MSCI Total Return Futures Contracts FAQ

April 2024

1. What are MSCI Total Return Futures Contracts?

MSCI Total Return Index Futures Contracts ("TRFs") offer an Exchange listed solution in trading the implied equity repo rate. TRFs closely replicate the payoff on an index total return swap (TRS) in a more cost-efficient way. ICE MSCI TRFs, represent the theoretical total returns exposure to the referenced MSCI Index from the trade date assuming the position is held to its expiry. TRF's benefit from centralized clearing removing bi-lateral counterparty risk, and benefit from favorable initial margin requirements.

2. Which MSCI TRFs are listed for trading?

All MSCI TRFs are listed on ICE U.S. The Exchange currently lists the following contracts:

- MSCI USA Total Return Index Futures
- MSCI Emerging Markets Total Return Index Futures
- MSCI EAFE Total Return Index Futures
- MSCI World Total Return Index Futures

3. What are the Underlying Indexes for MSCI TRFs? What are the contract codes?

Underlying MSCI Index	Underlying Index Quarterly Futures Code	TRF Contract Code	Underlying Index Ticker
MSCI USA GTR	USS	MVA	M2US
MSCI EM NTR	MMN	MVE	M1EF
MSCI EAFE NTR	MFU	MVH	M1EA
MSCI World NTR	MWS	MWA	M1WO

Contract specifications for each of the above contracts are provided in Appendix A.

4. What are contract sizes for MSCI TRFs?

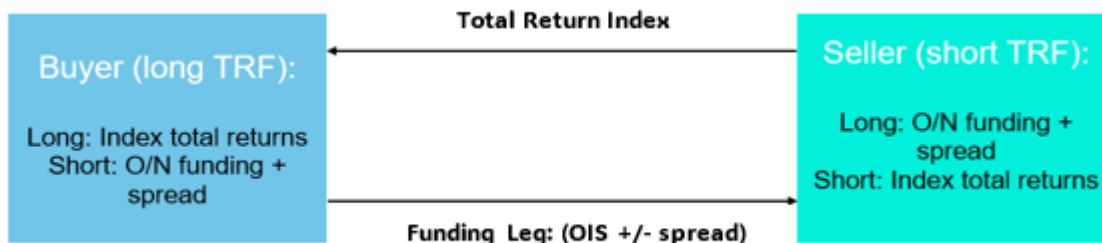| MSCI TRF Contract	Contract Size per Index Point
MSCI USA	$5
MSCI Emerging Markets	$100
MSCI EAFE	$5
MSCI World	$5

5. What is the Benchmark Funding Rate for MSCI TRFs?

The Funding Rate for the TRFs is the Secured Overnight Financing Rate (SOFR). The NY Fed publishes the SOFR Rate daily at approximately 8:00am (ET). In the event the Funding Rate is not published on a given day, the most current previous day's Funding Rate will be used.

6. How are MSCI TRFs Structured?

MSCI TRFs are comprised of three key components:

- **Equity Index**: Respective MSCI underlying index - references the total return version of the index, either gross or net. The index reflects the changes in the underlying index price and includes the daily reinvestment of dividends.
- **Daily accrued financing**: TRFs include a daily accrual of the Secured Overnight Financing Rate (SOFR).
- **Financing spread** is an agreed-upon additional rate that is applied to the benchmark interest rate (SOFR).

Total Return Index

Buyer (long TRF):

Long: Index total returns
Short: O/N funding + spread

Seller (short TRF):

Long: O/N funding + spread
Short: Index total returns

Funding Leg: (OIS +/- spread)

In short, buyers will receive an equity amount equal to the performance of the MSCI Index including the associated dividend distribution. Buyers will pay a floating amount equivalent to the overnight funding rate (SOFR) plus an additional TRF adjustment spread. This financing spread is the seller's added premium on SOFR and represents the cost of funding for the MSCI TRF contract.

7. What are the order types for MSCI TRFs?

Trade-At-Close ("TAC") with an index level based on the daily respective MSCI Underlying Index Close.
- TAC are both CLOB and block enabled

Trade-At-Market ("TAM") with a custom defined MSCI index level. Custom defined index is an index level predetermined and entered by the exchange participant.
- TAM are block and EFRP only

TAC and TAM trades have the same Contract Codes and are fully fungible.

8. Are TRFs traded in basis points or index points?

MSCI TRFs are traded as a spread as an annualized rate expressed in basis points. The TRF spread represents the spread financing leg (+/-) over the Funding Rate.
After a trade is matched, the TRF spread is used in conjunction with both the applicable index level and the time to maturity to calculate a Traded Basis in index points.
The Traded Basis in index points is used in conjunction with the Accrued Funding to calculate the Traded Futures Price. The Traded Futures price is then sent to ICE Clear U.S.
TRF spread and futures price calculations are detailed in Appendix B.

9. Daily Settlement Prices

Daily Settlement TRF spreads are determined and used with the index close levels and time to maturity to calculate Settlement Basis (same as Trade Basis) in index points. The Settlement Basis will be used in conjunction with the Accrued Funding to calculate the Daily Settlement Price in index points.

10. What is the last day of trading?

The third Friday in the expiration month. Cash settlement on the 2nd business day after Expiration Day.

11. Final Settlement Price

Final Settlement: Index Futures EDSP (t) - Accrued Funding(t) + Traded Basis (t).

Where:

- Traded Basis is zero as on expiration the time to expiry is zero.
- Cash settlement on the 2nd business day after Expiration Day

12. What are the trading hours for MSCI TRFs?

8:30am to 6::00pm (ET). Preopen starts 30 minutes prior to the start of trading.

13. What trading months are listed for trading?

Out to nine years and eleven months:
- nearest 12 quarterly months of the March, June, September and December cycle and
- subsequent 7 annual December expiries.

14.   What are trading and clearing fees for MSCI TRFs?

Trading and clearing fees for MSCI TRF futures can be found here (add link).

15. What is the minimum block size for MSCI TRFs?

5 lots for all contacts.

16. Are calendar spreads available for MSCI TRFs?

Yes, calendar spreads are enabled for all TRF contracts.

17. How will the May 28^{th,}, 2024 transition to T+1 settlement impact MSCI TRFs?

May 28th, 2024 Transition to T+1 Settlement :
The SEC has officially finalized rules to shorten the equity settlement cycle with an effective date of May 28, 2024. The new rules will reduce the standard settlement time from trade date plus two business days (T+2) to trade date plus one business day (T+1). This transition to T+1 settlement will only apply to equities listed and traded in the United

States. Equities which are traded outside of the United States will remain on the T+2 settlement convention.   This change in the settlement cycle will impact the accrued financing calculations for several of the ICE U.S. MSCI TRFs. Specifically, the following changes will occur:

On May 28th, 2024, settlement days will change from t + 2 to t + 1 for the following calculations:

Days to Maturity(t) = [expiry date + 2 settlement days] - [t + 2 settlement days]

Funding Days(t) = [t + 2 settlement days] - [(t - 1) + 2 settlement days]

Note the following:

A. Any trades that occur prior to May 28th will be calculated using t+2 settlement dates despite the contract's maturity date.
B. For May 28th, the above formula will be as follows:
    Funding Days(t) = [t + 1 settlement days] - [(t - 1) + 2 settlement days]

The business day before May 28th is May 24th due to Memorial Day on the 27th. Hence, May 28th (+1) and May 24th (+2) both result in the same day of May 29th. Therefore, there will be zero accrued financing realized for May 28th.

MSCI TRFs Impacted

MSCI USA Total Return Index Future (contract symbol MVA)
MSCI World Total Return Index Future (contract symbol MWA)

MSCI TRFs Not Impacted

MSCI Emerging Markets Total Return Index Future (contract symbol MVE)
MSCI EAFE Total Return Index Future (contract symbol MVH)

18. Contract Specs

MSCI USA Total Return Futures

Underlying Index	MSCI USA GTR Index
Contract Symbol	MVA
Contract Size	$5 per index point
TRF Spread	Quoted in Total Return Spread ("TRF Spread") in +/- 0.500 basis points (+/- 0.010 for block trades) .
Traded Basis Calculation	The TRF spread along with the Index Close/Custom Index value and the time to maturity are used to calculate a Traded Basis Price in index points according to the formula below (the complete Traded Basis formula and all defined terms can be found in the rule book): **Trade at Index Close (TAC):** *Traded Basis (t) = Index Close(t) * [traded TRF Spread(t)*0.0001] * (days to maturity(t) / Annualization Factor)* **Trade at Market (TAM):** *Traded Basis (t) = Custom Index(t) * [traded TRF Spread(t)*0.0001] * (days to maturity(t) / Annualization Factor)*
Minimum Traded Futures Price Fluctuation (Index Points)	The minimum Traded Futures Price fluctuation shall be 0.01 index points (which is $0.05 per contract).
Traded Futures Price Calculation	Traded Futures Price is calculated using the Index Close/Custom Index value, the Traded Basis and Accrued Funding as set forth below (the complete Traded Futures Price formula and all defined terms can be found in the rule book): **For Trade at Index Close (TAC)** *Traded Futures Price (t) = Index Close (t) - Accrued Funding(t) + Traded Basis (t)* **For Trade at Market (TAM)**

	Traded Futures Price (t) = Custom Index (t)) - Accrued Funding (t) + Traded Basis (t)
Contract months	Out to nine years and eleven months: - nearest 12 quarterly months of the March, June, September and December cycle, and - subsequent 7 annual December expiries
Trading hours	8:30am to 6:00pm (ET). Preopen starts 30 minutes prior to the start of trading.
Last Trading Day	The third Friday in the expiration month. In the event the third Friday is not a business day, the Expiration Day shall be the last business day preceding the third Friday
Expiration Day	Third Friday in the expiration month. In the event the third Friday is not a business day, the Expiration Day shall be the last business day preceding the third Friday.
Daily Settlement Price (DSP) (Index Points)	Same calculation as Traded Futures Price above, Daily Settlement TRF spread is determined and used with index close level and time to maturity to calculate a Settlement Basis (same as Trade Basis) in index points. The Settlement Basis will be used in conjunction with the Accrued Funding to calculate DSP in index points.
Final Settlement (Index Points)	Final settlement: MSCI closing cash index value on Expiration Day (t) - Accrued Funding(t) + Traded Basis (t). Where: Traded Basis is zero as on expiration the time to expiry is zero
Settlement	Cash settlement on the 2nd business day after Expiration Day
Position Accountability and Limit Levels	TBD
Block Enabled	Yes, 5 lots
MIC Code	IFUS
Clearing Venue	ICUS

MSCI Emerging Markets Total Return Futures

Underlying Index	MSCI Emerging Markets NTR Index
Contract Symbol	MVE
Contract Size	$100 per index point
TRF Spread	Quoted in Total Return Spread ("TRF Spread") in +/- 0.500 basis points (+/- 0.010 for block trades).
Traded Basis Calculation	The TRF spread along with the Index Close/Custom Index value and the time to maturity are used to calculate a Traded Basis Price in index points according to the formula below (the complete Traded Basis formula and all defined terms can be found in the rule book): **Trade-At-Index Close (TAC):** *Traded Basis (t) = Index Close(t) * [traded TRF Spread(t)*0.0001] * (days to maturity(t) / Annualization Factor)* **Trade-At-Market (TAM):** *Traded Basis (t) = Custom Index(t) * [traded TRF Spread(t)*0.0001] * (days to maturity(t) / Annualization Factor)*
Minimum Traded Futures Price Fluctuation (Index Points)	The minimum Traded Futures Price fluctuation shall be 0.01 index points (equal to $1.00 per contract).
Traded Futures Price Calculation	Traded Futures Price is calculated using the Index Close/Custom Index value, the Traded Basis and Accrued Funding as set forth below (the complete Traded Futures Price formula and all defined terms can be found in the rule book): **For Trade-At-Index Close (TAC)** *Traded Futures Price (t) = Index Close (t) - Accrued Funding(t) + Traded Basis (t)* **For Trade-At-Market (TAM)** *Traded Futures Price (t) = Custom Index (t)) - Accrued Funding (t) + Traded Basis (t)*

Contract months	Out to nine years and eleven months: - nearest 12 quarterly months of the March, June, September and December cycle, and - subsequent 7 annual December expiries
Trading hours	8:30am to 6:00pm (ET). Preopen starts 30 minutes prior to the start of trading.
Last Trading Day	The third Friday in the expiration month. In the event the third Friday is not a business day, the Expiration Day shall be the last business day preceding the third Friday
Expiration Day	Third Friday in the expiration month. In the event the third Friday is not a business day, the Expiration Day shall be the last business day preceding the third Friday.
Daily Settlement Price (DSP) (Index Points)	Same calculation as Traded Futures Price above, Daily Settlement TRF spread is determined and used with index close level and time to maturity to calculate a Settlement Basis (same as Trade Basis) in index points. The Settlement Basis will be used in conjunction with the Accrued Funding to calculate DSP in index points.
Final Settlement (Index Points)	Final settlement: MSCI closing cash index value on the Expiration Day (t) - Accrued Funding(t) + Traded Basis (t). Where: Traded Basis is zero as on expiration the time to expiry is zero
Settlement	Cash settlement on the 2nd business day after Expiration Day
Position Accountability and Limit Levels	TBD
Block Enabled	Yes, 5 lots
MIC Code	IFUS
Clearing Venue	ICUS

MSCI EAFE Total Return Futures

Underlying Index	MSCI EAFE NTR Index
Contract Symbol	MVH
Contract Size	$5 per index point
TRF Spread	Quoted in Total Return Spread ("TRF Spread") in +/- 0.500 basis points (+/- 0.010 for block trades).
Traded Basis Calculation	The TRF spread along with the Index Close/Custom Index value and the time to maturity are used to calculate a Traded Basis Price in index points according to the formula below (the complete Traded Basis formula and all defined terms can be found in the rule book): **TradeAt-Index Close (TAC):** *Traded Basis (t) = Index Close(t) * [traded TRF Spread(t)*0.0001] * (days to maturity(t) / Annualization Factor)* **Trade-At-Market (TAM):** *Traded Basis (t) = Custom Index(t) * [traded TRF Spread(t)*0.0001] * (days to maturity(t) / Annualization Factor)*
Minimum Traded Futures Price Fluctuation (Index Points)	The minimum price fluctuation shall be 0.01 index points (equal to $0.05 per contract).
Traded Futures Price Calculation	Traded Futures Price is calculated using the Index Close/Custom Index value, the Traded Basis and Accrued Funding as set forth below (the complete Traded Futures Price formula and all defined terms can be found in the rule book): **For Trade-At Index Close (TAC)** *Traded Futures Price (t) = Index Close (t) - Accrued Funding(t) + Traded Basis (t)* **For Trade-At-Market (TAM)**

	Traded Futures Price (t) *= Custom Index (t)) - Accrued Funding (t) + Traded Basis (t)*
Contract months	Out to nine years and eleven months: - nearest 12 quarterly months of the March, June, September and December cycle, and - subsequent 7 annual December expiries
Trading hours	8:30am to 6:00pm (ET). Preopen starts 30 minutes prior to the start of trading.
Last Trading Day	The third Friday in the expiration month. In the event the third Friday is not a business day, the Expiration Day shall be the last business day preceding the third Friday
Expiration Day	Third Friday in the expiration month. In the event the third Friday is not a business day, the Expiration Day shall be the last business day preceding the third Friday.
Daily Settlement Price (DSP) (Index Points)	Same calculation as Traded Futures Price above, Daily Settlement TRF spread is determined and used with index close level and time to maturity to calculate a Settlement Basis (same as Trade Basis) in index points. The Settlement Basis will be used in conjunction with the Accrued Funding to calculate DSP in index points.
Final Settlement (Index Points)	Final settlement: MSCI closing cash index value on Settlement Day (t) - Accrued Funding(t) + Traded Basis (t). Where: Traded Basis is zero as on expiration the time to expiry is zero
Settlement	Cash settlement on the 2nd business day after Expiration Day
Position Accountability and Limit Levels	TBD
Block Enabled	Yes, 5 lots
MIC Code	IFUS
Clearing Venue	ICUS

MSCI World Total Return Index Futures

Underlying Index	MSCI World NTR Index
Contract Symbol	MWA
Contract Size	$5 per index point
TRF Spread	Quoted in Total Return Spread ("TRF Spread") in +/- 0.500 basis points (+/- 0.010 for block trades).
Traded Basis Calculation	The TRF spread along with the Index Close/Custom Index value and the time to maturity are used to calculate a Traded Basis Price in index points according to the formula below (the complete Traded Basis formula and all defined terms can be found in the rule book): **Trade-At-Index Close (TAC):** *Traded Basis (t) = Index Close(t) * [traded TRF Spread(t)*0.0001] * (days to maturity(t) / Annualization Factor)* **Trade-At-Market (TAM):** *Traded Basis (t) = Custom Index(t) * [traded TRF Spread(t)*0.0001] * (days to maturity(t) / Annualization Factor)*
Minimum Traded Futures Price Fluctuation (Index Points)	The minimum price fluctuation shall be 0.01 index points (equal to $0.05 per contract).
Traded Futures Price Calculation	Traded Futures Price is calculated using the Index Close/Custom Index value, the Traded Basis and Accrued Funding as set forth below (the complete Traded Futures Price formula and all defined terms can be found in the rule book): **For Trade-At-Index Close (TAC)** *Traded Futures Price (t) = Index Close (t) - Accrued Funding(t) + Traded Basis (t)* **For Trade-At-Market (TAM)** *Traded Futures Price (t) = Custom Index (t)) - Accrued Funding (t) + Traded Basis (t)*

Contract months	Out to nine years and eleven months: - nearest 12 quarterly months of the March, June, September and December cycle, and - subsequent 7 annual December expiries
Trading hours	8:30am to 6:00pm (ET). Preopen starts 30 minutes prior to the start of trading.
Last Trading Day	The third Friday in the expiration month. In the event the third Friday is not a business day, the Expiration Day shall be the last business day preceding the third Friday
Expiration Day	Third Friday in the expiration month. In the event the third Friday is not a business day, the Expiration Day shall be the last business day preceding the third Friday.
Daily Settlement Price (DSP) (Index Points)	Same calculation as Traded Futures Price above, Daily Settlement TRF spread is determined and used with index close level and time to maturity to calculate a Settlement Basis (same as Trade Basis) in index points. The Settlement Basis will be used in conjunction with the Accrued Funding to calculate DSP in index points.
Final Settlement (Index Points)	Final settlement: MSCI closing cash index value on Expiration Day (t) - Accrued Funding(t) + Traded Basis (t). Where: Traded Basis is zero as on expiration the time to expiry is zero
Settlement	Cash settlement on the 2nd business day after Expiration Day
Position Accountability and Limit Levels	TBD
Block Enabled	Yes, 5 lots
MIC Code	IFUS
Clearing Venue	ICUS

19. Appendix B: MSCI TRF Calculations

Order Types

Trade-At-Close ("TAC") with an index level based on daily MSCI Underlying Index Close - TAC are both CLOB and block enabled.

Trade-At-Market ("TAM") with a custom defined MSCI Underlying index level. Custom defined index is an index level predetermined and entered by the exchange participant. TAM are block only.

Note: TAC and TAM trades are fully fungible. TAC trades are based on the daily MSCI underlying index closing value. Until the closing index value is known, TAC trades are priced as preliminary trades (based on the index close value from the previous day).

TRF Spread

The TRF spread is an annualized rate expressed in basis points. The TRF spread represents the spread financing leg (+/-) over the Funding Rate. Trade matching occurs in the TRF spread. After a trade is matched, the TRF spread is used in conjunction with both the applicable index level and the time to maturity to calculate a **Traded Basis** in index points. The Traded Basis in index points is used in conjunction with the **Accrued Funding** to calculate the **Traded Futures Price.** The Traded Futures price is then sent to ICE Clear U.S.

Traded Basis

The traded TRF Spread in basis points is converted to a Traded Basis in index points according to the following formulas:

> **Trade-At-Index Close (TAC):**
>
> *Traded Basis (t) = Index Close(t) * [traded TRF Spread(t)*0.0001] * (days to maturity(t) / Annualization Factor)*
>
> Where:
>
> t = current trading day
>
> Index Close(t) = the closing level of the MSCI underlying Index
>
> Note: The closing MSCI index level is defined as the official closing value as published by MSCI or the most current available closing value snapshot from market data sources that is available by 6pm. Note that the official closing value as published by MSCI will always be used for Final Settlement purposes for an expiring contract

Trade-At-Market (TAM):

*Traded Basis (t) = Custom Index(t) * [traded TRF Spread(t)*0.0001] * (days to maturity(t) / Annualization Factor)*

 Where:

t = current trading day

Custom Index (t) = index level of the MSCI underlying index as predetermined and entered by Exchange participant.

Day Count Convention - Time to maturity within the calculation of the Traded Basis in Index Points, the day count convention is Actual/360 which represents the actual number of days in the period referenced for calculation divided by 360 (360 being the Annualization Factor).

 Days to Maturity(t) = [expiry date + 2 settlement days] - [t + 2 settlement days]

Days to Maturity are expressed as actual number of days and based on the standard settlement days of the underlying equities.

Settlement days refer to any day on which the DTCC (Depository Trust Clearing Corp) is open for the settlement of payments in USD. **See Question 17 above for May 28th, 2024 transition to T+ 1 settlement dates for certain products.**

Accrued Funding (Index points)

Accrued Funding is calculated as:

Accrued Funding (t) = Accrued Funding (t-1) + Daily Funding (t)

Daily Funding is calculated as:
*Daily Funding(t) = Index Close (t-1) * Funding Rate (t-1) * (Funding Days (t)/ Annualization Factor)*
Where the Funding Rate (t-1) is the Funding Rate published on the current trading day. The NY Fed publishes the SOFR Rate (Funding Rate) on a daily basis at approximately 8:00am (ET). In the event the Funding Rate is not published on a given day, the most current previous day's Funding Rate will be used.
t-1 = trading day immediately preceding current trading day

Funding Days(t) = [t + 2 settlement days] - [(t-1) + 2 settlement days]

Funding days are expressed as actual number of days and based on the settlement days of the underlying equities (i.e. T+2 settlement basis). **See Question 17 above for May 28th, 2024 transition to T+ 1 settlement dates for certain products.**

Traded Futures Price

Traded Futures Price is calculated using the Traded Basis and Accrued Funding. Accrued Funding equals the cumulative value of the Daily Funding Amount since the listing of a contract. All expirations will reference this launch date. The daily changes in funding payments are paid out via variation margin.

Trade-At-Index Close (TAC)

Traded Futures Price (t) = Index Close (t) - Accrued Funding(t) + Traded Basis (t)

Where:

t = current trading day

Index Close(t) = the closing level of the underlying MSCI Index

Note: The closing MSCI index level is defined as the official closing value as published by MSCI or the most current available closing value snapshot from market data sources that is available by 6pm ET.

Trade-At-Market (TAM)

Traded Futures Price (t) = Custom Index (t)) - Accrued Funding (t) + Traded Basis (t)

Where:

t = current trading day

Custom Index (t) = index level of the Index as predetermined and entered by Exchange participant.

Settlement days refer to any day on which the DTCC (Depository Trust Clearing Corp) is open for the settlement of payments in USD