

tpSEF Inc.
101 Hudson Street
Jersey City
NJ 07302-3908
USA

tel +1 201 557 5000
fax +1 201 557 5995

web www.tullettprebon.com

October 26, 2017

By CFTC Portal

Mr. Christopher J. Kirkpatrick
Office of the Secretariat
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, N.W.
Washington, D.C. 20581

Re: *tpSEF Inc. – Regulation 40.2 Certification of Fixed for Floating Interest Rate Swaps (Uncleared) – COP-IBR-OIS-COMPOUND (tpSEF Submission #17-21P)*

Dear Mr. Kirkpatrick:

tpSEF Inc. (“tpSEF”) hereby notifies the Commodity Futures Trading Commission (the “Commission”) of its intent to list Fixed for Floating Interest Rate Swaps (Uncleared) – COP-IBR-OIS-COMPOUND (the “Contracts”) on tpSEF’s swap execution facility. tpSEF intends to list the Contracts on October 30, 2017.

Pursuant to Commission Regulation 40.2, this submission includes:

- i. The intended listing date – October 30, 2017;
- ii. A certification by tpSEF that: (a) the Contracts comply with the Commodity Exchange Act, as amended, and the Commission regulations thereunder; and (b) concurrent with this submission, tpSEF posted on its website: (i) a notice of pending certification of the Contracts, and (ii) a copy of this submission, attached as Exhibit A;
- iii. The terms and conditions of the Contracts, attached as Exhibit B; and
- iv. An explanation and analysis of the Contracts’ compliance with applicable core principles and Commission regulations, attached as Exhibit C.

tpSEF is listing the Contracts by virtue of updating the terms and conditions of Fixed for Floating Interest Rate Swaps submitted to the Commission for self-certification pursuant to Commission Regulation 40.2 on September 29, 2013. A copy of the terms and conditions marked to show changes from the version submitted on September 29, 2013 is attached as Exhibit D.

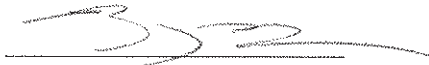
tpSEF will be separately updating Appendix B to its Rulebook (tpSEF Inc. Swap Specifications) to reflect this change.

Mr. Christopher J. Kirkpatrick
October 26, 2017
Page 2

Questions regarding this submission should be directed to Brian Donnelly, Chief Compliance Officer, at (201) 984-6956 or by email at bddonnelly@tullettprebon.com.

Very truly yours,

tpSEF Inc.

By: 

Name: Brian D. Donnelly

Title: Chief Compliance Officer

Date: October 26, 2017

Enclosures

cc: CFTC Division of Market Oversight (dmosubmissions@cftc.gov)
Roger Smith, CFTC (rsmith@cftc.gov)

EXHIBIT A

CERTIFICATIONS PURSUANT TO SECTION 5c OF THE COMMODITY EXCHANGE ACT,
7 U.S.C. §7A-2 AND COMMODITY FUTURES TRADING COMMISSION REGULATION 40.2,
17 C.F.R. §40.2

tpSEF Inc. (“tpSEF”) hereby certifies that: (i) Fixed for Floating Interest Rate Swaps (Uncleared) – COP-IBR-OIS-COMPOUND (the “Contracts”) comply with the Commodity Exchange Act, 7 U.S.C. §1 *et seq.* and Commodity Futures Trading Commission (“Commission”) regulations thereunder; and (ii) concurrent with this submission, tpSEF posted on its website: (a) a notice of pending certification of the Contracts with the Commission and (b) a copy of this submission.

tpSEF Inc.

By: 

Name: Brian D. Donnelly

Title: Chief Compliance Officer

Date: October 26, 2017

EXHIBIT B

Terms and Conditions

Summary:	This covers uncleared fixed for floating interest rate swaps (“Fixed for Floating Interest Rate Swap (Uncleared)”).
Limitations on Available Selections and Default Settings:	<p>The terms under which a Fixed for Floating Interest Rate Swap (Uncleared) contract may be traded are as specified in these terms and conditions or in the attached tables.</p> <p>For amounts or rates, the relevant term cannot be less than the specified Minimum, must represent an even Increment and cannot exceed the Maximum; for a date, the date cannot be earlier than Earliest nor later than Latest.</p> <p>For Business Days, the defaults shall be the locations specified for the relevant currency, any additional locations specified for the relevant Floating Rate Options.</p> <p>The parties may add additional locations from the Available Locations and may eliminate some or all of the other locations, so long as there is at least one location in which payment may be made. For these purposes “TARGET” is considered a location.</p> <p>In many cases there are normal “vanilla” terms on which the parties will transact. These are shown as “Default ” and will apply unless the parties vary them.</p> <p>It should be noted that these contracts can be traded in a variety of currencies. Since each national market has its own peculiarities, the “Available Terms” and/or “Default Terms” may vary by currency.</p> <p>In some cases, the same contract might have different terms depending on the market in which it is traded (e.g., London versus NY). In that case the default settings may vary by market.</p>
Incorporated Standards:	<p>This contract description incorporates by reference the following industry standard documentation and standards:</p> <ul style="list-style-type: none">(a) 2006 ISDA Definitions(b) ISDA Settlement Matrix (if Optional Early Termination applies)(c) ISDA OTC Taxonomies(d) FpML Location Codes <p>For convenience, certain terms are mapped to their FpML 5.5 equivalent.</p>

Product Type/ISDA OTC Taxonomy:	
ISDA OTC Asset Class:	Interest Rate
ISDA OTC Base Product:	IR Swap
ISDA OTC Sub-Product:	Fixed Floating
Further Limitations:	None
Terms:	
Notional Amount (“notional”):	An amount in one of the Available Currencies (see below) agreed by the parties.
Effective Date (“effectiveDate”):	The date specified by the parties, adjusted in accordance with any applicable Business Day Convention. The parties may express the unadjusted Effective Date as a number of Business Days or Banking Days from the Trade Date (“relativeEffectiveDate”).
Effective Date Business Days:	As specified by the parties from among the Available Business Days.
Effective Date Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Termination Date (“terminationDate”):	The date specified by the parties, adjusted in accordance with any applicable Business Day Convention. The parties may express the unadjusted Termination Date as a number of days, months or years from the Effective Date (“relativeTerminationDate”).
Termination Date Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Fixed Amount:	
Fixed Rate Payer (“payerPartyReference”):	As specified by the parties.
Currency Amount (“notionalAmount”):	As specified by the parties.
Fixed Rate Period End Dates (“unadjustedCalculation Period Date”):	As specified by the parties.
first Period End Date:	As specified by the parties if there is a short initial Calculation Period.
Fixed Rate Payment Dates (“unadjustedPaymentDate”):	As specified by the parties.
Day Count Fraction:	As specified by the parties.
Period End Dates Business Days:	As specified by the parties from among the Available Business Days.
Period End Dates Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Payment Dates Business Days:	As specified by the parties from among the Available Business Days, subject to any Required Business Days.
Payment Dates Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Floating Amount:	
Floating Rate Payer (“payerPartyReference”):	As specified by the parties.
Currency Amount (“notionalAmount”):	As specified by the parties.
Period End Dates (“unadjustedCalculation Period Date”):	As specified by the parties.
first Period End Date:	As specified by the parties if there is a short initial Calculation Period.
Payment Dates (“unadjustedPaymentDate”):	As specified by the parties.
initial Floating Rate:	As specified by the parties.
Floating Rate Option (“floatingRateIndex”):	As specified by the parties.
Designated Maturity (“indexTenor”):	As specified by the parties.
Linear Interpolation:	For the Calculation Periods specified by the parties.

Shorter Designated Maturity for Linear Interpolation:	For a Calculation Period to which Linear Interpolation applies, as specified by the parties.
Longer Designated Maturity for Linear Interpolation:	For a Calculation Period to which Linear Interpolation applies, as specified by the parties.
Spread:	As specified by the parties.
Day Count Fraction:	As specified by the parties.
Reset Dates ("resetDate"):	As specified by the parties.
Method of Averaging:	As specified by the parties.
Compounding:	As specified by the parties.
Compounding Dates:	In the event Compounding is selected, as selected by the parties.
Compounding Method (Compounding OR Flat Compounding):	In the event Compounding is selected, as selected by the parties.
Period End Dates Business Days:	As specified by the parties from among the Available Business Days.
Period End Dates Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Payment Dates Business Days:	As specified by the parties from among the Available Business Days, subject to any Required Business Days.
Payment Dates Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Reset Dates Business Days:	As specified by the parties from among the Available Business Days, subject to any Required Business Days.
Reset Dates Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Mark-to-Market Currency Swap:	
Mark-to-Market Currency Swap:	As specified by the parties, if the Currency Amounts are in different Currencies.
Variable Currency Payer:	As specified by the parties if the transaction is a Mark-to-Market Currency Swap.
Constant Currency Payer:	As specified by the parties if the transaction is a Mark-to-Market Currency Swap.
Currency Exchange Rate:	As specified by the parties if the transaction is a Mark-to-Market Currency Swap and ISDA MTM Matrix is not applicable.
ISDA MTM Matrix:	As specified by the parties if the transaction is a Mark-to-Market Currency Swap.
Initial Exchange:	
Initial Exchange Date:	As specified by the parties.
Fixed Rate Payer Initial Exchange Amount:	As specified by the parties.
Floating Payer Initial Exchange Amount:	As specified by the parties.
Currency:	As specified from the parties from the Available Currencies.
Interim Exchanges:	
Interim Exchange Dates:	As specified by the parties.
Fixed Rate Payer Interim Exchange Amount:	As specified by the parties.
Floating Payer Interim Exchange Amount:	As specified by the parties.
Currency:	As specified from the parties from the Available Currencies.
Final Exchange:	
Final Exchange Date:	As specified by the parties.
Fixed Rate Payer Final Exchange Amount:	As specified by the parties.
Floating Payer Final Exchange Amount:	As specified by the parties.

Currency:	As specified from the parties from the Available Currencies.
Optional Early Termination:	
Optional Early Termination:	As specified by the parties.
Option Style:	As specified by the parties.
Optional Early Termination Date:	As specified by the parties.
Seller:	As specified by the parties if only one party can terminate.
Buyer:	As specified by the parties, if only one party can terminate.
Seller's Agent:	As specified by the parties, if only one party can terminate.
Business Days for Payments:	As specified by the parties from among the Available Business Days, subject to any Required Business Days.
Exercise Business Days:	As specified by the parties.
Optional Early Termination Procedure for Exercise:	
Commencement Date:	As specified by the parties, if the Option Style is American.
Bermuda Option Exercise Dates:	As specified by the parties, if the Option Style is Bermuda.
Expiration Date:	As specified by the parties.
Expiration Time:	As specified by the parties.
Earliest Exercise Time:	As specified by the parties.
Latest Exercise Time:	As specified by the parties.
Exercise Business Day:	As specified by the parties.
Partial Exercise:	As specified by the parties, if Option Style is European.
Multiple Exercise:	As specified by the parties, if Option Style is American or Bermuda.
Minimum Notional Amount:	As specified by the parties if Partial Exercise or Multiple Exercise is specified.
Maximum Notional Amount:	As specified by the parties if Multiple Exercise is specified.
Integral Multiple:	As specified by the parties if Partial Exercise or Multiple Exercise is specified.
Optional Early Termination Settlement Terms:	
Cash Settlement:	As specified by the parties.
ISDA Settlement Matrix:	As specified by the parties, if Cash Settlement is applicable to a single currency Transaction.
ISDA Cross Currency Settlement Matrix:	As specified by the parties, if Cash Settlement is applicable to a cross currency Transaction whose currencies are listed as a "currency pair" in the Cross Currency Settlement Matrix.
Cash Settlement Valuation Time:	If Cash Settlement is applicable, as specified by the parties, directly or via the ISDA Settlement Matrix.
Cash Settlement Valuation Date:	If Cash Settlement is applicable, as specified by the parties, directly or via the ISDA Settlement Matrix.
Valuation Business Days:	If Cash Settlement is applicable, as specified by the parties, directly or via the ISDA Settlement Matrix.
Cash Settlement Payment Date:	If Cash Settlement is applicable, as specified by the parties, directly or via the ISDA Settlement Matrix.
Cash Settlement Payment Date Business Days Convention:	If Cash Settlement is applicable, as specified by the parties, directly or via the ISDA Settlement Matrix.
Cash Settlement Method:	If Cash Settlement is applicable, as specified by the

	parties from Available Cash Settlement Methods, directly or via the ISDA Settlement Matrix.
Cash Settlement Currency:	If Cash Settlement is applicable, and “Cash Price” or “Cash Price—Alternate” apply, as specified by the parties from Available Cash Settlement Methods, directly or via the ISDA Settlement Matrix.
Settlement Rate:	If Cash Settlement is applicable, and “Par Yield Curve—Adjusted,” “Par Yield Curve—Unadjusted” or “Zero Coupon Curve—Adjusted” apply, as specified by the parties from Available Cash Settlement Methods, directly or via the ISDA Settlement Matrix parties from Available Cash Settlement Methods, directly or via the ISDA Settlement Matrix.
Cash Settlement Reference Banks:	As specified by the parties, if Settlement Rate is applicable.
Cash Settlement Reference Banks:	If Cash Settlement is applicable, as specified by the parties.
Quotation Rate:	If Cash Settlement is applicable, as specified by the parties from among the Available Quotation Rates.
Calculation Agent:	As agreed by the parties.

Fixed Floating Available Currencies and Required Business Days

Three Letter Currency Code (ISDA/ISO)	Currency Name (ISDA)	Basic Business Day Locations For Currency (FpML Codes)
AUD	Australian Dollar	AUSY
BRL	Brazilian Reai	Any of BR {SP,RJ,BR} and not otherwise declared a market holiday by the BM&F
CAD	Canadian Dollar	CATO
CHF	Swiss Franc	CHZU
CLP	Chilean Peso	CLSA
CNH	Chinese Renminbi (HK)	HKHK and CNBE
CNY	Chinese Renminbi	CNBE
COP	Colombian Peso	COBO
CZK	Czech Koruna	CZPR
DKK	Danish Krone	DKCO
EUR	Euro	EUTA
GBP	Sterling	GBLO
HKD	Hong Kong Dollar	HKHK
HUF	Hungarian Forint	HUBU
ILS	Israeli Shekel	ILTA
INR	Indian Rupee	INMU
JPY	Japanese Yen	JPTO
KRW	Korean Won	KRSE
MXN	Mexican Peso (New)	MXMC
MYR	Malaysian Ringgit	MYKL
NOK	Norwegian Krone	NOOS
NZD	New Zealand Dollar	NZAU and NZWE
PHP	Phillipine Peso	PHMA
PLN	Polish Zloty	PLWA
RON	Romanian Leu	ROBU
RUB	Russian Ruble	RUMO

SAR	Saudi Arabian Riyal	SARI
SEK	Swedish Krona	SEST
SGD	Singapore Dollar	SGSI
THB	Thai Baht	THBA
TRY	Turkish Lira	TRIS
TWD	Taiwan Dollar	TWTA
USD	United States Dollars	USNY
ZAR	South African Rand	ZAJ0

Fixed Floating Available Business Day Conventions

ISDA Name
Following
Modified/Modified Following
No Adjustment
Preceding
FRN Convention/Eurodollar Convention

Fixed Floating Available Day Count Fractions

ISDA Name
1/1
30/360, 360/360, Bond Basis
Actual/360
Actual/365 (Fixed), Act/365 (Fixed), A/365 (Fixed), A/365F
Actual/Actual, Actual/Actual (ISDA), Act/Act, Act/Act (ISDA)
Actual/Actual (ICMA), Act/Act, Act/Act (ICMA)

Fixed Floating Default Effective Dates

Currency	Default Effective Date
All Currencies Other than CAD, GBP	Plus Two Banking Days
CAD, GBP	Plus Zero

Fixed Floating Earliest and Latest Effective and Termination Dates

Currency	Earliest Effective Date	Latest Effective Date	Earliest Termination Date	Latest Termination Date
N/A	N/A	N/A	N/A	N/A

Fixed Floating Notional Amounts

Currency	Minimum	Increment	Maximum	Default
AUD	25,000,000	100,000	N/A	N/A
BRL	5,000,000	100,000	N/A	N/A
CAD	25,000,000	1,000,000	N/A	N/A
CHF	5,000,000	100,000	N/A	N/A
CLP	5,000,000	100,000	N/A	N/A
CNH	5,000,000	100,000	N/A	N/A
CNY	5,000,000	100,000	N/A	N/A
COP	5,000,000	100,000	N/A	N/A
CZK	5,000,000	100,000	N/A	N/A
DKK	5,000,000	100,000	N/A	N/A

EUR	25,000,000	100,000	N/A	N/A
GBP	25,000,000	100,000	N/A	N/A
HKD	25,000,000	100,000	N/A	N/A
HUF	5,000,000	100,000	N/A	N/A
ILS	5,000,000	100,000	N/A	N/A
INR	5,000,000	100,000	N/A	N/A
JPY	2,500,000,000	100,000,000	N/A	N/A
KRW	5,000,000	100,000	N/A	N/A
MXN	10,000,000	1,000,000	N/A	N/A
MYR	5,000,000	100,000	N/A	N/A
NOK	5,000,000	100,000	N/A	N/A
NZD	5,000,000	100,000	N/A	N/A
PHP	5,000,000	100,000	N/A	N/A
PLN	5,000,000	100,000	N/A	N/A
RON	5,000,000	100,000	N/A	N/A
RUB	5,000,000	100,000	N/A	N/A
SAR	5,000,000	100,000	N/A	N/A
SEK	5,000,000	100,000	N/A	N/A
SGD	5,000,000	100,000	N/A	N/A
THB	5,000,000	100,000	N/A	N/A
TRY	5,000,000	100,000	N/A	N/A
TWD	5,000,000	100,000	N/A	N/A
USD	25,000,000	1,000,000	N/A	N/A
ZAR	5,000,000	100,000	N/A	N/A

Fixed Floating Rate Options and Defaults

Floating Rate Option	Available Tenors	Default Tenor	Default Day Count Fraction	Additional Business Day Locations
AUD-AONIA-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
AUD-AONIA-OIS-COMPOUND-SwapMarker	All quoted tenors	N/A	Per ISDA 2006	N
AUD-BBR-AUBBSW	All quoted tenors	N/A	Per ISDA 2006	N
AUD-BBR-BBSW	All quoted tenors	N/A	Per ISDA 2006	N
AUD-BBR-BBSW-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
AUD-BBR-BBSY (BID)	All quoted tenors	N/A	Per ISDA 2006	N
AUD-BBR-ISDC	All quoted tenors	N/A	Per ISDA 2006	N
AUD-LIBOR-BBA	All quoted tenors	N/A	Per ISDA 2006	N
AUD-LIBOR-BBA-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
AUD-LIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
AUD-Quarterly Swap Rate-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
AUD-Quarterly Swap	All quoted tenors	N/A	Per ISDA 2006	N

Rate-ICAP-Reference Banks					
AUD-Semi-annual Swap Rate-ICAP	All quoted tenors	N/A	Per ISDA 2006	N	
AUD-Semi-Annual Swap Rate-ICAP-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	
AUD-Swap Rate-Reuters	All quoted tenors	N/A	Per ISDA 2006	N	
BRL-CDI-CETIP	See below	N/A	See below	See below	
CAD-BA-CDOR	All quoted tenors	N/A	Per ISDA 2006	N	
CAD-BA-CDOR-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N	
CAD-BA-ISDD	All quoted tenors	N/A	Per ISDA 2006	N	
CAD-BA-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	
CAD-BA-Reuters	All quoted tenors	N/A	Per ISDA 2006	N	
CAD-BA-Telerate	All quoted tenors	N/A	Per ISDA 2006	N	
CAD-CORRA-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N	
CAD-ISDA-Swap Rate	All quoted tenors	N/A	Per ISDA 2006	N	
CAD-LIBOR-BBA	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)	
CAD-LIBOR-BBA-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)	
CAD-LIBOR-BBA-SwapMarker	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)	
CAD-LIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)	
CAD-REPO-CORRA	All quoted tenors	N/A	Per ISDA 2006	N	
CAD-TBILL-ISDD	All quoted tenors	N/A	Per ISDA 2006	N	
CAD-TBILL-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	
CAD-TBILL-Reuters	All quoted tenors	N/A	Per ISDA 2006	N	
CAD-TBILL-Telerate	All quoted tenors	N/A	Per ISDA 2006	N	
CHF USD-Basis Swaps-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N	
CHF-Annual Swap Rate	All quoted tenors	N/A	Per ISDA 2006	N	
CHF-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	
CHF-ISDAFIX-Swap Rate	All quoted tenors	N/A	Per ISDA 2006	N	
CHF-LIBOR-BBA	All quoted tenors	N/A	Per ISDA 2006	N	
CHF-LIBOR-BBA-	All quoted tenors	N/A	Per ISDA 2006	N	

Bloomberg					
CHF-LIBOR-ISDA	All quoted tenors	N/A	Per ISDA 2006	N	
CHF-LIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	
CHF-OIS-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N	
CHF-TOIS-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N	
CLP-CLICP-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N	
CNH-HIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	
CNH-HIBOR-TMA	All quoted tenors	N/A	Per ISDA 2006	N	
CNY-CNREPOFIX=CFXS-Reuters	All quoted tenors	N/A	Per ISDA 2006	N	
CNY-Semi-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N	
CNY-Semi-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	
CNY-SHIBOR-Reuters	All quoted tenors	N/A	Per ISDA 2006	N	
COP-IBR-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N	
CZK-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N	
CZK-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	
CZK-PRIBOR-PRBO	All quoted tenors	N/A	Per ISDA 2006	N	
CZK-PRIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	
DKK-CIBOR-DKNA13	All quoted tenors	N/A	Per ISDA 2006	N	
DKK-CIBOR-DKNA13-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N	
DKK-CIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	
DKK-CIBOR2-DKNA13	All quoted tenors	N/A	Per ISDA 2006	N	
DKK-CITA-DKNA14-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N	
DKK-DKKOIS-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N	
EUR USD-Basis Swaps-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N	

EUR-Annual Swap Rate-10:00	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap Rate-10:00-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap Rate-10:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap Rate-10:00-SwapMarker	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap Rate-11:00	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap Rate-11:00-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap Rate-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap Rate-11:00-SwapMarker	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap Rate-3 Month	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap Rate-3 Month-SwapMarker	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EONIA-AVERAGE	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EONIA-OIS-10:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EONIA-OIS-10:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EONIA-OIS-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EONIA-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EONIA-OIS-COMPOUND-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EONIA-Swap-Index	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EURIBOR-Act/365	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EURIBOR-Act/365-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EURIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EURIBOR-	All quoted tenors	N/A	Per ISDA 2006	N

Reuters					
EUR-EURIBOR-Telerate	All quoted tenors	N/A	Per ISDA 2006	N	
EUR-EURONIA-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N	
EUR-ISDA-EURIBOR Swap Rate-11:00	All quoted tenors	N/A	Per ISDA 2006	N	
EUR-ISDA-EURIBOR Swap Rate-12:00	All quoted tenors	N/A	Per ISDA 2006	N	
EUR-ISDA-LIBOR Swap Rate-10:00	All quoted tenors	N/A	Per ISDA 2006	N	
EUR-ISDA-LIBOR Swap Rate-11:00	All quoted tenors	N/A	Per ISDA 2006	N	
EUR-LIBOR-BBA	All quoted tenors	N/A	Per ISDA 2006	N	
EUR-LIBOR-BBA-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N	
EUR-LIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	
EUR-TAM-CDC	All quoted tenors	N/A	Per ISDA 2006	N	
EUR-TEC10-CNO	All quoted tenors	N/A	Per ISDA 2006	N	
EUR-TEC10-CNO-SwapMarker	All quoted tenors	N/A	Per ISDA 2006	N	
EUR-TEC10-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	
EUR-TEC5-CNO	All quoted tenors	N/A	Per ISDA 2006	N	
EUR-TEC5-CNO-SwapMarker	All quoted tenors	N/A	Per ISDA 2006	N	
EUR-TEC5-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	
EUR-TMM-CDC-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N	
GBP USD-Basis Swaps-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N	
GBP-ISDA-Swap Rate	All quoted tenors	N/A	Per ISDA 2006	N	
GBP-LIBOR-BBA	All quoted tenors	N/A	Per ISDA 2006	N	
GBP-LIBOR-BBA-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N	
GBP-LIBOR-ISDA	All quoted tenors	N/A	Per ISDA 2006	N	
GBP-LIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	
GBP-Semi-Annual Swap Rate	All quoted tenors	N/A	Per ISDA 2006	N	
GBP-Semi-Annual Swap Rate-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N	
GBP-Semi-Annual Swap Rate-Reference	All quoted tenors	N/A	Per ISDA 2006	N	

Banks					
GBP-SONIA-OIS-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N	
GBP-WMBA-RONIA-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N	
GBP-WMBA-SONIA-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N	
GRD-ATHIBOR-ATHIBOR	All quoted tenors	N/A	Per ISDA 2006	N	
GRD-ATHIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	
GRD-ATHIBOR-Telerate	All quoted tenors	N/A	Per ISDA 2006	N	
GRD-ATHIMID-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	
GRD-ATHIMID-Reuters	All quoted tenors	N/A	Per ISDA 2006	N	
HKD-HIBOR-HIBOR-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N	
HKD-HIBOR-HIBOR=	All quoted tenors	N/A	Per ISDA 2006	N	
HKD-HIBOR-HKAB	All quoted tenors	N/A	Per ISDA 2006	N	
HKD-HIBOR-HKAB-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N	
HKD-HIBOR-ISDC	All quoted tenors	N/A	Per ISDA 2006	N	
HKD-HIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	
HKD-HONIX-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N	
HKD-ISDA-Swap Rate-11:00	All quoted tenors	N/A	Per ISDA 2006	N	
HKD-ISDA-Swap Rate-4:00	All quoted tenors	N/A	Per ISDA 2006	N	
HKD-Quarterly-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N	
HKD-Quarterly-Annual Swap Rate-4:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N	
HKD-Quarterly-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	
HUF-BUBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	
HUF-BUBOR-Reuters	All quoted tenors	N/A	Per ISDA 2006	N	
ILS-TELBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N	

ILS-TELBOR01-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
INR-FBIL-MIBOR-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
JPY USD-Basis Swaps-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
JPY-BBSF-Bloomberg-10:00	All quoted tenors	N/A	Per ISDA 2006	N
JPY-BBSF-Bloomberg-15:00	All quoted tenors	N/A	Per ISDA 2006	N
JPY-ISDA-Swap Rate-10:00	All quoted tenors	N/A	Per ISDA 2006	N
JPY-ISDA-Swap Rate-15:00	All quoted tenors	N/A	Per ISDA 2006	N
JPY-LIBOR-BBA	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
JPY-LIBOR-BBA-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
JPY-LIBOR-FRASETT	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
JPY-LIBOR-ISDA	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
JPY-LIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
JPY-MUTANCALL-TONAR	All quoted tenors	N/A	Per ISDA 2006	N
JPY-OIS-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TIBOR-17096	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TIBOR-17097	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TIBOR-TIBM (10 Banks)	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TIBOR-TIBM (5 Banks)	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TIBOR-TIBM (All Banks)	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TIBOR-TIBM (All Banks)-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TIBOR-TIBM-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TIBOR-ZTIBOR	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TONA-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TSR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TSR-Reuters-10:00	All quoted tenors	N/A	Per ISDA 2006	N

JPY-TSR-Reuters-15:00	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TSR-Telerate-10:00	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TSR-Telerate-15:00	All quoted tenors	N/A	Per ISDA 2006	N
KRW-CD-3220	All quoted tenors	N/A	Per ISDA 2006	N
KRW-CD-KSDA-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
MXN-TIE-Banxico	All quoted tenors	N/A	Per ISDA 2006	N
MXN-TIE-Banxico-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
MXN-TIE-Banxico-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
MYR-KLIBOR-BNM	All quoted tenors	N/A	Per ISDA 2006	N
MYR-KLIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
NOK-NIBOR-NIBR	All quoted tenors	N/A	Per ISDA 2006	N
NOK-NIBOR-NIBR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
NOK-NIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
NZD-BBR-BID	All quoted tenors	N/A	Per ISDA 2006	N
NZD-BBR-FRA	All quoted tenors	N/A	Per ISDA 2006	N
NZD-BBR-ISDC	All quoted tenors	N/A	Per ISDA 2006	N
NZD-BBR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
NZD-BBR-Telerate	All quoted tenors	N/A	Per ISDA 2006	N
NZD-NZIONA-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
NZD-Swap Rate-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
NZD-Swap Rate-ICAP-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
PHP-Semi-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
PHP-Semi-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
PLN-WIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
PLN-WIBOR-WIBO	All quoted tenors	N/A	Per ISDA 2006	N
PLZ-WIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
PLZ-WIBOR-WIBO	All quoted tenors	N/A	Per ISDA 2006	N

RON-RBOR-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
RUB-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
RUB-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
RUB-MOSPRIME-NFEA	All quoted tenors	N/A	Per ISDA 2006	N
RUB-MOSPRIME-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
SAR-SRIOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
SAR-SRIOR-SUAA	All quoted tenors	N/A	Per ISDA 2006	N
SEK-Annual Swap Rate	All quoted tenors	N/A	Per ISDA 2006	N
SEK-Annual Swap Rate-SESWFI	All quoted tenors	N/A	Per ISDA 2006	N
SEK-SIOR-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
SEK-STIBOR-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
SEK-STIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
SEK-STIBOR-SIDE	All quoted tenors	N/A	Per ISDA 2006	N
SGD-Semi-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
SGD-Semi-Annual Swap Rate-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
SGD-Semi-Annual Swap Rate-ICAP-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
SGD-Semi-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
SGD-SIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
SGD-SIBOR-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
SGD-SIBOR-Telerate	All quoted tenors	N/A	Per ISDA 2006	N
SGD-SONAR-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
SGD-SONAR-OIS-VWAP-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
SGD-SOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
SGD-SOR-Reuters	All quoted tenors	N/A	Per ISDA 2006	N

SGD-SOR-Telerate	All quoted tenors	N/A	Per ISDA 2006	N
SGD-SOR-VWAP	All quoted tenors	N/A	Per ISDA 2006	N
SGD-SOR-VWAP-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
THB-Semi-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
THB-Semi-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
THB-SOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
THB-SOR-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
THB-SOR-Telerate	All quoted tenors	N/A	Per ISDA 2006	N
THB-THBFIIX-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
TRY-TRYIBOR-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
TWD-Quarterly-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
TWD-Quarterly-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
TWD-Reference Dealers	All quoted tenors	N/A	Per ISDA 2006	N
TWD-Reuters-6165	All quoted tenors	N/A	Per ISDA 2006	N
TWD-Telerate-6165	All quoted tenors	N/A	Per ISDA 2006	N
TWD-TWCPBA	All quoted tenors	N/A	Per ISDA 2006	N
USD-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
USD-BA-H.15	All quoted tenors	N/A	Per ISDA 2006	N
USD-BA-Reference Dealers	All quoted tenors	N/A	Per ISDA 2006	N
USD-BMA Municipal Swap Index	All quoted tenors	N/A	Per ISDA 2006	N
USD-CD-H.15	All quoted tenors	N/A	Per ISDA 2006	N
USD-CD-Reference Dealers	All quoted tenors	N/A	Per ISDA 2006	N
USD-CMS-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
USD-CMS-Reference Banks-ICAP SwapPX	All quoted tenors	N/A	Per ISDA 2006	N
USD-CMS-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
USD-CMS-Telerate	All quoted tenors	N/A	Per ISDA 2006	N
USD-CMT-T7051	All quoted tenors	N/A	Per ISDA 2006	N

USD-CMT-T7052	All quoted tenors	N/A	Per ISDA 2006	N
USD-COF11-FHLBSF	All quoted tenors	N/A	Per ISDA 2006	N
USD-COF11-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
USD-COF11-Telerate	All quoted tenors	N/A	Per ISDA 2006	N
USD-CP-H.15	All quoted tenors	N/A	Per ISDA 2006	N
USD-CP-Reference Dealers	All quoted tenors	N/A	Per ISDA 2006	N
USD-Federal Funds-H.15	All quoted tenors	N/A	Per ISDA 2006	N
USD-Federal Funds-H.15-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
USD-Federal Funds-H.15-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
USD-Federal Funds-Reference Dealers	All quoted tenors	N/A	Per ISDA 2006	N
USD-FFCB-DISCO	All quoted tenors	N/A	Per ISDA 2006	N
USD-ISDA-Swap Rate	All quoted tenors	N/A	Per ISDA 2006	N
USD-ISDA-Swap Rate-3:00	All quoted tenors	N/A	Per ISDA 2006	N
USD-ISDAFIX3-Swap Rate	All quoted tenors	N/A	Per ISDA 2006	N
USD-ISDAFIX3-Swap Rate-3:00	All quoted tenors	N/A	Per ISDA 2006	N
USD-LIBOR-BBA	All quoted tenors	N/A	Per ISDA 2006	N
USD-LIBOR-BBA-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
USD-LIBOR-ISDA	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
USD-LIBOR-LIBO	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
USD-LIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
USD-OIS-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
USD-OIS-11:00-LON-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
USD-OIS-11:00-NY-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
USD-OIS-3:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
USD-OIS-3:00-NY-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
USD-Prime-H.15	All quoted tenors	N/A	Per ISDA 2006	N
USD-Prime-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N

USD-S&P Index-High Grade	All quoted tenors	N/A	Per ISDA 2006	N
USD-SIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
USD-SIBOR-SIBO	All quoted tenors	N/A	Per ISDA 2006	N
USD-SIFMA Municipal Swap Index	All quoted tenors	N/A	Per ISDA 2006	N
USD-TBILL-H.15	All quoted tenors	N/A	Per ISDA 2006	N
USD-TBILL-H.15-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
USD-TBILL-Secondary Market	All quoted tenors	N/A	Per ISDA 2006	N
USD-TIBOR-ISDC	All quoted tenors	N/A	Per ISDA 2006	N
USD-TIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
USD-Treasury Rate-ICAP BrokerTec	All quoted tenors	N/A	Per ISDA 2006	N
USD-Treasury Rate-SwapMarker100	All quoted tenors	N/A	Per ISDA 2006	N
USD-Treasury Rate-SwapMarker99	All quoted tenors	N/A	Per ISDA 2006	N
USD-Treasury Rate-T19901	All quoted tenors	N/A	Per ISDA 2006	N
USD-Treasury Rate-T500	All quoted tenors	N/A	Per ISDA 2006	N
VND-Semi-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
VND-Semi-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
ZAR-DEPOSIT-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
ZAR-DEPOSIT-SAFEX	All quoted tenors	N/A	Per ISDA 2006	N
ZAR-JIBAR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
ZAR-JIBAR-SAFEX	All quoted tenors	N/A	Per ISDA 2006	N
ZAR-PRIME-AVERAGE	All quoted tenors	N/A	Per ISDA 2006	N
ZAR-PRIME-AVERAGE-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N

Definition of BRL Floating Rate Option

Floating Amount:	Notwithstanding anything to the contrary
	$FX\ Rate \times Currency\ Amount \times \left[\prod_{j=1}^N \left(1 + \frac{Relevant\ Rate_j}{252} \right) - 1 \right]^{252/N}$
	<p>Where: <i>N</i>=number of Reset Dates in the Calculation Period <i>j</i>=a particular Reset Date <i>Relevant Rate</i>=the Relevant Rate for instance <i>j</i> of Reset Date</p>
BRL-CDI-CETIP:	<p>For any Reset Date, the Overnight Brazilian Interbank Deposit Rate Annualized, known as the average (“Media”) of the DIOVER- EXTRA Group as published by CETIP (<i>Câmara de Custódia e Liquidação</i>) (the “Overnight CDI Rate”) for such date; provided that (i) such rate is published not later than 12:00 p.m. on the Brazil Business Day next following such Reset Date and (ii) any adjustments made by CETIP to such rate at any time later than the end of the business day on such Reset Date shall not be taken into account.</p> <p>If for any Reset Date there is no published Overnight CDI Rate (including as a result of the proviso above), CDI for the relevant Reset Date will be the overnight deposit rate published for such date by the BM&F in accordance with its rules (see http://www.bmf.com.br/portal/pages/boletim1/bd_manual/indicadoreFinanceiros1.asp, or any successor page). If the BM&F does not publish such a rate for such date, CDI for the relevant Reset Date shall be determined jointly by the parties. If the parties do not agree on a determination of such rate within one Brazil Business Day following the relevant Reset Date, CDI shall be determined through a CDI Reference Dealer Poll as described herein. If CDI for a Reset Date is not so determined by a CDI Reference Dealer Poll, BRL-CDI-Reference Dealers shall apply.</p>
BRL-CDI-Reference Dealers:	<p>If applicable for a Reset Date as set forth above, the Calculation Agent shall conduct up to four dealer polls commencing on the Brazil Business Day following the relevant Reset Date, in each case by requesting each of the CDI Reference Dealers to provide a quotation of the CDI. If at least four such quotations are obtained from CDI Reference Dealers in any such poll, the highest and lowest quotations will be disregarded and CDI for the relevant Reset Date will equal the arithmetic mean of the remaining quotations. If fewer than four such quotations are obtained from a poll, the Calculation Agent shall conduct additional such polls until four such quotations are obtained in any poll; provided that the Calculation Agent shall not conduct more than four polls in the aggregate (with not more than two polls on any day and with such polls conducted over not more than two Brazil Business Days). If four quotations are not obtained from any of such four polls, CDI shall not be determined by a CDI Reference Dealer Poll.</p>
CDI Reference Dealers:	<p>At least six and not more than eight leading onshore dealers in the CDI market selected by the Calculation Agent.</p>
Reset Dates (“resetDate”):	<p>Each Scheduled Reset Date (as defined in the BRL CDI Best Practices).</p>

Reset Dates Business Days:	As specified by the parties from among the Available BR Business Days.
Available BR Business Days:	Any of BR {SP,RJ, BR} and not otherwise declared a financial market holiday by the BM&F.

Fixed Floating Requirements and Defaults
(Excluding Optional Early Termination and Mandatory Early Termination)

Variable	Requirement	Default
Effective Date Business Day Convention:		No Adjustment
Termination Date Business Day Convention:		No Adjustment
Period End Dates:		Payment Dates
Payment Date Business Day Convention:		Modified Following
Linear Interpolation:		Applicable only to long or short stub periods
Designated Maturities for Linear Interpolation:		Tenors quoted next shorter and longer than the actual Calculation Period length
Compounding:		Inapplicable
Compounding Business Day Convention:	Same as Business Day Convention for Period End Dates	
Method of Averaging:	Weighted Average or Unweighted Average	Unweighted Average
Compounding Method:	Straight Compounding, Flat Compounding, Spread Exclusive Compounding	
ISDA MTM Matrix:		Applicable (to Mark-to-Market Cross Currency Swaps)
Initial Exchange Date:		Effective Date
Initial Exchange Date Business Day Convention:		Following
Interim Exchange Date Business Day Convention:		Modified Following
Final Exchange Date:		Termination Date
Final Exchange Date Business Day Convention:		Modified Following

Fixed Floating Requirements and Defaults
(Optional Early Termination and Mandatory Early Termination)

Setting	Requirement	Default
Optional Early Termination:		Inapplicable
Mandatory Early Termination:		Inapplicable
Option Style:	American, Bermuda, European	
Cash Settlement:	Required for Mandatory Early Termination	Applicable (i.e., Transaction is not "torn up for no value")
Optional Early Termination Date:		Cash Settlement Payment Date
Optional Early Termination Date Business Day Convention:		Following
Mandatory Early Termination Date		Modified Following

Business Day Convention		
-------------------------	--	--

Fixed Floating Requirements and Defaults
 (Optional Early Termination—Exercise)

Setting	Requirement	Default
Commencement Date:	American only	
Partial Exercise:		Inapplicable
Multiple Exercise:		Inapplicable
Exercise Business Day:		Banking Day for cash Settlement Currency (TARGET Settlement Day for EUR)
Latest Exercise Time:	On Expiration Date, the Expiration Time	Other than Expiration Date, the Expiration Time

Fixed Floating Requirements and Defaults
 (Cash Settlement)

Setting	Requirement/Choices	Default
Cash Settlement Amount:		
ISDA Cross Currency Settlement Matrix:		Applicable, if cross currency swap with currency pair included in Matrix
ISDA Settlement Matrix:		Applicable, if single currency swap with Currency included in Matrix
Cash Settlement Valuation Time:		
Cash Settlement Valuation Date:		Two Valuation Business Days before Mandatory/Optional Early Termination Date but same day for CAD, GBP or DKK with Floating Rate Option of “DKK-CIBOR- DKNA13” or “DKK-CIBOR- DKNA13-Bloomberg”
Valuation Business Day:		Banking Days in locations per the Business Day Location Table, plus additional days required by for fixings under the Floating Rate Option(s)
Cash Settlement Payment Date Business Day Convention:		Following
Cash Settlement Method:	Cash Price Cash Price—Alternate Method Collateralized Cash Price Par Yield Curve—Adjusted Par Yield Curve—Unadjusted Zero Coupon Yield—Adjusted	
Cash Settlement Currency:		For single currency, same as Notional Amount, otherwise as specified in ISDA Master Agreement, or otherwise same as Notional Amount for Fixed Amount
Settlement Rate:	ISDA Source/Other Price Source/Reference Banks	
Cash Settlement Reference Banks:		Fallbacks per ISDA 2006

Mr. Christopher J. Kirkpatrick

October 26, 2017

Page 25

		Definitions
Quotation Rate:	bid ask mid Exercising Party Pays (Optional Early Termination Only)	

EXHIBIT C

Explanation and Analysis of the Contracts' Compliance with Applicable Core Principles and Commission Regulations

As required by Commodity Futures Trading Commission ("Commission") Regulation 40.2(a), the following analysis, in narrative form, demonstrates that Fixed for Floating Interest Rate Swaps (Uncleared) (the "Contracts") are consistent with the requirements of the Commodity Exchange Act, as amended (the "Act"), and the Commission regulations and guidance thereunder (in particular, Appendix B to Part 37 and Appendix C to Part 38).

Appendix B to Part 37

CORE PRINCIPLE 3 OF SECTION 5H OF THE ACT—SWAPS NOT READILY SUSCEPTIBLE TO MANIPULATION; CORE PRINCIPLE 4 OF SECTION 5H OF THE ACT—MONITORING OF TRADING AND TRADE PROCESSING

The swap execution facility shall permit trading only in swaps that are not readily susceptible to manipulation.

(a) *Guidance.*

(1) In general, a swap contract is an agreement to exchange a series of cash flows over a period of time based on some reference price, which could be a single price, such as an absolute level or a differential, or a price index calculated based on multiple observations. Moreover, such a reference price may be reported by the swap execution facility itself or by an independent third party. When listing a swap for trading, a swap execution facility shall ensure a swap's compliance with Core Principle 3, paying special attention to the reference price used to determine the cash flow exchanges. Specifically, Core Principle 3 requires that the reference price used by a swap not be readily susceptible to manipulation. As a result, when identifying a reference price, a swap execution facility should either: Calculate its own reference price using suitable and well-established acceptable methods or carefully select a reliable third-party index.

(2) The importance of the reference price's suitability for a given swap is similar to that of the final settlement price for a cash-settled futures contract. If the final settlement price is manipulated, then the futures contract does not serve its intended price discovery and risk management functions. Similarly, inappropriate reference prices cause the cash flows between the buyer and seller to differ from the proper amounts, thus benefitting one party and disadvantaging the other. Thus, careful consideration should be given to the potential for manipulation or distortion of the reference price.

The reference rate for the floating leg of the Contracts is one of several widely used benchmarks such as USD-LIBOR-BBA. These rates are administered and calculated by third-party providers using specific guidelines. Many of these providers are regulated in their home jurisdiction.

The Contracts are not susceptible to manipulation for a number of reasons. First, interest rate products are very liquid – the market is very large and deep, making manipulation very difficult to achieve. Second, tpSEF has established rules and an enforcement infrastructure to prevent manipulation. tpSEF staff conduct real-time market surveillance and the National Futures Association ("NFA") provides regulatory services on a T+1 basis. NFA's services include comprehensive trade practice and market surveillance services (the scope of which can be found in the Regulatory Services Agreement between NFA and tpSEF

submitted to the Commission as part of tpSEF's swap execution facility application) (note that the foregoing also demonstrates compliance with Core Principle 4). Finally, the reference rates upon which the Contracts are based are difficult for any entity or group of market participants to manipulate.

(3) For swaps that are settled by physical delivery or by cash settlement refer to the guidance in Appendix C to Part 38 of this chapter—Demonstration of Compliance that a Contract is not Readily Susceptible to Manipulation, section b(2) and section c(4), respectively.

Please see below.

Appendix C to Part 38 - Demonstration of Compliance That a Contract Is Not Readily Susceptible to Manipulation

(c) Futures Contracts Settled by Cash Settlement. (1) Cash settlement is a method of settling certain futures or option contracts whereby, at contract expiration, the contract is settled by cash payment in lieu of physical delivery of the commodity or instrument underlying the contract. An acceptable specification of the cash settlement price for commodity futures and option contracts would include rules that fully describe the essential economic characteristics of the underlying commodity (e.g., grade, quality, weight, class, growth, issuer, maturity, source, rating, description of the underlying index and index's calculation methodology, etc.), as well as how the final settlement price is calculated. In addition, the rules should clearly specify the trading months and hours of trading, the last trading day, contract size, minimum price change (tick size) and any limitations on price movements (e.g., price limits or trading halts).

Essential Economic Characteristics of the Contract Terms

The terms and conditions of the Contracts match the terms of fixed for floating interest rate swaps that are commonly offered in the market and are listed in Exhibit B.

Calculation of Cash Settlement Price

The cash settlement price will be calculated in the following manner:

- Fixed Leg – The payment amount is based on the following: notional amount, payment frequency, day count convention and fixed interest rate.
- Floating Leg – The payment amount is based on the following: notional amount, payment frequency, day count convention, floating interest rate index and floating reset dates.

All payments are settled in accordance with the payment frequency of the swap.

(2) Cash settled contracts may be susceptible to manipulation or price distortion. In evaluating the susceptibility of a cash-settled contract to manipulation, a designated contract market should consider the size and liquidity of the cash market that underlies the listed contract in a manner that follows the determination of deliverable supply as noted above in (b)(1). In particular, situations susceptible to manipulation include those in which the volume of cash market transactions and/or the number of participants contacted in determining the cash-settlement price are very low. Cash-settled contracts may create an incentive to manipulate or artificially influence the data from which the cash-settlement price is derived or to exert undue influence on the cash-settlement price's computation in order to profit on a futures position in that commodity. The utility of a cash-settled

contract for risk management and price discovery would be significantly impaired if the cash settlement price is not a reliable or robust indicator of the value of the underlying commodity or instrument. Accordingly, careful consideration should be given to the potential for manipulation or distortion of the cash settlement price, as well as the reliability of that price as an indicator of cash market values. Appropriate consideration also should be given to the commercial acceptability, public availability, and timeliness of the price series that is used to calculate the cash settlement price. Documentation demonstrating that the settlement price index is a reliable indicator of market values and conditions and is commonly used as a reference index by industry/market agents should be provided. Such documentation may take on various forms, including carefully documented interview results with knowledgeable agents.

The Contracts operate in a very liquid market with numerous participants. Also, the cash settlement price is not easily susceptible to manipulation or distortion as the method of determining the price is based on factors that are fixed at the start of the particular Contract (*i.e.*, payment frequency, day count conventions, fixed interest rate, floating reset dates) and the applicable reference rate. Each of the available reference rates is widely accepted by market participants, and data is readily accessible through numerous news outlets. Some of the currencies and associated benchmarks are, of course, less widely traded than others.

(3) Where an independent, private-sector third party calculates the cash settlement price series, a designated contract market should consider the need for a licensing agreement that will ensure the designated contract market's rights to the use of the price series to settle the listed contract.

(i) Where an independent, private-sector third party calculates the cash settlement price series, the designated contract market should verify that the third party utilizes business practices that minimize the opportunity or incentive to manipulate the cash-settlement price series. Such safeguards may include lock-downs, prohibitions against derivatives trading by employees, or public dissemination of the names of sources and the price quotes they provide. Because a cash-settled contract may create an incentive to manipulate or artificially influence the underlying market from which the cash-settlement price is derived or to exert undue influence on the cash-settlement computation in order to profit on a futures position in that commodity, a designated contract market should, whenever practicable, enter into an information-sharing agreement with the third-party provider which would enable the designated contract market to better detect and prevent manipulative behavior.

As described above, the cash settlement price is calculated through a cash settlement method that is not easily susceptible to manipulation.

(ii) Where a designated contract market itself generates the cash settlement price series, the designated contract market should establish calculation procedures that safeguard against potential attempts to artificially influence the price. For example, if the cash settlement price is derived by the designated contract market based on a survey of cash market sources, the designated contract market should maintain a list of such entities which all should be reputable sources with knowledge of the cash market. In addition, the sample of sources polled should be representative of the cash market, and the poll should be conducted at a time when trading in the cash market is active.

Please see above.

(iii) The cash-settlement calculation should involve computational procedures that eliminate or reduce the impact of potentially unrepresentative data.

(iv) The cash settlement price should be an accurate and reliable indicator of prices in the underlying cash market. The cash settlement price also should be acceptable to commercial users of the commodity contract. The registered entity should fully document that the settlement price is accurate, reliable, highly regarded by industry/market agents, and fully reflects the economic and commercial conditions of the relevant designated contract market.

Please see above.

(v) To the extent possible, the cash settlement price should be based on cash price series that are publicly available and available on a timely basis for purposes of calculating the cash settlement price at the expiration of a commodity contract. A designated contract market should make the final cash settlement price and any other supporting information that is appropriate for release to the public, available to the public when cash settlement is accomplished by the derivatives clearing organization. If the cash settlement price is based on cash prices that are obtained from non-public sources (e.g., cash market surveys conducted by the designated contract market or by third parties on behalf of the designated contract market), a designated contract market should make available to the public as soon as possible after a contract month's expiration the final cash settlement price as well as any other supporting information that is appropriate or feasible to make available to the public.

The various reference rates are readily available via a number of sources.

(4) Contract terms and conditions requirements for futures contracts settled by cash settlement.

(i) An acceptable specification of the terms and conditions of a cash-settled commodity contract will also set forth the trading months, last trading day, contract size, minimum price change (tick size) and daily price limits, if any.

Please see Exhibit B for the Contracts' terms and conditions.

(A) *Commodity Characteristics*: The terms and conditions of a commodity contract should describe the commodity underlying the contract.

The reference rates are included in the terms and conditions. As noted above, each of these rates is widely used in the market.

(B) *Contract Size and Trading Unit*: An acceptable specification of the trading unit would be a contract size that is consistent with customary transactions in the cash market. A designated contract market may opt to set the contract size smaller than that of standard cash market transactions.

The Contract sizes are consistent with customary transaction sizes in the market.

(C) *Cash Settlement Procedure*: The cash settlement price should be reliable, acceptable, publicly available, and reported in a timely manner as described in paragraphs (c)(3)(iv) and (c)(3)(v) of this appendix C.

The cash settlement procedure and an explanation of how, in the context of these Contracts, it is not readily susceptible to manipulation, is described above.

(D) Pricing Basis and Minimum Price Fluctuation (Minimum Tick): The minimum price increment (tick) should be set a level that is equal to, or less than, the minimum price increment commonly observed in cash market transactions for the underlying commodity. Specifying a futures' minimum tick that is greater than the minimum price increment in the cash market can undermine the risk management utility of the futures contract by preventing hedgers from efficiently establishing and liquidating futures positions that are used to hedge anticipated cash market transactions or cash market positions.

As agreed between counterparties.

(E) Maximum Price Fluctuation Limits: Designated contract markets may adopt price limits to: (1) Reduce or constrain price movements in a trading day that may not be reflective of true market conditions but might be caused by traders overreacting to news; (2) Allow additional time for the collection of margins in times of large price movements; and (3) Provide a “cooling-off” period for futures market participants to respond to bona fide changes in market supply and demand fundamentals that would lead to large cash and futures price changes. If price-limit provisions are adopted, the limits should be set at levels that are not overly restrictive in relation to price movements in the cash market for the commodity underlying the futures contract. For broad-based stock index futures contracts, rules should be adopted that coordinate with New York Stock Exchange (“NYSE”) declared Circuit Breaker Trading Halts (or other market coordinated Circuit Breaker mechanism) and would recommence trading in the futures contract only after trading in the majority of the stocks underlying the index has recommenced.

As agreed between counterparties.

(F) Last Trading Day: Specification of the last trading day for expiring contracts should be established such that it occurs before publication of the underlying third-party price index or determination of the final settlement price. If the designated contract market chooses to allow trading to occur through the determination of the final settlement price, then the designated contract market should show that futures trading would not distort the final settlement price calculation.

The last trading day will be the maturity date of each contract, which is set by the individual counterparties.

(G) Trading Months: Trading months should be established based on the risk management needs of commercial entities as well as the availability of price and other data needed to calculate the cash settlement price in the specified months. Specification of the last trading day should take into consideration whether the volume of transactions underlying the cash settlement price would be unduly limited by occurrence of holidays or traditional holiday periods in the cash market. Moreover, a contract should not be listed past the date for which the designated contract market has access to use a proprietary price index for cash settlement.

Payments are settled in accordance with the payment frequency of the particular contract, which is a flexible term.

Mr. Christopher J. Kirkpatrick

October 26, 2017

Page 31

(H) *Speculative Limits*: Specific rules and policies for speculative position limits are set forth in part 150 and/or part 151, as applicable, of the Commission's regulations.

None required by Parts 150 or 151.

(I) *Reportable Levels*: Refer to § 15.03 of the Commission's regulations.

tpSEF will adhere to the applicable reporting levels set forth in § 15.03 of the Commission's regulations.

(J) *Trading Hours*: Should be set by the designated contract market to delineate each trading day.

The Contracts are traded twenty-three hours a day from Sunday to Friday Eastern Time. The Contracts are not traded between 5:30 p.m. and 6:30 p.m. Eastern Time.

EXHIBIT D

**Terms and Conditions
 (Marked Against September 29, 2013 Version)**

Terms and Conditions

<p>Summary:</p>	<p>This covers <u>uncleared</u> fixed for floating interest rate swaps (“<u>Fixed for Floating Interest Rate Swap (Uncleared)</u>”).</p>
<p>Limitations on Available Selections and Default Settings:</p>	<p>The terms under which a Fixed for Floating Interest Rate Swap (<u>Uncleared</u>) contract may be traded are as specified in these terms and conditions or in the attached tables.</p> <p>For amounts or rates, the relevant term cannot be less than the specified Minimum, must represent an even Increment and cannot exceed the Maximum; for a date, the date cannot be earlier than Earliest nor later than Latest.</p> <p>For Business Days, the defaults shall be the locations specified for the relevant currency, any additional locations specified for the relevant Floating Rate Options.</p> <p>The parties may add additional locations from the Available Locations and may eliminate some or all of the other locations, so long as there is at least one location in which payment may be made. For these purposes “TARGET” is considered a location.</p> <p>In many cases there are normal “vanilla” terms on which the parties will transact. These are shown as “Default ” and will apply unless the parties vary them.</p> <p>It should be noted that these contracts can be traded in a variety of currencies. Since each national market has its own peculiarities, the “Available Terms” and/or “Default Terms” may vary by currency.</p> <p>In some cases, the same contract might have different terms depending on the market in which it is traded (e.g., London versus NY). In that case the default settings may vary by market.</p>
<p>Incorporated Standards:</p>	<p>This contract description incorporates by reference the following industry standard documentation and standards:</p> <ul style="list-style-type: none"> (a) 2006 ISDA Definitions (b) ISDA Settlement Matrix (if Optional Early Termination applies) (c) ISDA OTC Taxonomies (d) FpML Location Codes

	For convenience, certain terms are mapped to their FpML 5.5 equivalent.
Product Type/ISDA OTC Taxonomy:	
ISDA OTC Asset Class:	Interest Rate
ISDA OTC Base Product:	IR Swap
ISDA OTC Sub-Product:	Fixed Floating
Further Limitations:	None
Terms:	
Notional Amount (“notional”):	An amount in one of the Available Currencies (see below) agreed by the parties.
Effective Date (“effectiveDate”):	The date specified by the parties, adjusted in accordance with any applicable Business Day Convention. The parties may express the unadjusted Effective Date as a number of Business Days or Banking Days from the Trade Date (“relativeEffectiveDate”).
Effective Date Business Days:	As specified by the parties from among the Available Business Days.
Effective Date Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Termination Date (“terminationDate”):	The date specified by the parties, adjusted in accordance with any applicable Business Day Convention. The parties may express the unadjusted Termination Date as a number of days, months or years from the Effective Date (“relativeTerminationDate”).
Termination Date Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Fixed Amount:	
Fixed Rate Payer (“payerPartyReference”):	As specified by the parties.
Currency Amount (“notionalAmount”):	As specified by the parties.
Fixed Rate Period End Dates (“unadjustedCalculation Period Date”):	As specified by the parties.
first Period End Date:	As specified by the parties if there is a short initial Calculation Period.
Fixed Rate Payment Dates (“unadjustedPaymentDate”):	As specified by the parties.
Day Count Fraction:	As specified by the parties.
Period End Dates Business Days:	As specified by the parties from among the Available Business Days.
Period End Dates Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Payment Dates Business Days:	As specified by the parties from among the Available Business Days, subject to any Required Business Days.
Payment Dates Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Floating Amount:	
Floating Rate Payer (“payerPartyReference”):	As specified by the parties.
Currency Amount (“notionalAmount”):	As specified by the parties.
Period End Dates (“unadjustedCalculation Period Date”):	As specified by the parties.
first Period End Date:	As specified by the parties if there is a short initial Calculation Period.
Payment Dates (“unadjustedPaymentDate”):	As specified by the parties.
initial Floating Rate:	As specified by the parties.

Floating Rate Option (“floatingRateIndex”):	As specified by the parties.
Designated Maturity (“indexTenor”):	As specified by the parties.
Linear Interpolation:	For the Calculation Periods specified by the parties.
Shorter Designated Maturity for Linear Interpolation:	For a Calculation Period to which Linear Interpolation applies, as specified by the parties.
Longer Designated Maturity for Linear Interpolation:	For a Calculation Period to which Linear Interpolation applies, as specified by the parties.
Spread:	As specified by the parties.
Day Count Fraction:	As specified by the parties.
Reset Dates (“resetDate”):	As specified by the parties.
Method of Averaging:	As specified by the parties.
Compounding:	As specified by the parties.
Compounding Dates:	In the event Compounding is selected, as selected by the parties.
Compounding Method (Compounding OR Flat Compounding):	In the event Compounding is selected, as selected by the parties.
Period End Dates Business Days:	As specified by the parties from among the Available Business Days.
Period End Dates Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Payment Dates Business Days:	As specified by the parties from among the Available Business Days, subject to any Required Business Days.
Payment Dates Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Reset Dates Business Days:	As specified by the parties from among the Available Business Days, subject to any Required Business Days.
Reset Dates Business Day Convention:	As specified by the parties from among the Available Business Day Conventions.
Mark-to-Market Currency Swap:	
Mark-to-Market Currency Swap:	As specified by the parties, if the Currency Amounts are in different Currencies.
Variable Currency Payer:	As specified by the parties if the transaction is a Mark-to-Market Currency Swap.
Constant Currency Payer:	As specified by the parties if the transaction is a Mark-to-Market Currency Swap.
Currency Exchange Rate:	As specified by the parties if the transaction is a Mark-to-Market Currency Swap and ISDA MTM Matrix is not applicable.
ISDA MTM Matrix:	As specified by the parties if the transaction is a Mark-to-Market Currency Swap.
Initial Exchange:	
Initial Exchange Date:	As specified by the parties.
Fixed Rate Payer Initial Exchange Amount:	As specified by the parties.
Floating Payer Initial Exchange Amount:	As specified by the parties.
Currency:	As specified from the parties from the Available Currencies.
Interim Exchanges:	
Interim Exchange Dates:	As specified by the parties.
Fixed Rate Payer Interim Exchange Amount:	As specified by the parties.
Floating Payer Interim Exchange Amount:	As specified by the parties.
Currency:	As specified from the parties from the Available Currencies.
Final Exchange:	

Final Exchange Date:	As specified by the parties.
Fixed Rate Payer Final Exchange Amount:	As specified by the parties.
Fixed Payer Final Exchange Amount:	As specified by the parties.
Currency:	As specified from the parties from the Available Currencies.
Optional Early Termination:	
Optional Early Termination:	As specified by the parties.
Option Style:	As specified by the parties.
Optional Early Termination Date:	As specified by the parties.
Seller:	As specified by the parties if only one party can terminate.
Buyer:	As specified by the parties, if only one party can terminate.
Seller's Agent:	As specified by the parties, if only one party can terminate.
Business Days for Payments:	As specified by the parties from among the Available Business Days, subject to any Required Business Days.
Exercise Business Days:	As specified by the parties.
Optional Early Termination Procedure for Exercise:	
Commencement Date:	As specified by the parties, if the Option Style is American.
Bermuda Option Exercise Dates:	As specified by the parties, if the Option Style is Bermuda.
Expiration Date:	As specified by the parties.
Expiration Time:	As specified by the parties.
Earliest Exercise Time:	As specified by the parties.
Latest Exercise Time:	As specified by the parties.
Exercise Business Day:	As specified by the parties.
Partial Exercise:	As specified by the parties, if Option Style is European.
Multiple Exercise:	As specified by the parties, if Option Style is American or Bermuda.
Minimum Notional Amount:	As specified by the parties if Partial Exercise or Multiple Exercise is specified.
Maximum Notional Amount:	As specified by the parties if Multiple Exercise is specified.
Integral Multiple:	As specified by the parties if Partial Exercise or Multiple Exercise is specified.
Optional Early Termination Settlement Terms:	
Cash Settlement:	As specified by the parties.
ISDA Settlement Matrix:	As specified by the parties, if Cash Settlement is applicable to a single currency Transaction.
ISDA Cross Currency Settlement Matrix:	As specified by the parties, if Cash Settlement is applicable to a cross currency Transaction whose currencies are listed as a "currency pair" in the Cross Currency Settlement Matrix.
Cash Settlement Valuation Time:	If Cash Settlement is applicable, as specified by the parties, directly or via the ISDA Settlement Matrix.
Cash Settlement Valuation Date:	If Cash Settlement is applicable, as specified by the parties, directly or via the ISDA Settlement Matrix.
Valuation Business Days:	If Cash Settlement is applicable, as specified by the parties, directly or via the ISDA Settlement Matrix.
Cash Settlement Payment Date:	If Cash Settlement is applicable, as specified by the parties, directly or via the ISDA Settlement Matrix.

Cash Settlement Payment Date Business Days Convention:	If Cash Settlement is applicable, as specified by the parties, directly or via the ISDA Settlement Matrix.
Cash Settlement Method:	If Cash Settlement is applicable, as specified by the parties from Available Cash Settlement Methods, directly or via the ISDA Settlement Matrix.
Cash Settlement Currency:	If Cash Settlement is applicable, and “Cash Price” or “Cash Price—Alternate” apply, as specified by the parties from Available Cash Settlement Methods, directly or via the ISDA Settlement Matrix.
Settlement Rate:	If Cash Settlement is applicable, and “Par Yield Curve—Adjusted,” “Par Yield Curve—Unadjusted” or “Zero Coupon Curve—Adjusted” apply, as specified by the parties from Available Cash Settlement Methods, directly or via the ISDA Settlement Matrix parties from Available Cash Settlement Methods, directly or via the ISDA Settlement Matrix.
Cash Settlement Reference Banks:	As specified by the parties, if Settlement Rate is applicable.
Cash Settlement Reference Banks:	If Cash Settlement is applicable, as specified by the parties.
Quotation Rate:	If Cash Settlement is applicable, as specified by the parties from among the Available Quotation Rates.
Calculation Agent:	As agreed by the parties.

Fixed Floating Available Currencies and Required Business Days

Three Letter Currency Code (ISDA/ISO)	Currency Name (ISDA)	Basic Business Day Locations For Currency (FpML Codes)
AUD	Australian Dollar	AUSY
BRL	Brazilian Real	Any of BR{SP,RJ,BR} and not otherwise declared a market holiday by the BM&F
CAD	Canadian Dollar	CATO
CHF	Swiss Franc	CHZU
CLP	Chilean Peso	CLSA
CNH	Chinese Renminbi (HK)	HKHK and CNBE
CNY	Chinese Renminbi	CNBE
COP	Colombian Peso	COBO
CZK	Czech Koruna	CZPR
DKK	Danish Krone	DKCO
EUR	Euro	EUTA
GBP	Sterling	GBLO
HKD	Hong Kong Dollar	HKHK
HUF	Hungarian Forint	HUBU
ILS	Israeli Shekel	ILTA
INR	Indian Rupee	INMU
JPY	Japanese Yen	JPTO
KRW	Korean Won	KRSE
MXN	Mexican Peso (New)	MXMC
MYR	Malaysian Ringgit	MYKL
NOK	Norwegian Krone	NOOS
NZD	New Zealand Dollar	NZAU and NZWE
PHP	Phillipine Peso	PHMA

PLN	Polish Zloty	PLWA
RON	Romanian Leu	ROBU
RUB	Russian Ruble	RUMO
SAR	Saudi Arabian Riyal	SARI
SEK	Swedish Krona	SEST
SGD	Singapore Dollar	SGSI
THB	Thai Baht	THBA
TRY	Turkish Lira	TRIS
TWD	Taiwan Dollar	TWTA
USD	United States Dollars	USNY
ZAR	South African Rand	ZAJ0

Fixed Floating Available Business Day Conventions

ISDA Name
Following
Modified/Modified Following
No Adjustment
Preceding
FRN Convention/Eurodollar Convention

Fixed Floating Available Day Count Fractions

ISDA Name
1/1
30/360, 360/360, Bond Basis
Actual/360
Actual/365 (Fixed), Act/365 (Fixed), A/365 (Fixed), A/365F
Actual/Actual, Actual/Actual (ISDA), Act/Act, Act/Act (ISDA)
Actual/Actual (ICMA), Act/Act, Act/Act (ICMA)

Fixed Floating Default Effective Dates

Currency	Default Effective Date
All Currencies Other than CAD, GBP	Plus Two Banking Days
CAD, GBP	Plus Zero

Fixed Floating Earliest and Latest Effective and Termination Dates

Currency	Earliest Effective Date	Latest Effective Date	Earliest Termination Date	Latest Termination Date
N/A	N/A	N/A	N/A	N/A

Fixed Floating Notional Amounts

Currency	Minimum	Increment	Maximum	Default
AUD	25,000,000	100,000	N/A	N/A
BRL	5,000,000	100,000	N/A	N/A
CAD	25,000,000	1,000,000	N/A	N/A
CHF	5,000,000	100,000	N/A	N/A
CLP	5,000,000	100,000	N/A	N/A
CNH	5,000,000	100,000	N/A	N/A

CNY	5,000,000	100,000	N/A	N/A
<u>COP</u>	<u>5,000,000</u>	<u>100,000</u>	<u>N/A</u>	<u>N/A</u>
CZK	5,000,000	100,000	N/A	N/A
DKK	5,000,000	100,000	N/A	N/A
EUR	25,000,000	100,000	N/A	N/A
GBP	25,000,000	100,000	N/A	N/A
HKD	25,000,000	100,000	N/A	N/A
HUF	5,000,000	100,000	N/A	N/A
ILS	5,000,000	100,000	N/A	N/A
<u>INR</u>	<u>5,000,000</u>	<u>100,000</u>	<u>N/A</u>	<u>N/A</u>
JPY	2,500,000,000	100,000,000	N/A	N/A
KRW	5,000,000	100,000	N/A	N/A
MXN	10,000,000	1,000,000	N/A	N/A
MYR	5,000,000	100,000	N/A	N/A
NOK	5,000,000	100,000	N/A	N/A
NZD	5,000,000	100,000	N/A	N/A
PHP	5,000,000	100,000	N/A	N/A
PLN	5,000,000	100,000	N/A	N/A
<u>RON</u>	<u>5,000,000</u>	<u>100,000</u>	<u>N/A</u>	<u>N/A</u>
RUB	5,000,000	100,000	N/A	N/A
SAR	5,000,000	100,000	N/A	N/A
SEK	5,000,000	100,000	N/A	N/A
SGD	5,000,000	100,000	N/A	N/A
THB	5,000,000	100,000	N/A	N/A
<u>TRY</u>	<u>5,000,000</u>	<u>100,000</u>	<u>N/A</u>	<u>N/A</u>
TWD	5,000,000	100,000	N/A	N/A
USD	25,000,000	1,000,000	N/A	N/A
ZAR	5,000,000	100,000	N/A	N/A

Fixed Floating Rate Options and Defaults

Floating Rate Option	Available Tenors	Default Tenor	Default Day Count Fraction	Additional Business Day Locations
AUD-AONIA-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
AUD-AONIA-OIS-COMPOUND-SwapMarker	All quoted tenors	N/A	Per ISDA 2006	N
AUD-BBR-AUBBSW	All quoted tenors	N/A	Per ISDA 2006	N
AUD-BBR-BBSW	All quoted tenors	N/A	Per ISDA 2006	N
AUD-BBR-BBSW-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
AUD-BBR-BBSY (BID)	All quoted tenors	N/A	Per ISDA 2006	N
AUD-BBR-ISDC	All quoted tenors	N/A	Per ISDA 2006	N
AUD-LIBOR-BBA	All quoted tenors	N/A	Per ISDA 2006	N
AUD-LIBOR-BBA-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
AUD-LIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
AUD-Quarterly Swap Rate-ICAP	All quoted tenors	N/A	Per ISDA 2006	N

AUD-Quarterly Swap Rate-ICAP-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
AUD-Semi-annual Swap Rate-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
AUD-Semi-Annual Swap Rate-ICAP-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
AUD-Swap Rate-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
BRL-CDI BRL-CDI-CETIP	All quoted tenors	See below	Per ISDA 2006	See below
CAD-BA-CDOR	All quoted tenors	N/A	Per ISDA 2006	N
CAD-BA-CDOR-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
CAD-BA-ISDD	All quoted tenors	N/A	Per ISDA 2006	N
CAD-BA-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
CAD-BA-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
CAD-BA-Telerate	All quoted tenors	N/A	Per ISDA 2006	N
CAD-CORRA-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
CAD-ISDA-Swap Rate	All quoted tenors	N/A	Per ISDA 2006	N
CAD-LIBOR-BBA	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
CAD-LIBOR-BBA-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
CAD-LIBOR-BBA-SwapMarker	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
CAD-LIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
CAD-REPO-CORRA	All quoted tenors	N/A	Per ISDA 2006	N
CAD-TBILL-ISDD	All quoted tenors	N/A	Per ISDA 2006	N
CAD-TBILL-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
CAD-TBILL-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
CAD-TBILL-Telerate	All quoted tenors	N/A	Per ISDA 2006	N
CHF USD-Basis Swaps-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
CHF-Annual Swap Rate	All quoted tenors	N/A	Per ISDA 2006	N
CHF-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
CHF-ISDAFIX-Swap Rate	All quoted tenors	N/A	Per ISDA 2006	N
CHF-LIBOR-BBA	All quoted tenors	N/A	Per ISDA 2006	N
CHF-LIBOR-BBA-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
CHF-LIBOR-ISDA	All quoted tenors	N/A	Per ISDA 2006	N
CHF-LIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
CHF-OIS-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N

CHF-TOIS-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
CL-CLICP- BloombergCLP-CLICP-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
CNH-HIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
CNH-HIBOR-TMA	All quoted tenors	N/A	Per ISDA 2006	N
CNY-CNREPOFIX=CFXS-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
CNY-Semi-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
CNY-Semi-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
CNY-SHIBOR-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
COP-IBR-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
CZK-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
CZK-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
CZK-PRIBOR-PRBO	All quoted tenors	N/A	Per ISDA 2006	N
CZK-PRIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
DKK-CIBOR-DKNA13	All quoted tenors	N/A	Per ISDA 2006	N
DKK-CIBOR-DKNA13-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
DKK-CIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
DKK-CIBOR2-DKNA13	All quoted tenors	N/A	Per ISDA 2006	N
DKK-CITA-DKNA14-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
DKK-DKKOIS-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
EUR USD-Basis Swaps-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap Rate-10:00	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap Rate-10:00-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap Rate-10:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap Rate-10:00-SwapMarker	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap	All quoted tenors	N/A	Per ISDA 2006	N

Rate-11:00				
EUR-Annual Swap Rate-11:00-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap Rate-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap Rate-11:00-SwapMarker	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap Rate-3 Month	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap Rate-3 Month-SwapMarker	All quoted tenors	N/A	Per ISDA 2006	N
EUR-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EONIA-AVERAGE	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EONIA-OIS-10:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EONIA-OIS-10:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EONIA-OIS-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EONIA-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EONIA-OIS-COMPOUND-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EONIA-Swap-Index	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EURIBOR-Act/365	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EURIBOR-Act/365-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EURIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EURIBOR-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EURIBOR-Telerate	All quoted tenors	N/A	Per ISDA 2006	N
EUR-EURONIA-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
EUR-ISDA-EURIBOR Swap Rate-11:00	All quoted tenors	N/A	Per ISDA 2006	N
EUR-ISDA-EURIBOR Swap Rate-12:00	All quoted tenors	N/A	Per ISDA 2006	N
EUR-ISDA-LIBOR Swap Rate-10:00	All quoted tenors	N/A	Per ISDA 2006	N
EUR-ISDA-LIBOR Swap Rate-11:00	All quoted tenors	N/A	Per ISDA 2006	N
EUR-LIBOR-BBA	All quoted tenors	N/A	Per ISDA 2006	N
EUR-LIBOR-BBA-	All quoted tenors	N/A	Per ISDA 2006	N

Bloomberg				
EUR-LIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
EUR-TAM-CDC	All quoted tenors	N/A	Per ISDA 2006	N
EUR-TEC10-CNO	All quoted tenors	N/A	Per ISDA 2006	N
EUR-TEC10-CNO-SwapMarker	All quoted tenors	N/A	Per ISDA 2006	N
EUR-TEC10-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
EUR-TEC5-CNO	All quoted tenors	N/A	Per ISDA 2006	N
EUR-TEC5-CNO-SwapMarker	All quoted tenors	N/A	Per ISDA 2006	N
EUR-TEC5-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
EUR-TMM-CDC-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
GBP USD-Basis Swaps-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
GBP-ISDA-Swap Rate	All quoted tenors	N/A	Per ISDA 2006	N
GBP-LIBOR-BBA	All quoted tenors	N/A	Per ISDA 2006	N
GBP-LIBOR-BBA-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
GBP-LIBOR-ISDA	All quoted tenors	N/A	Per ISDA 2006	N
GBP-LIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
GBP-Semi-Annual Swap Rate	All quoted tenors	N/A	Per ISDA 2006	N
GBP-Semi-Annual Swap Rate-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
GBP-Semi-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
GBP-SONIA-OIS-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
GBP-WMBA-RONIA-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
GBP-WMBA-SONIA-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
GRD-ATHIBOR-ATHIBOR	All quoted tenors	N/A	Per ISDA 2006	N
GRD-ATHIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
GRD-ATHIBOR-Telerate	All quoted tenors	N/A	Per ISDA 2006	N
GRD-ATHIMID-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
GRD-ATHIMID-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
HKD-HIBOR-HIBOR-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
HKD-HIBOR-HIBOR=	All quoted tenors	N/A	Per ISDA 2006	N
HKD-HIBOR-HKAB	All quoted tenors	N/A	Per ISDA 2006	N

HKD-HIBOR-HKAB-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
HKD-HIBOR-ISDC	All quoted tenors	N/A	Per ISDA 2006	N
HKD-HIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
HKD-HONIX-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
HKD-ISDA-Swap Rate-11:00	All quoted tenors	N/A	Per ISDA 2006	N
HKD-ISDA-Swap Rate-4:00	All quoted tenors	N/A	Per ISDA 2006	N
HKD-Quarterly-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
HKD-Quarterly-Annual Swap Rate-4:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
HKD-Quarterly-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
HUF-BUBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
HUF-BUBOR-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
ILS-TELBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
ILS-TELBOR01-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
INR-FBIL-MIBOR-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
JPY USD-Basis Swaps-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
JPY-BBSF-Bloomberg-10:00	All quoted tenors	N/A	Per ISDA 2006	N
JPY-BBSF-Bloomberg-15:00	All quoted tenors	N/A	Per ISDA 2006	N
JPY-ISDA-Swap Rate-10:00	All quoted tenors	N/A	Per ISDA 2006	N
JPY-ISDA-Swap Rate-15:00	All quoted tenors	N/A	Per ISDA 2006	N
JPY-LIBOR-BBA	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
JPY-LIBOR-BBA-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
JPY-LIBOR-FRASET	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
JPY-LIBOR-ISDA	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
JPY-LIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
JPY-MUTANCALL-TONAR	All quoted tenors	N/A	Per ISDA 2006	N
JPY-OIS-11:00-ICAP	All quoted tenors	N/A	Per ISDA 2006	N

JPY-TIBOR-17096	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TIBOR-17097	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TIBOR-TIBM (10 Banks)	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TIBOR-TIBM (5 Banks)	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TIBOR-TIBM (All Banks)	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TIBOR-TIBM (All Banks)-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TIBOR-TIBM-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TIBOR-ZTIBOR	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TONA-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TSR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TSR-Reuters-10:00	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TSR-Reuters-15:00	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TSR-Telerate-10:00	All quoted tenors	N/A	Per ISDA 2006	N
JPY-TSR-Telerate-15:00	All quoted tenors	N/A	Per ISDA 2006	N
KRW-CD-3220	All quoted tenors	N/A	Per ISDA 2006	N
KRW-CD-KSDA-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
MXN-TIIE-Banxico	All quoted tenors	N/A	Per ISDA 2006	N
MXN-TIIE-Banxico-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
MXN-TIIE-Banxico-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
MYR-KLIBOR-BNM	All quoted tenors	N/A	Per ISDA 2006	N
MYR-KLIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
NOK-NIBOR-NIBR	All quoted tenors	N/A	Per ISDA 2006	N
NOK-NIBOR-NIBR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
NOK-NIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
NZD-BBR-BID	All quoted tenors	N/A	Per ISDA 2006	N
NZD-BBR-FRA	All quoted tenors	N/A	Per ISDA 2006	N
NZD-BBR-ISDC	All quoted tenors	N/A	Per ISDA 2006	N
NZD-BBR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
NZD-BBR-Telerate	All quoted tenors	N/A	Per ISDA 2006	N
NZD-NZIONA-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
NZD-Swap Rate-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
NZD-Swap Rate-ICAP-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N

PHP-Semi-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
PHP-Semi-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
PLN-WIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
PLN-WIBOR-WIBO	All quoted tenors	N/A	Per ISDA 2006	N
PLZ-WIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
PLZ-WIBOR-WIBO	All quoted tenors	N/A	Per ISDA 2006	N
RON-RBOR-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
RUB-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
RUB-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
RUB-MOSPRIME-NFEA	All quoted tenors	N/A	Per ISDA 2006	N
RUB-MOSPRIME-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
SAR-SRIOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
SAR-SRIOR-SUAA	All quoted tenors	N/A	Per ISDA 2006	N
SEK-Annual Swap Rate	All quoted tenors	N/A	Per ISDA 2006	N
SEK-Annual Swap Rate-SESWFI	All quoted tenors	N/A	Per ISDA 2006	N
SEK-SIOR-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
SEK-STIBOR-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
SEK-STIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
SEK-STIBOR-SIDE	All quoted tenors	N/A	Per ISDA 2006	N
SGD-Semi-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
SGD-Semi-Annual Swap Rate-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
SGD-Semi-Annual Swap Rate-ICAP-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
SGD-Semi-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
SGD-SIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
SGD-SIBOR-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
SGD-SIBOR-Telerate	All quoted tenors	N/A	Per ISDA 2006	N
SGD-SONAR-OIS-	All quoted tenors	N/A	Per ISDA 2006	N

COMPOUND				
SGD-SONAR-OIS-VWAP-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
SGD-SOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
SGD-SOR-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
SGD-SOR-Telerate	All quoted tenors	N/A	Per ISDA 2006	N
SGD-SOR-VWAP	All quoted tenors	N/A	Per ISDA 2006	N
SGD-SOR-VWAP-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
THB-Semi-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
THB-Semi-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
THB-SOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
THB-SOR-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
THB-SOR-Telerate	All quoted tenors	N/A	Per ISDA 2006	N
THB-THBFIX-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
TRY-TRYBOR-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
TWD-Quarterly-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
TWD-Quarterly-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
TWD-Reference Dealers	All quoted tenors	N/A	Per ISDA 2006	N
TWD-Reuters-6165	All quoted tenors	N/A	Per ISDA 2006	N
TWD-Telerate-6165	All quoted tenors	N/A	Per ISDA 2006	N
TWD-TWCPBA	All quoted tenors	N/A	Per ISDA 2006	N
USD-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
USD-BA-H.15	All quoted tenors	N/A	Per ISDA 2006	N
USD-BA-Reference Dealers	All quoted tenors	N/A	Per ISDA 2006	N
USD-BMA Municipal Swap Index	All quoted tenors	N/A	Per ISDA 2006	N
USD-CD-H.15	All quoted tenors	N/A	Per ISDA 2006	N
USD-CD-Reference Dealers	All quoted tenors	N/A	Per ISDA 2006	N
USD-CMS-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
USD-CMS-Reference Banks-ICAP SwapPX	All quoted tenors	N/A	Per ISDA 2006	N
USD-CMS-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
USD-CMS-Telerate	All quoted tenors	N/A	Per ISDA 2006	N
USD-CMT-T7051	All quoted tenors	N/A	Per ISDA 2006	N

USD-CMT-T7052	All quoted tenors	N/A	Per ISDA 2006	N
USD-COF11-FHLBSF	All quoted tenors	N/A	Per ISDA 2006	N
USD-COF11-Reuters	All quoted tenors	N/A	Per ISDA 2006	N
USD-COF11-Telerate	All quoted tenors	N/A	Per ISDA 2006	N
USD-CP-H.15	All quoted tenors	N/A	Per ISDA 2006	N
USD-CP-Reference Dealers	All quoted tenors	N/A	Per ISDA 2006	N
USD-Federal Funds-H.15	All quoted tenors	N/A	Per ISDA 2006	N
USD-Federal Funds-H.15-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
USD-Federal Funds-H.15-OIS-COMPOUND	All quoted tenors	N/A	Per ISDA 2006	N
USD-Federal Funds-Reference Dealers	All quoted tenors	N/A	Per ISDA 2006	N
USD-FFCB-DISCO	All quoted tenors	N/A	Per ISDA 2006	N
USD-ISDA-Swap Rate	All quoted tenors	N/A	Per ISDA 2006	N
USD-ISDA-Swap Rate-3:00	All quoted tenors	N/A	Per ISDA 2006	N
USD-ISDAFIX3-Swap Rate	All quoted tenors	N/A	Per ISDA 2006	N
USD-ISDAFIX3-Swap Rate-3:00	All quoted tenors	N/A	Per ISDA 2006	N
USD-LIBOR-BBA	All quoted tenors	N/A	Per ISDA 2006	N
USD-LIBOR-BBA-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
USD-LIBOR-ISDA	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
USD-LIBOR-LIBO	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
USD-LIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	GBLO (Applies to Both Legs)
USD-OIS-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
USD-OIS-11:00-LON-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
USD-OIS-11:00-NY-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
USD-OIS-3:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
USD-OIS-3:00-NY-ICAP	All quoted tenors	N/A	Per ISDA 2006	N
USD-Prime-H.15	All quoted tenors	N/A	Per ISDA 2006	N
USD-Prime-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
USD-S&P Index-High Grade	All quoted tenors	N/A	Per ISDA 2006	N
USD-SIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
USD-SIBOR-SIBO	All quoted tenors	N/A	Per ISDA 2006	N
USD-SIFMA	All quoted tenors	N/A	Per ISDA 2006	N

Municipal Swap Index				
USD-TBILL-H.15	All quoted tenors	N/A	Per ISDA 2006	N
USD-TBILL-H.15-Bloomberg	All quoted tenors	N/A	Per ISDA 2006	N
USD-TBILL-Secondary Market	All quoted tenors	N/A	Per ISDA 2006	N
USD-TIBOR-ISDC	All quoted tenors	N/A	Per ISDA 2006	N
USD-TIBOR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
USD-Treasury Rate-ICAP BrokerTec	All quoted tenors	N/A	Per ISDA 2006	N
USD-Treasury Rate-SwapMarker100	All quoted tenors	N/A	Per ISDA 2006	N
USD-Treasury Rate-SwapMarker99	All quoted tenors	N/A	Per ISDA 2006	N
USD-Treasury Rate-T19901	All quoted tenors	N/A	Per ISDA 2006	N
USD-Treasury Rate-T500	All quoted tenors	N/A	Per ISDA 2006	N
VND-Semi-Annual Swap Rate-11:00-BGCANTOR	All quoted tenors	N/A	Per ISDA 2006	N
VND-Semi-Annual Swap Rate-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
ZAR-DEPOSIT-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
ZAR-DEPOSIT-SAFEX	All quoted tenors	N/A	Per ISDA 2006	N
ZAR-JIBAR-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N
ZAR-JIBAR-SAFEX	All quoted tenors	N/A	Per ISDA 2006	N
ZAR-PRIME-AVERAGE	All quoted tenors	N/A	Per ISDA 2006	N
ZAR-PRIME-AVERAGE-Reference Banks	All quoted tenors	N/A	Per ISDA 2006	N

Definition of BRL Floating Rate Option

<u>Floating Amount:</u>	<u>Notwithstanding anything to the contrary</u>
<p>(Add)</p> $FX \text{ Rate} \times \text{Currency Amount} \times \left[\prod_{j=1}^N \left(1 + \frac{\text{Relevant Rate}_j}{252} \right) - 1 \right]^{252/N}$	
	<p><u>Where:</u></p> <p><u>N=number of Reset Dates in the Calculation Period</u></p>

	<p><u>j=a particular Reset Date</u></p> <p><u>Relevant Rate</u>=the Relevant Rate for instance j of Reset Date</p>
<p><u>BRL-CDI-CETIP:</u></p>	<p><u>For any Reset Date, the Overnight Brazilian Interbank Deposit Rate Annualized, known as the average (“Media”) of the DIOVER- EXTRA Group as published by CETIP (Câmara de Custódia e Liquidação) (the “Overnight CDI Rate”) for such date; provided that (i) such rate is published not later than 12:00 p.m. on the Brazil Business Day next following such Reset Date and (ii) any adjustments made by CETIP to such rate at any time later than the end of the business day on such Reset Date shall not be taken into account.</u></p> <p><u>If for any Reset Date there is no published Overnight CDI Rate (including as a result of the proviso above), CDI for the relevant Reset Date will be the overnight deposit rate published for such date by the BM&F in accordance with its rules (see http://www.bmf.com.br/portal/pages/boletim1/bd_manual/indicadoreFinanceiros1.asp, or any successor page). If the BM&F does not publish such a rate for such date, CDI for the relevant Reset Date shall be determined jointly by the parties. If the parties do not agree on a determination of such rate within one Brazil Business Day following the relevant Reset Date, CDI shall be determined through a CDI Reference Dealer Poll as described herein. If CDI for a Reset Date is not so determined by a CDI Reference Dealer Poll, BRL-CDI-Reference Dealers shall apply.</u></p>
<p><u>BRL-CDI-Reference Dealers:</u></p>	<p><u>If applicable for a Reset Date as set forth above, the Calculation Agent shall conduct up to four dealer polls commencing on the Brazil Business Day following the relevant Reset Date, in each case by requesting each of the CDI Reference Dealers to provide a quotation of the CDI. If at least four such quotations are obtained from CDI Reference Dealers in any such poll, the highest and lowest quotations will be disregarded and CDI for the relevant Reset Date will equal the arithmetic mean of the remaining quotations. If fewer than four such quotations are obtained from a poll, the Calculation Agent shall conduct additional such polls until four such quotations are obtained in any poll; provided that the Calculation Agent shall not conduct more than four polls in the aggregate (with not more than two polls on any day and with such polls conducted over not more than two Brazil Business Days). If four quotations are not obtained from any of such four polls, CDI shall not be determined by a CDI Reference Dealer Poll.</u></p>
<p><u>CDI Reference Dealers:</u></p>	<p><u>At least six and not more than eight leading onshore dealers in the CDI market selected by the Calculation Agent.</u></p>
<p><u>Reset Dates (“resetDate”):</u></p>	<p><u>Each Scheduled Reset Date (as defined in the BRL CDI Best Practices).</u></p>

<u>Reset Dates Business Days:</u>	<u>As specified by the parties from among the Available BR Business Days.</u>
<u>Available BR Business Days:</u>	<u>Any of BR {SP,RJ, BR} and not otherwise declared a financial market holiday by the BM&F.</u>

Fixed Floating Requirements and Defaults
(Excluding Optional Early Termination and Mandatory Early Termination)

Variable	Requirement	Default
Effective Date Business Day Convention:		No Adjustment
Termination Date Business Day Convention:		No Adjustment
Period End Dates:		Payment Dates
Payment Date Business Day Convention:		Modified Following
Linear Interpolation:		Applicable only to long or short stub periods
Designated Maturities for Linear Interpolation:		Tenors quoted next shorter and longer than the actual Calculation Period length
Compounding:		Inapplicable
Compounding Business Day Convention:	Same as Business Day Convention for Period End Dates	
Method of Averaging:	Weighted Average or Unweighted Average	Unweighted Average
Compounding Method:	Straight Compounding, Flat Compounding, Spread Exclusive Compounding	
ISDA MTM Matrix:		Applicable (to Mark-to-Market Cross Currency Swaps)
Initial Exchange Date:		Effective Date
Initial Exchange Date Business Day Convention:		Following
Interim Exchange Date Business Day Convention:		Modified Following
Final Exchange Date:		Termination Date
Final Exchange Date Business Day Convention:		Modified Following

Fixed Floating Requirements and Defaults
(Optional Early Termination and Mandatory Early Termination)

Setting	Requirement	Default
Optional Early Termination:		Inapplicable
Mandatory Early Termination:		Inapplicable
Option Style:	American, Bermuda, European	
Cash Settlement:	Required for Mandatory Early Termination	Applicable (i.e., Transaction is not "torn up for no value")
Optional Early Termination Date:		Cash Settlement Payment Date
Optional Early Termination Date		Following

Business Day Convention:		
Mandatory Early Termination Date Business Day Convention		Modified Following

Fixed Floating Requirements and Defaults
(Optional Early Termination—Exercise)

Setting	Requirement	Default
Commencement Date:	American only	
Partial Exercise:		Inapplicable
Multiple Exercise:		Inapplicable
Exercise Business Day:		Banking Day for cash Settlement Currency (TARGET Settlement Day for EUR)
Latest Exercise Time:	On Expiration Date, the Expiration Time	Other than Expiration Date, the Expiration Time

Fixed Floating Requirements and Defaults
(Cash Settlement)

Setting	Requirement/Choices	Default
Cash Settlement Amount:		
ISDA Cross Currency Settlement Matrix:		Applicable, if cross currency swap with currency pair included in Matrix
ISDA Settlement Matrix:		Applicable, if single currency swap with Currency included in Matrix
Cash Settlement Valuation Time:		
Cash Settlement Valuation Date:		Two Valuation Business Days before Mandatory/Optional Early Termination Date but same day for CAD, GBP or DKK with Floating Rate Option of “DKK-CIBOR-DKNA13” or “DKK-CIBOR-DKNA13-Bloomberg”
Valuation Business Day:		Banking Days in locations per the Business Day Location Table, plus additional days required by for fixings under the Floating Rate Option(s)
Cash Settlement Payment Date Business Day Convention:		Following
Cash Settlement Method:	Cash Price Cash Price—Alternate Method Collateralized Cash Price Par Yield Curve—Adjusted Par Yield Curve—Unadjusted Zero Coupon Yield—Adjusted	
Cash Settlement Currency:		For single currency, same as Notional Amount, otherwise as specified in ISDA Master Agreement, or otherwise same as Notional Amount for Fixed Amount
Settlement Rate:	ISDA Source/Other Price	

Mr. Christopher J. Kirkpatrick

October 26, 2017

Page 52

	Source/Reference Banks	
Cash Settlement Reference Banks:		Fallbacks per ISDA 2006 Definitions
Quotation Rate:	bid ask mid Exercising Party Pays (Optional Early Termination Only)	