴ See Raab (2007), 199 pp.

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2 Index Calculation Methodology

The index calculation methodology is verified annually by the index committee during its meeting in November and possibly adjusted thereafter, if market circumstances so require.

Two flavors of the Picard Angst Commodity Index™ are calculated: An excess return version (PACI ER™) and a total return version (PACI TR™).

2.1 Base Parameters

The initial value of both the excess return and total return version of the Picard Angst Commodity Index™ is 1000 as of December 31, 2007.

Both indexes are denominated in US Dollars as index reference currency. Component commodity prices for which quoting conventions do not conform to units of USD (e.g. wheat being quoted in US cents per bushel) are adjusted accordingly.

The Picard Angst Commodity Index™ is calculated for each business day as determined in accordance with the NYSE Euronext Holiday & Hours schedule (as published on the NYSE Euronext website or any successor thereto). For further details concerning the handling of market holidays and market disruption events see section 2.5.

2.2 Weighting and Rebalancing of Index Components

To achieve the percentage weightings of the index components in index reference currency terms as prescribed by their respective Component Percentage Weights (CPW) an Index Component Multiplier (ICM) is fixed for each constituent commodity. Index constituents' ICMs are confirmed annually and remain fixed throughout the year. As a result, the observed percentage weight of each index component will float over the course of the year according to market developments until the ICMs are confirmed or adjusted according to market developments for the next year based on their respective CPWs.

The annual ICM confirmation date is the last business day of the preceding year. The annual rebalancing of the index is then implemented with the introduction of confirmed or adjusted ICMs from the first to the fourth business day of each year.

For the PACI index year 2018 the ICM confirmation date is 29 December 2017.

To fix the respective ICMs for year y , first Initial Index Component Multipliers (IICM) need to be calculated based on the CPW of each component i and the corresponding Next Contract Settlement Price ($NCP_{i,t}$) on the ICM determination date t :

$$IICM_{i,y} = \frac{CPW_{i,y} * 1000}{NCP_{i,t}}$$

The IICMs are adjusted by a continuity factor (CF) in order to maintain index price continuity from year to year across rebalancing periods:

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$$CF_y = \frac{1}{1000} * \sum_{i=1}^n ICM_{i,y-1} * NCP_{i,t}$$

The initial continuity factor for the index base year (cf. section 2.1) is set to 1. ICMs for the new year are then calculated by multiplying the IICM for each commodity by the continuity factor rounding the result to 8 decimal places:

$$ICM_{i,y} = CF_y * IICM_{i,y}$$

The ICMs for the previous year continue to be used for index value calculation until the first index roll period of the next year. For further details, see section 2.3.2.

If substitution of an index component contract becomes necessary during the course of the year, the ICM for the new commodity contract j replacing contract i on substitution date t is determined as follows:

$$ICM_{j,y} = \frac{ICM_{i,y} * NCP_{i,t}}{NCP_{j,t}}$$

As always, this ICM is rounded to 8 decimal places.

2.3 Index Roll Calendar and Methodology

Because the PACI indexes are designed as investable and tradable indexes that can be used to replicate actual commodity market performance, their calculation takes into account the fact that a person holding positions in the first nearby contract expiration of each constituent contract would need to roll such positions forward as they approach settlement or delivery. For this reason, the methodology for calculating the PACI indexes includes a roll procedure designed to replicate the rolling of actual positions in the constituent contracts.

2.3.1 Roll Calendar

The Lead Contract means, in respect of a commodity (i) and any business day (t) in a calendar month, the future contract with the delivery month specified under the relevant header for that calendar month as set out in Table 3. The Lead Contract Price ("LCP_{i,t}") is the price of the Lead Contract of commodity (i) on the business day (t).

The Next Contract means, in respect of a commodity (i) and any business day (t) in a calendar month, the futures contract with the delivery month specified under the relevant header for the immediately succeeding calendar month as set out in Table 3. The Next Contract Price ("NCP_{i,t}") is the price of the Next Contract of commodity (i) on the business day (t).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	F	G	H	J	K	M	N	Q	U	V	X	Z
CO	H	J	K	M	N	Q	U	V	X	Z	F	G
HO	G	H	J	K	M	N	Q	U	V	X	Z	F
W	H	H	K	K	N	N	U	U	Z	Z	Z	H
C	H	H	K	K	N	N	U	U	Z	Z	Z	H
S	H	H	K	K	N	N	X	X	X	X	F	F
SB	H	H	K	K	N	N	V	V	V	H	H	H
LA	H	H	K	K	N	N	U	U	X	X	F	F
LP	H	H	K	K	N	N	U	U	X	X	F	F
GC	G	J	J	M	M	Q	Q	Z	Z	Z	Z	G
SI	H	H	K	K	N	N	U	U	Z	Z	Z	H

Table 2: Roll calendar for PACI constituent commodity contract series

2.3.2 Calculation of the PACI Excess Return Index

The PACI Excess Return Index (PACI ER™) rolls its exposure from the first to the fourth business day of the month, 25% each day subject to market disruption (see section 2.5).

As an excess return index the PACI Excess Return Index (PACI ER™) represents the un-collateralized return of the weighted basket of its constituent commodities. The PACI ER™ settlement price is determined on a daily basis using the applicable settlement prices on the current and prior business day.

The PACI Excess Return Index is calculated as follows:

(1) On the first business day of the month

(a) In any month except January:

$$PACI - ER_t = PACI - ER_{t-1} * \frac{\sum_{i=1}^n ICM_{i,y} * LCP_{i,t}}{\sum_{i=1}^n ICM_{i,y} * NCP_{i,t-1}}$$

LCP_{i,t} and NCP_{i,t-1} refer to the price of the same contract as it is the first business day of the month.

(b) In January:

The Index is calculated as described in 2.3.2 (1) (a) expect that the Lead Contract Price ("LCP_{i,t}") and the Next Contract Price as of time t-1 ("NCP_{i,t-1}") which on the first business day of the month is equivalent to "LCP_{i,t}") are multiplied by the previous year ICM ("ICM_{i,y-1}") to reflect the fact that the weight rebalancing has not happened yet:

$$PACI - ER_t = PACI - ER_{t-1} * \frac{\sum_{i=1}^n ICM_{i,y-1} * LCP_{i,t}}{\sum_{i=1}^n ICM_{i,y-1} * NCP_{i,t-1}}$$

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(2) From the second business day of the month to the completion of the roll period:

(a) In any month except January:

$$PACI - ER_t = PACI - ER_{t-1} * \frac{\sum_{i=1}^n ICM_{i,y} * LCP_{i,t} * RW_{i,t-1} + \sum_{i=1}^n ICM_{i,y} * NCP_{i,t} * (1 - RW_{i,t-1})}{\sum_{i=1}^n ICM_{i,y} * LCP_{i,t-1} * RW_{i,t-1} + \sum_{i=1}^n ICM_{i,y} * NCP_{i,t-1} * (1 - RW_{i,t-1})}$$

where: $RW_{i,t}$ means the contract roll weight for the Lead Contract of commodity i which is equal to 1.0 on the last business day of each month and which reduces by one quarter on each roll day such that on the last roll day is equal to 0.0, subject to Market Disruption Event (section 2.5).

For sake of clarity, $RW_{i,2}$ should be 0.50 which is used to calculate the index value on the third business day ($t=3$), subject to no market disruption event for commodity i on the second business day,

(b) In January:

The Index is calculated as described in 2.3.2 (2) (a) except that the Lead contract prices (" $LCP_{i,t}$ " and " $LCP_{i,t-1}$ ") are multiplied by the previous year ICM (" $ICM_{i,y-1}$ ") to reflect the fact that the rebalancing is still happening:

$$PACI - ER_t = PACI - ER_{t-1} * \frac{\sum_{i=1}^n ICM_{i,y-1} * LCP_{i,t} * RW_{i,t-1} + \sum_{i=1}^n ICM_{i,y} * NCP_{i,t} * (1 - RW_{i,t-1})}{\sum_{i=1}^n ICM_{i,y-1} * LCP_{i,t-1} * RW_{i,t-1} + \sum_{i=1}^n ICM_{i,y} * NCP_{i,t-1} * (1 - RW_{i,t-1})}$$

(3) After the completion of the roll period:

For the remainder of the month, the Index is calculated as follows:

$$PACI - ER_t = PACI - ER_{t-1} * \frac{\sum_{i=1}^n ICM_{i,y} * NCP_{i,t}}{\sum_{i=1}^n ICM_{i,y} * NCP_{i,t-1}}$$

Following the preceding calculations, the PACI-ER™ is rounded to 8 decimal places.

2.4 Calculation of the PACI Total Return Index

The PACI Total Return Index (PACI TR™) reflects the returns on a fully collateralized investment in the PACI Excess Return Index. This combines the returns of the PACI ER™

with the returns on cash collateral invested in US Treasury Bills. These returns are calculated by using the most recent weekly auction high rate for 3 Month US Treasury Bills⁵.

To calculate the PACI TR™ on day t :

- Calculate the PACI Daily Excess Return (DER) using the unrounded values for the PACI-ER at times t and $t-1$:

$$DER_t = \frac{PACI-ER_t}{PACI-ER_{t-1}} - 1$$

- Determine the Three Month Treasury Bill Daily Interest Rate Return (IRR) as follows:

$$IRR_t = \left(\frac{1}{1 - TBR_{t-1} \cdot \frac{\Delta t}{360}} \right)^{\frac{\Delta t}{91}} - 1$$

where: Δt is the difference between the date of index business day (t) and the preceding index business day ($t-1$) expressed in terms of calendar days consistent with the ACT/ACT day count convention as applicable to US treasury securities.

The most recent Three Month Treasury Bill auction high rate (TBR) is used for each business day until the next rate is released. To ensure index replicability, a newly released rate is introduced into the index calculation only on the first business day following its release date. The new rate is generally obtained on Monday and, accordingly, is first used in Tuesday's index price calculation. In the event of a holiday or other disruption in the Treasury auction schedule, the last available rate is used until the next rate becomes available.

- Calculate the PACI TR™ as follows:

$$PACI-TR_t = PACI-TR_{t-1} \cdot (1 + DER_t + IRR_t)$$

The PACI TR™ is rounded to 8 decimal places.

2.5 Market Disruption Events

The Picard Angst Commodity Index™ is a futures-based index. From time to time, market disruptions may occur in trading futures contracts on various commodity exchanges. The following rules will govern the means by which the index accommodates potential market disruptions.

⁵ On Bloomberg, ticker symbol *USB3MTA Index* provides 3 Month US Treasury Bill auction high rates. US Treasury Bill Auction results are also published once per week on Monday by the Bureau of the Public Debt of the US Treasury Department on its website at <https://www.treasurydirect.gov/instit/annceresult/annceresult.htm>.

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For the purposes of the calculation of the PACI ER™ and PACI TR™ indexes a market disruption event is defined as one of the following with respect to any Lead Contract or Next Contract used in the calculation of the index on that day:

- The suspension or termination of, or other material limitation in, the trading of such a contract
- The settlement price of any such contract reflecting the maximum permitted daily price change (limit up or limit down event)
- Failure of an exchange to publish official settlement prices for any such contract
- An exchange being closed for business

If any PACI index commodity is affected by a market disruption event on a regular index calculation day (i.e. a business day which is neither a roll day nor an ICM determination date), then index calculation proceeds as follows:

- In case of a limit up or limit down event, the index settlement price is calculated based on the limit up/down price for the affected future contract.
- For all other types of market disruption events or market holidays, the most recent prior settlement price available is employed in the index calculation.

If, on an business day during the roll period, there is a market disruption event, then the contract roll weight for the Lead Contract of that commodity will not decrease by one quarter and the portion of the roll that would otherwise have taken place on such business day will take place on the next succeeding business day on which no market disruption event exists in respect of that commodity (in addition to the one quarter portion of the roll scheduled to take place on that business day).

If the roll of the Lead Contract of that commodity is not completed during the roll period as a result of the roll adjustment mechanism, set out in the paragraph above, then any outstanding roll of such Lead Contract shall continue and will be completed in full on the first business day thereafter on which no market disruption event exists in respect of that commodity.

A market disruption event for any individual index commodity will not postpone the roll for any other index commodity unaffected by a market disruption event.

If a market disruption event occurs on an ICM determination date with respect to any lead future contract for an index commodity used in the calculation of the ICMs, then the settlement prices used to calculate the ICMs for such year will be taken from the first prior business day on which a market disruption event had not occurred for any such futures. This ensures that proper cross relationships between prices are preserved for this calculation.

2.6 Calculation of PACI Sub-Indices

In addition to the main Picard Angst Commodity Index™ sub-indexes for each commodity sector covered by the PACI index have been defined and are calculated on an excess return and total return basis.

Sub-Index	Components
PACI Energy Sub-Index	Brent Crude Oil Heating Oil
PACI Grains Sub-Index	Wheat Corn Soybeans
PACI Industrial Metals Sub-Index	LME Aluminium LME Copper
PACI Precious Metals Sub-Index	Gold Silver
PACI Softs Sub-Index	Sugar #11

Table 3: PACI sub-indexes and component commodities

Calculation of the PACI sub-indexes follows the same methodology and rules as laid out for the PACI indexes in sections 2.1 through 2.5 except for the input parameters to the weighted average value and continuity factor calculations.

The base values of both the excess return and total return versions of all PACI sub-indexes are set to 1000 as of December 31, 2007.

3 Historical Index Data and Data Sources

3.1 Historical Index Returns

Historical returns data for the PACI indexes has been reconstructed for the time period from January 1988 to December 2007.

All data used in the calculation of historical returns of the PACI ER™ and PACI TR™ indexes prior to the launch of the PACI indexes on January 2, 2008, which are set forth herein or in any other materials produced by Picard Angst AG are historical estimations using available data. While such data is believed to be accurate, Picard Angst AG does not make any representation as to its accuracy or completeness.

Along the entire historical index calculation period, index component weights were held fixed at the equal weight of 10% per commodity and rebalanced annually as described in section 2.2.

Due to inherent limitations of the historical data available for the reconstruction of index returns prior to 2008, a small number of deviations from the calculation methodology as set forth in this handbook could not be avoided:

- Calculation of historical returns did not take into account the potential presence of limit up or limit down conditions on roll days or ICM determination dates for any of the future contracts used. Thus, while accurately reflecting the performance of affected commodity future contracts the recorded performance may not have been fully replicable as an investment strategy.
- In the scheduling of ICM determination dates, the potential presence of limit up/down conditions in any lead contracts of constituent commodities have not been taken into account.

3.2 Market Data Sources

Historical index return calculation was based on the official commodity exchange prices of the futures contracts used as distributed by CSI Data and Bloomberg. Prospectively, index calculation will rely on market data provided by Bloomberg.

4 Index Publication

4.1 Picard Angst Website

The following PACI related resources are provided on the PACI website of Picard Angst at <http://www.pacindex.ch>:

- The most recent edition of the index handbook “Picard Angst Commodity Index – Construction and Calculation Methodology”
- Quotes of the most recent settlement values of the PACI ER™ and PACI TR™ indexes
- Historical return data for the PACI ER™ and PACI TR™ indexes

4.2 Bloomberg

Daily settlement values for the PACI indexes are published by Bloomberg and can be accessed using the following ticker symbols:

- **PACIER Index** Picard Angst Commodity Index – Excess Return
- **PACITR Index** Picard Angst Commodity Index – Total Return
- **PACO** Picard Angst Commodity Index overview page
- **PACIEN Index** PACI Energy Sub-Index – Excess Return
- **PACIENT Index** PACI Energy Sub-Index – Total Return
- **PACIGR Index** PACI Grains Sub-Index – Excess Return
- **PACIGRT Index** PACI Grains Sub-Index – Total Return
- **PACIIM Index** PACI Industrial Metals Sub-Index – Excess Return
- **PACIIMT Index** PACI Industrial Metals Sub-Index – Total Return
- **PACIPM Index** PACI Precious Metals Sub-Index – Excess Return
- **PACIPMT Index** PACI Precious Metals Sub-Index – Total Return
- **PACISO Index** PACI Softs Sub-Index – Excess Return
- **PACISOT Index** PACI Softs Sub-Index – Total Return

4.3 Reuters

Daily settlement values for the PACI indexes are published by Reuters and can be accessed using the following ticker symbols:

- **.PACIER** Picard Angst Commodity Index – Excess Return
- **.PACITR** Picard Angst Commodity Index – Total Return
- **PACOMMODITIES** Picard Angst Commodity Index overview page
- **.PACIEN** PACI Energy Sub-Index – Excess Return

Picard Angst Commodity Index (the “Index”) is the property of Picard Angst AG, which has contracted with Standard & Poor’s (“S&P”) to maintain and calculate the Index. S&P shall have no liability for any errors or omissions in calculating the Index.

- **.PACIENT** PACI Energy Sub-Index – Total Return
- **.PACIGR** PACI Grains Sub-Index – Excess Return
- **.PACIGRT** PACI Grains Sub-Index – Total Return
- **.PACIIM** PACI Industrial Metals Sub-Index – Excess Return
- **.PACIIMT** PACI Industrial Metals Sub-Index – Total Return
- **.PACIPM** PACI Precious Metals Sub-Index – Excess Return
- **.PACIPMT** PACI Precious Metals Sub-Index – Total Return
- **.PACISO** PACI Softs Sub-Index – Excess Return
- **.PACISOT** PACI Softs Sub-Index – Total Return

4.4 Telekurs

Daily settlement values for the PACI indexes are published by Telekurs and can be accessed using the following Valor numbers:

- **3975992** Picard Angst Commodity Index – Excess Return
- **3976001** Picard Angst Commodity Index – Total Return
- **10450844** PACI Energy Sub-Index – Excess Return
- **10450858** PACI Energy Sub-Index – Total Return
- **10450859** PACI Grains Sub-Index – Excess Return
- **10450862** PACI Grains Sub-Index – Total Return
- **10450919** PACI Industrial Metals Sub-Index – Excess Return
- **10450928** PACI Industrial Metals Sub-Index – Total Return
- **10450912** PACI Precious Metals Sub-Index – Excess Return
- **10450917** PACI Precious Metals Sub-Index – Total Return
- **10450929** PACI Softs Sub-Index – Excess Return
- **10450931** PACI Softs Sub-Index – Total Return

4.5 VWD

Daily settlement values for the PACI indexes are published by VWD and can be accessed using the following ISIN numbers:

- **CH0039759920** Picard Angst Commodity Index – Excess Return
- **CH0039760019** Picard Angst Commodity Index – Total Return
- **CH0104508442** PACI Energy Sub-Index – Excess Return
- **CH0104508582** PACI Energy Sub-Index – Total Return
- **CH0104508590** PACI Grains Sub-Index – Excess Return

Picard Angst Commodity Index (the "Index") is the property of Picard Angst AG, which has contracted with Standard & Poor's ("S&P") to maintain and calculate the Index. S&P shall have no liability for any errors or omissions in calculating the Index.

- **CH0104508624** PACI Grains Sub-Index – Total Return
- **CH0104509192** PACI Industrial Metals Sub-Index – Excess Return
- **CH0104509283** PACI Industrial Metals Sub-Index – Total Return
- **CH0104509127** PACI Precious Metals Sub-Index – Excess Return
- **CH0104509176** PACI Precious Metals Sub-Index – Total Return
- **CH0104509291** PACI Softs Sub-Index – Excess Return
- **CH0104509317** PACI Softs Sub-Index – Total Return

5 Bibliography

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