

**Guidelines for Calculation of PDS Treasury (PDST) Reference Rates
by PDEX as SRO Calculating Agent for the Bankers Association of the Philippines**

This document is a guide for the daily calculation and publication of the PDS Treasury (PDST) Reference Rates by the Philippines Dealing & Exchange Corp. (PDEX) as Calculating Agent for the Bankers Association of the Philippines (BAP).

The PDST Calculation Guidelines revised as of November 2010 have been revised in compliance with instructions from the BAP pursuant to the implementation of BSP Circular No. 813 dated 27 September 2013, and relevant issuances of the Bangko Sentral ng Pilipinas. Upon approval of the BAP and the Bangko Sentral ng Pilipinas, this document shall supersede the November 2010 version.

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SECTION 1. Definition of Terms

For the purposes of this document the following terms shall be used:

Associated Security/ies	One or more Philippine Treasury security/ies that comprise the Benchmark Securities of a Benchmark tenor, falling within the defined number of days of a specified Benchmark Tenor Range.
Bellwether Security (for PDST-R1/R2 Tenors)	The one Philippine Treasury security within a Benchmark Tenor that is closest to the designated number of days of a Benchmark Tenor and most representative of that benchmark tenor.
Bellwether Security (for PDST-F Tenors)	The one Philippine Treasury security with a remaining tenor closest to the designated number of days of the Benchmark Tenor as defined in <i>Annex A</i> . For PDST-F tenors, only firm bid yields from PDST Fixing Banks will be used to calculate the PDST-F of the Benchmark Tenor. Unlike the PDST-R1/R2 however, a PDST-F Bellwether Security may be designated even if it falls outside of the defined Benchmark Tenor Range, as long as the security's remaining tenor does not cross-over into another Benchmark Tenor.
Benchmark Securities	The collective term for a set of Philippine Treasury Securities falling within a defined Benchmark Tenor Range. This includes both Bellwether Securities and Associated Securities.
Benchmark Tenor Range	The range, in number of days, which defines each benchmark tenor, e.g. the 3-Year benchmark tenor has a range of 2.5 to 3 years or 913 to 1,096 days.
Benchmark Tenors	Any one of the twelve (12) defined tenor points on the Philippine Treasury Yield Curve for which Benchmark Tenor Rates are calculated daily.
Non-Benchmark Securities	The collective term for all securities falling outside of the defined Benchmark Tenors' ranges in <i>Annex A</i> .
PDST Fixing Banks	The group of banks qualified as such by the BAP and endorsed to PDEX. The names of these banks are listed in <i>Annex C</i> of this document, and these may be amended from time to time.
PDST Fixing Rates (PDST-F)	The set of interest rates for Philippine Benchmark Tenors used as "fixing" rates, i.e. based solely on bids, for pricing or re-pricing interest rate sensitive instruments.
PDST Benchmark Tenor Rates (PDST-R1/R2)	The set of interest rates for Philippine Benchmark Tenors to be used as reference rates for pricing Philippine Treasury instruments and other interest rate sensitive instruments. These may also be referred to as the PDST Reference Rates for the Benchmark Tenors.
PDST Reference Rates (PDST-R1 / R2)	The complete set of interest rates for Philippine Treasury instruments composed of Benchmark Securities and Non-Benchmark Securities, to be used as reference rates for daily market valuation of Philippine Treasury instruments, and/or other interest rate sensitive instruments
Philippine Treasury Securities	Peso-denominated securities issued by the National Government of the Republic of the Philippines. These include Treasury Bills and coupon-bearing Treasury Notes or Bonds.

SECTION 2. Calculation of PDST Reference Rates (R1/R2)

Benchmark Tenors, Securities and Data Sources

- 1. Benchmark Tenors.** There shall be twelve (12) Benchmark Tenor points on the Treasury Yield Curve for which yields shall be set. These are; 1-Month, 3-Months, 6-Months, 1-Year, 2-Years, 3-Years, 4-Years, 5-Years, 7-Years, 10-Years, 20-Years, and 25-Years. Each Benchmark Tenor shall in turn be defined by a range of time periods (or “Benchmark Tenor range”) as described in *Annex A* of this document.
- 2. Benchmark Securities- Determination of the Bellwether Security and Associated Securities**
 - 2.1. Philippine Treasury securities that fall within a Benchmark Tenor range shall be deemed Benchmark Securities. From each set of Benchmark Securities within a Benchmark Tenor, there shall be one Bellwether Security and a set of Associated Securities, unless no Benchmark Security is available.
 - 2.2. For the tenors of 1-year and below only Treasury Bills qualify as bellwether securities, except as otherwise provided in *Annex A* in respect of absence of a clear benchmark.
 - 2.3. For the tenors of 2-years and above, any other Philippine Treasury Security may qualify as a bellwether security.
 - 2.4. Weighted Average Yields from done transactions of, or Firm Bid Yields from the set of Benchmark Securities for each Benchmark Tenor shall be the source data for the PDST Benchmark Tenor Rate of that tenor and PDST Reference Rates for securities within that tenor.
- 3. Non-Benchmark Securities.**
 - 3.1. Each Philippine Treasury security that does not fall within a Benchmark Tenor range shall be a Non-Benchmark Security.
 - 3.2. Weighted Average Yields from done transactions of, or Firm Bid Yields of each Non-Benchmark Security shall be the source data for the PDST Reference Rate of that Non-Benchmark Security calculated twice daily.
- 4. Data Eligibility.** The contribution source/s of the market yield data are
 - 4.1. For Weighted Average Yields of Done Transactions - Data from all done transactions in the Trading System (i.e. from all Trading Participants) that:
 - 4.1.1. Reach a cumulative traded volume of at least PHP 50.0 Million for the whole Benchmark Tenor; i.e. the sum of all transactions of Benchmark Securities within that Benchmark Tenor is at least PHP 50.0 Million (even if traded volume per individual security is less than PHP 50.0 Million), and
 - 4.1.2. Reach a total amount of at least PHP 50.0 Million for a Non-Benchmark Security
 - 4.2. For Simple Average Bid Yields -
 - 4.2.1. Firm Bid Yields for at least PHP 50.0 Million for Standard Settlement Value Date (“T+1”) from each designated PDST Fixing Bank available for each Benchmark Security and Non-Benchmark Security
 - 4.2.2. If a PDST Fixing Bank has more than one Firm Bid Yield of PHP 50 Million for the Benchmark or Non-Benchmark Security across all trading boards, only its Best Bid Yield for Standard Settlement Value Date (T+1) will be selected.

5. **PDST-R1/R2 Benchmark Tenor Rates.** There shall be a Benchmark Tenor Rate calculated for the twelve (12) Benchmark Tenors from 1-Month to 25-Years, twice daily. However, there will be no 25-Year Benchmark Tenor Rate if there is no 25-Year Benchmark Security.

Methodology for the PDS Treasury Reference Rates AM and PM (PDST-R1 and PDST-R2)

6. The set of published **Reference Rates** (PDST-R1 and R2) are intended as the benchmark reference rates for the repricing of loans, securities, derivative transactions and other interest rate sensitive instruments to be issued, as well as the bases for market valuation of Government Securities and other PhP-denominated fixed income securities.
7. **Determination of each Benchmark Tenor Rate.** Each day the calculation system shall:
- 7.1. Track all done transactions for the Benchmark Securities for each Benchmark Tenor on that trading day.
 - 7.1.1. Capture done yields of transactions that are settled into non-T+1 settlement dates for translation into standard value tomorrow (T+1) equivalent prices and incorporation into a value tomorrow Weighted Average Price for each Benchmark Security. (See *Annex D* for description and example of this conversion process.) Prices from transactions for settlement value date beyond three business days from trade date (> "T+3") shall be excluded.
 - 7.1.2. Derive the Weighted Average Yield for each Benchmark Security from the Weighted Average Price given a T+1 Settlement Date.
 - 7.2. Check the Total Volume of Deals for each Tenor Point at each Calculation Time and:
 - 7.2.1. If the Total volume (excluding trades beyond T+3) is equal to or greater than the prescribed volume:
 - 7.2.1.1. Multiply the Weighted Average Yield for each Benchmark Security in that Tenor by the Face Amount traded for that Benchmark Security.
 - 7.2.1.2. Sum the products of the Weighted Average Yields and Face Amounts of the Benchmark Securities.
 - 7.2.1.3. Divide the sum of step 7.2.1.2 by the Total Volume for the Benchmark Tenor (i.e. sum of the Face Amounts of the Benchmark Securities)
 - 7.2.1.4. This result shall be the Weighted Average Yield of all done transactions for the benchmark tenor and this figure will represent the PDST Benchmark Tenor Rate of that benchmark tenor at that calculation time.
 - 7.2.2. If Total Volume (excluding trades beyond T+3) of deals within the Tenor point is less than the prescribed volume (e.g. PhP 50 Million) in *Annex B* of this document
 - 7.2.2.1. Array Firm Bid Yield Orders for at least PhP 50.00 Million with a T+1 settlement date from the set of posted Bid Yield Orders of PDST Fixing Banks for the Benchmark Securities including the Bellwether Security within a Benchmark Tenor. For clarity, only FIRM BID YIELD Orders with a settlement date of T+1 are to be included in the computation, all other BID Yields Orders for non-T+1 settlement shall be excluded.
 - 7.2.2.2. For each Benchmark Tenor, compute a **simple average** of all the Firm Bid Yield Orders arrayed within that Benchmark Tenor. This Simple Average Bid Yield shall represent the PDST Benchmark Tenor Rate AM (R1) or the PDST Benchmark Tenor Rate PM (R2) of the Benchmark Tenor at that calculation time.

- 7.3. **Methodology in the Absence of Weighted Average Yield and Simple Average Bid Yield within a Benchmark Tenor.** If there is neither weighted average yield nor simple average bid yield for a benchmark tenor, either due to a lack of trades or bids or the absence of benchmark securities, a Benchmark Tenor Rate shall be interpolated using the methodology described below:

Sources of Interpolation Points, Volume Criteria, and Days to Maturity.

- 7.3.1. The Benchmark Tenor Rate shall be interpolated from the Reference Rates of the two most adjacent Benchmark Tenors or Non-Benchmark Securities (i.e. with the highest number of Days to Maturity “DTM” below the benchmark tenor’s DTM, and with the lowest DTM above the benchmark tenor’s DTM) that have done transactions, i.e. the Reference Rate is based on a Weighted Average Yield of done transactions. Refer to Annex E for the benchmark tenor’s DTM.
- 7.3.2. If the interpolation point is based on a Benchmark Tenor, then there should be a traded volume of at least PHP 50 Million for the whole Benchmark Tenor. Furthermore, the Days to Maturity (DTM) for this interpolation point would be the DTM of the Benchmark Tenor. Refer to Annex E for the Benchmark Tenor’s DTM.
- 7.3.3. If the interpolation point is based on a Non-Benchmark Security, then there should be a traded volume of at least PHP 50 Million for that specific Non-Benchmark Security. The DTM for this interpolation point is that of the specific Non-Benchmark Security.
- 7.3.4. If there is no longer an applicable shorter adjacent security with done deals, then the BSP Overnight borrowing rate shall be used as the shortest tenor interpolation point.
- 7.3.5. If there is no longer an applicable longer adjacent security with done deals, then the PDST-R1/R2 of the longest tenor bond, whether based on done deals or simple average of bid yields, shall be used as the longest tenor interpolation point.
- 7.3.6. If the 25Y Benchmark Tenor has no Benchmark Securities, there will be no published 25Y Benchmark Tenor Rate.

Interpolation Method

- 7.3.7. Get the difference between the Reference Rates of the two interpolation points and divide the difference by the number of days between the interpolation points. This will generate an interpolation factor (expressed in basis points of yield per day) between the two interpolation points.
- 7.3.8. Get the difference between the DTM of the Benchmark Tenor and the DTM of the lower interpolation point.
- 7.3.9. Multiply the interpolation factor in item 7.3.7 above by the difference of the DTM of the Benchmark Tenor and the DTM of the lower interpolation point, to get the interpolation product of the Benchmark Tenor.
- 7.3.10. Add the interpolation product of the Benchmark Tenor to the corresponding Reference Rate of the lower interpolation point and the sum shall be Interpolated Benchmark Tenor Rate.
8. **Determination of Reference Rates for Government Securities.** The PDST Reference Rates for Government Securities will be the set of rates to mark Benchmark Securities and Non-Benchmark Securities to market.

- 8.1. **Reference Rates of Benchmark Securities.** The Benchmark Tenor Rate calculated at each time of the trading day for each benchmark tenor shall be applied as the PDST Reference Rate (PDST-R1 or PDST-R2) for each Benchmark Security within a benchmark tenor bucket.
- 8.2. **Reference Rates of Non-Benchmark Securities.** Each Non-Benchmark Security shall have its own PDST Reference Rate. It starts with the Calculating System tracking all done transactions for the Non-Benchmark Securities on a trading day and deriving a Weighted Average Yield for each Non-Benchmark Security, following this process:
- 8.2.1. If the Total volume of done transactions (excluding trades beyond T+3) is equal to or greater than the prescribed volume (e.g. PHP 50 Million), then the Weighted Average Yield of that Non-Benchmark Security as of the corresponding calculation time shall be the PDST-R1 Reference Rate or the PDST-R2 Reference Rate for that Non-Benchmark Security.
- 8.2.1.1. Capture yields of transactions that are settled into non-T+1 settlement dates and translate into standard value tomorrow (T+1) equivalent prices for incorporation into a value tomorrow Weighted Average Price for each Non-Benchmark Security. (See *Annex D* for description and example of this conversion process.) Prices from transactions for settlement value date beyond three business days from trade date (> "T+3") shall be excluded.
- 8.2.1.2. Derive the Weighted Average Yield for each Non-Benchmark Security from the Weighted Average Price given a T+1 Settlement Date.
- 8.2.2. If Total Volume of done transactions (excluding trades beyond T+3) for the security is less than the prescribed volume (e.g. PHP 50 Million) in *Annex B* of this document, then the system shall:
- 8.2.2.1. Array Firm Bid Yield Orders for at least PHP 50.00 Million with a T+1 settlement date from the set of posted Bid Yield Orders of PDST Fixing Banks for that Non-Benchmark Security, and
- 8.2.2.2. Compute a simple average of all these Firm Bid Yield Orders for the Non-Benchmark Security, which shall be the PDST-R1 Reference Rate or the PDST-R2 Reference Rate for that Non-Benchmark Security at that calculation time.
- 8.2.3. If there are no Firm Bid Yield Orders of at least PHP 50.00 Million with a T+1 settlement date for that Non-Benchmark Security, then an interest rate shall be interpolated for that Non-Benchmark Security using the methodology described below. The interpolated rate shall be the PDST-R1 Reference Rate or the PDST-R2 Reference Rate for that Non-Benchmark Security at that calculation time.
- Sources of Interpolation Points, Volume Criteria, and Days to Maturity.*
- 8.2.3.1. The Non Benchmark Security Reference Rate shall be interpolated from the PDST Benchmark Tenor Rates of the two most adjacent Benchmark Tenors (one directly below and the other directly above the DTM of the Non Benchmark Security) that have Benchmark Tenor Rates without need for interpolation (i.e. have either Weighted Average Yields or Simple Average Bid Yields).
- 8.2.3.2. The Days to Maturity (DTM) for the interpolation points would be the DTMs of the adjacent Benchmark Tenors. Refer to Annex E for the Benchmark Tenor's DTM.

- 8.2.3.3. If at least one of the adjacent Benchmark Tenors has no Benchmark Tenor Rate prior to its own interpolation (No Weighted Average Yield or Simple Average Bid Yield or Benchmark Securities for the Benchmark Tenor):
- 8.2.3.3.1. The Non Benchmark Security Reference Rate shall be interpolated from the Reference Rates of the two most adjacent Benchmark Tenors or Non-Benchmark Securities (i.e. with the highest number of Days to Maturity “DTM” below the benchmark tenor’s DTM, and with the lowest DTM above the benchmark tenor’s DTM) that have done transactions, i.e. the Reference Rate is based on a Weighted Average Yield of done transactions. Refer to Annex E for the benchmark tenor’s DTM.
 - 8.2.3.3.2. If the interpolation point is based on a Benchmark Tenor, then there should be a traded volume of at least PHP 50 Million for the whole Benchmark Tenor. Furthermore, the Days to Maturity (DTM) for this interpolation point would be the DTM of the Benchmark Tenor. Refer to Annex E for the Benchmark Tenor’s DTM.
 - 8.2.3.3.3. If the interpolation point is based on another Non-Benchmark Security, then there should be a traded volume of at least PHP 50 Million for that specific Non-Benchmark Security used as an interpolation point. The DTM for this interpolation point is that of the specific Non-Benchmark Security.
- 8.2.3.4. If there is no longer an applicable shorter adjacent benchmark tenor or non-benchmark security, then the BSP Overnight borrowing rate shall be used as the shortest tenor interpolation point for Non-Benchmark Securities. The DTM for this interpolation point is 1 day.
- 8.2.3.5. If there is no longer an applicable longer adjacent benchmark tenor or non-benchmark security, then the PDST-R1/R2 of the longest tenor bond, whether based on done deals or simple average of bid yields, shall be used as the longest tenor interpolation point.

Interpolation Method

- 8.2.3.6. Get the difference between the Reference Rates of the two interpolation points and divide the difference by the number of days between the interpolation points. This will generate an interpolation factor (expressed in basis points of yield per day) between the two interpolation points.
- 8.2.3.7. Get the difference between the DTM of the Non-Benchmark Security that is subject to the interpolation and the DTM of the lower interpolation point.
- 8.2.3.8. Multiply the interpolation factor in item 8.2.3.6 above by the difference of the DTM of the Non-Benchmark Security and the DTM of the lower interpolation point, to get the interpolation product of the Non-Benchmark Security.
- 8.2.3.9. Add the interpolation product of the Non-Benchmark Security to the corresponding Reference Rate of the lower interpolation point and the sum shall be Interpolated Non-Benchmark Security Reference Rate.

Calculation and Publication Schedule

9. The following table outlines shows the source data and names of the calculated values:

Source	Yield Points	Short Name	Publication Time
Transaction and Price Data (up to 11:15)	PDST Benchmark Tenor Rates AM	PDST-R1 Benchmark Tenor Rates	11:16
	PDST Reference Rates AM	PDST-R1	11:20
Transaction and Price Data (up to 16:15)	PDST Benchmark Tenor Rates PM	PDST-R2 Benchmark Tenor Rates	16:16
	PDST Reference Rates PM	PDST-R2	16:20

Contingency Measures

10. **PDST Fixing Bank Technical Problem.** The following procedure is applicable if a PDST Fixing Bank experiences a system problem or telecommunications problem (for clarity, the latter includes failure of its internet access to the Trading System). In such a situation, the PDST Fixing Bank should immediately inform PDEX Market Management by telephone that it may be delayed in entering its transactions for capture in the PDST-R1 and PDST-R2 calculations and unable to enter its firm bids.

10.1. The Calculation Agent shall proceed with the calculations of the PDST-R using transactional data of all other PDEX Trading Participants and price data entered by the other PDST Fixing Banks.

10.2. If a situation occurs wherein fifty per cent (50%) of the Trading Participants are unable to access a fully operational PDEX Trading System, then the PDST Fixing Banks shall be duly informed of such fact and the contingency measures in the following section shall be followed by the PDST Fixing Banks.

11. **System-wide Trading System Problem.** These contingency measures are premised on the occurrence of events wherein all redundancy and backup features of the PDEX Trading System have been exhausted. In such a situation, the PDST Fixing Banks would be unable to enter their done transactions or input the bids for the benchmark securities on the PDEX Trading System. In this scenario, Trading Participants shall be duly informed and following are the procedures to be followed by PDST Fixing Banks:

11.1. Input the Firm Bids for the bellwether securities that the PDST Fixing Bank would have posted for that day into an Excel spreadsheet.

11.2. Send the Excel spreadsheet as close to the calculation time as possible to the following e-mail account *dataservices@pds.com.ph* and note “[BANK NAME] FIXING BIDS [DATE]” on the e-mail header. Only the data received in time for the calculation of the relevant reference rate shall be processed for generation thereof.

11.3. In the above scenario, PDS Treasury Reference Rates shall be calculated based on the average of the available Bid/s, and may be published on a delayed basis.

11.4. If the scenario is such that transmission of bid data from fifty percent (50%) of PDST Fixing Banks by e-mail cannot be effected, the previous day’s PDS Treasury Reference Rates will be applicable and this fact shall be made known in the publication of the PDS Treasury Reference Rates.

SECTION 3. Calculation Methodology: PDS Treasury Fixing (PDST-F)

12. **Data Eligibility.** The contribution source/s of the bid yield data are
 - 12.1. Firm Bid Yields for at least PHP 50.0 Million for Standard Settlement Value Date (“T+1”) from each designated PDST Fixing Bank available for each Bellwether Security
 - 12.2. If a PDST Fixing Bank has more than one Firm Bid Yield of PHP 50 Million for the Bellwether Security, only their Best Bid Yield for Standard Settlement Value Date (T+1) will be selected.
13. The **PDST-F** shall be computed daily for each specified benchmark tenor and is intended to support the repricing of earlier-issued debt securities and derivative contracts or other interest-rate sensitive instruments that use contributed bid rates for a reference rate.
 - 13.1. PDST Fixing Banks shall be committed to post firm bids of at least PhP 50 Million Face Amount for Standard Settlement Value Date of “T+1” for each Bellwether Security identified for each PDST-F Tenor Bucket on that Trading Day. For the determination of PDST-F Bellwether Securities please see Annex A.3.
 - 13.2. The firm bids of the PDST Fixing Banks shall be collated by the calculation engine which shall then select only the best sixty percent (60%) of the contributed firm bid yields (i.e., the lowest bid yields).
 - 13.3. The system will compute for the simple average yield from the selected best sixty percent (60%) of the firm bid yields of the PDST Fixing Banks for the Bellwether Security of each benchmark tenor, and the result shall be the PDST Fixing Rate (PDST-F) for that Benchmark Tenor.
14. **PDS Interpolated Fixing Rates (PDSI-F).** The following sub-section is carried over from the previous version of the PDST Calculation Guidelines (2-2010) Section 9, and may be omitted if and when the PDST-F rates are decommissioned. A simple linear interpolation method shall be used to determine yields in between the known tenor points of the PDST-F Yield Curve or the PDST-F Tenors. The interpolation is implemented down to the number of days to maturity for each Philippine Treasury security, for which an interpolated fixing yield is being calculated, using the following process:
 - 14.1. Determine the remaining Days to Maturity (DTM) of each Philippine Treasury security.
 - 14.2. Based on the DTM, determine between which two PDST-F Tenors the Philippine Treasury security falls.
 - 14.3. Get difference of the two PDST-F Rates of the PDST-F Tenors and divide by the number of days between the two Bellwether Securities of those PDST-F Tenors. (This will generate a daily interpolation factor expressed in basis points of yield per day between the two PDST-F tenors).
 - 14.4. Get the difference between the DTM of the Philippine Treasury security and the number of days of the Bellwether Security of the lower PDST-F Tenor.
 - 14.5. Multiply the daily interpolation factor by no. of days between DTM and lower PDST-F Tenor to get the interpolation product for the Philippine Treasury security.
 - 14.6. Add the interpolation product to the PDST-F Rate of the lower PDST-F Tenor and this shall be the PDS (Treasury) Interpolated Fixing "PDSI-F" for that Philippine Treasury security.

Calculation and Publication Schedule

15. The following table outlines shows the source data and names of the calculated values:

Source	Yield Points	Short Name	Publication Time
Fixing Bids as of 11:15	PDS Treasury Fixing	PDST-F	11:16
PDST-F (11:16)	PDST Interpolated Fixing	PDSI-F	11:20

Contingency Measures

16. **PDST Fixing Bank Technical Problem.** The following procedure is applicable if a PDST Fixing Bank experiences a system problem or telecommunications problem (for clarity, the latter includes failure of the required internet access facility for the Trading System). In such a situation, the PDST Fixing Bank should immediately inform PDEX Market Management by telephone that it may be unable to post its firm bids for the PDST-F’s Bellwether Securities at 11:15 AM.

16.1. The Calculation Agent shall proceed with the calculations of the PDST-F using price data entered by the PDST Fixing Banks.

16.2. If a situation occurs wherein fifty per cent (50%) of the Trading Participants are unable to dial-up into a fully operational PDEX Trading System, then the PDST Fixing Banks shall be duly informed of such fact and the contingency measures in the following section shall be followed by the PDST Fixing Banks.

17. **System-wide Trading System Problem.** These contingency measures are premised on the occurrence of events wherein all redundancy and backup features of the PDEX Trading System have been exhausted. In such a situation, the PDST Fixing Banks would be unable to input their bids for the benchmark securities on the PDEX Trading System. In this scenario, Trading Participants shall be duly informed and following are the procedures to be followed by PDST Fixing Banks:

17.1. Input the Firm Bids for the bellwether securities that the PDST Fixing Bank would have posted for that day into an Excel spreadsheet.

17.2. Send the Excel spreadsheet as close to the calculation time as possible to the following e-mail account *dataservices@pds.com.ph* and note “[BANK NAME] FIXING BIDS [DATE]” on the e-mail header. Only the data received in time for the calculation of the relevant reference rate shall be processed for generation thereof.

17.3. If the scenario is such that transmission of bid data from fifty percent (50%) of PDST Fixing Banks by e-mail cannot be effected, the previous day’s PDST-F will be applicable and this fact shall be made known in the publication of the PDS Treasury Reference Rates.

Annex A. Definition of Tenor Ranges within Benchmark Tenors

1. Treasury-Bill Benchmark Securities

The PDS System shall count the remaining tenor of Philippine Treasury issues in number of days remaining to maturity. The start date used will be the standard settlement date of “value tomorrow” (or “T+1”).

As a general rule, the Bellwether Treasury Bills should be the 35-day, 91-day, and 182-day tenors, which shall then be subject to an expansion of +7 days and -7 days count for inclusion of Associated (“expanded on-the-run”) Securities. If there is no Philippine Treasury Bill that falls on the preferred days to maturity for the 1-month, 3-month or 6-month tenor, priority shall be given to a Treasury Bill within the expanded tenor range whose days to maturity is the absolute closest to the “preferred bellwether tenor” days to maturity as stated in the prior table. If there are any ties, the Treasury Bill with the greater number of days to maturity shall be the Bellwether Security.

The usual one-year benchmark shall be the latest issued 364-day Treasury bill, subject to an expanded range of -14 days for the Associated Securities. If there is no Philippine Treasury Bill that falls on the preferred days to maturity for the 1-year tenor, the latest issued one year Treasury Bill (most days to maturity) within the expanded tenor range will be assigned as the Bellwether.

Though not qualifying as bellwether security, any Philippine Treasury Security falling within the defined day-count range qualify as associated securities for the 3M, 6M and 1Y tenor buckets. Only Treasury Bills may be associated securities for the 1M tenor bucket.

Settlement Weekday / Benchmark Tenors	Preferred Bellwether Tenor (Days remaining to Maturity)	Expanded Tenor Range (Days remaining to Maturity)
Monday		
1 Month	37*	30 – 44
3 Months	93*	86 -100
6 Months	184*	177 – 191
1 Year	359*	345 – 359
Tuesday		
1 Month	36*	29 – 43
3 Months	92	85 – 99
6 Months	183	176 – 190
1 Year	358*	344 – 358
Wednesday		
1 Month	35*	28 – 42
3 Months	91*	84 – 98
6 Months	182*	175 – 189
1 Year	364*	350 – 364
Thursday		
1 Month	34*	27 – 41
3 Months	90*	83 – 97
6 Months	181*	174 -188
1 Year	363*	349- 363
Friday		
1 Month	33*	26 – 40
3 Months	89*	82 – 96
6 Months	180*	173- 187
1 Year	362*	348 – 362

Procedure in case of Absence of Bellwether Treasury Bills for PDST Benchmark Tenor Rates

If there is no Philippine Treasury Bill that falls within the expanded tenor range for the 1-month, 3-months, 6-months or 1-year tenors, then the PDST Benchmark Tenor Rate shall be interpolated in the method described in Annex E below.

Procedure in case of Absence of Clear Benchmark for Treasury Bills for PDST Fixing (PDST-F)

If there is no Philippine Treasury Bill that falls on the preferred days to maturity for the 1-month, 3-month or 6-month tenor, priority shall be given to a Treasury Bill whose days to maturity is the absolute closest to the “preferred bellwether tenor” days to maturity as stated in the prior table. If there are any ties, the Treasury Bill with the greater number of days to maturity shall be the Bellwether Security.

If there is no Philippine Treasury Bill that falls on the preferred days to maturity for the 1-year tenor, the latest issued one year Treasury-Bill (most days to maturity) will be assigned as the Bellwether.

For the purpose of calculating the PDST-F of the 1-month, 3-month, 6-month or 1-year tenors, only Treasury Bills shall be considered. In case of a decision by the Bureau of the Treasury to cancel the issuance of Treasury Bills, then the Fixed Rate Treasury Notes with remaining tenors falling within the parameters described shall be used.

The bellwether security determined for PDST Fixing (PDST-F) may not necessarily be part of the PDST-R1/R2 calculation for the benchmark tenor, if the security’s days to maturity does not fall within the expanded tenor range.

2. Benchmark Tenor Ranges for Treasury Note and Treasury Bond Benchmark Securities for PDST-R1 and PDST-R2

Benchmark Tenor	Benchmark Tenor Range (in Years remaining to Maturity)	Benchmark Tenor Range (in Days remaining to Maturity)
2 Years	1.5 to 2 years	547 – 731
3 Years	2.5 to 3 years	913 – 1,096
4 Years	3.5 to 4 years	1,278 – 1,461
5 Years	4.5 to 5 years	1,643 – 1,827
7 Years	6.5 to 7 years	2,374 – 2,557
10 Years	9.5 to 10 years	3,469 – 3,653
20 Years	19.5 to 20 years	7,122 – 7,305
25 Years	24.5 to 25 years	8,948 – 9,132

Fixed Rate Treasury Notes, Retail Treasury Bonds and Special Purpose Treasury Bonds whose remaining tenors fall within the corresponding range shall be included in the computation of the PDST Benchmark Tenor Rates.

Procedure in case of Absence of a Bellwether Treasury Bonds for PDST Benchmark Tenor Rates

If there is no Philippine Treasury Bond that falls within the specific Benchmark Tenor Range for the 1-Year, 2-Year, 3-Year, 4-Year, 5-Year, 7-Year, 10-Year, and 20-Year tenors, then the PDST Benchmark Tenor Rate for that tenor shall be interpolated in the method described in Annex E below. If there is no Philippine Treasury Bond that falls within the specific Benchmark Tenor Range for the 25-Year tenor, then there shall be no PDST 25-Year Benchmark Tenor Rate for that day.

3. Benchmark Tenor Ranges for Treasury Note and Treasury Bond Bellwether Securities for the PDST Fixing (PDST-F) Methodology

Benchmark Tenor	Benchmark Tenor Range (in Years remaining to Maturity)	Benchmark Tenor Range (in Days remaining to Maturity)
2 Years	1.5 to 2 years	547 – 731
3 Years	2.5 to 3 years	913 – 1096
4 Years	3.5 to 4 years	1,278 – 1,461
5 Years	4.5 to 5 years	1,643 – 1,827
7 Years	6.5 to 7 years	2,374 – 2,557
10 Years	9.5 to 10 years	3,469 – 3,653
20 Years	19.5 to 20 years or latest issued 20-year bond	7,122 – 7,305
25 Years	24.5 to 25 years or latest issued 25-year bond	8,948 – 9,132

The Treasury Security with a remaining tenor closest to the longest point in the tenor range shall be the bellwether security and bids for which shall be used for computation of the PDST-F Rate for the tenor.

Procedure in case of Absence of Clear Bellwether Treasury Bond for the PDST Fixing

If there are no Philippine Treasury Bond Auctions held or there are no awards in the Philippine Treasury Bond Auctions for any of the benchmark tenors, and there will be an absence of a clear Bellwether Security for the PDST Fixing, the longest issued Security shorter than that particular benchmark tenor will be assigned as the Bellwether Security for the PDST Fixing.

The bellwether security determined for PDST Fixing (PDST-F) may not necessarily be part of the PDST-R1/R2 calculation for the benchmark tenor, if the security's days to maturity does not fall within the benchmark tenor range.

Annex B. Minimum Trading Volumes for PDS Treasury Reference Rates

Benchmark Tenor	Minimum Volume (in PhP Millions)
<i>1 Month</i>	50.00
<i>3 Months</i>	50.00
<i>6 Months</i>	50.00
<i>1-Year</i>	50.00
<i>2-Years</i>	50.00
<i>3-Years</i>	50.00
<i>4-Years</i>	50.00
<i>5-Years</i>	50.00
<i>7-Years</i>	50.00
<i>10-Years</i>	50.00
<i>20-Years</i>	50.00
<i>25-Years</i>	50.00
<i>Non-Benchmark Securities</i>	50.00

Annex C.PDST Fixing Banks

- 1. Asia United Bank**
- 2. Banco de Oro Universal Bank**
- 3. Bank of Commerce**
- 4. Bank of the Philippine Islands**
- 5. CTBC Bank**
- 6. Citibank, N.A.**
- 7. Deutsche Bank**
- 8. Development Bank of the Philippines.**
- 9. East West Banking Corporation**
- 10. The Hong Kong & Shanghai Banking Corp.**
- 11. ING Bank**
- 12. Land Bank of the Philippines**
- 13. Metropolitan Bank & Trust Company**
- 14. Philippine Bank of Communications**
- 15. Philippine National Bank**
- 16. Philippine Veterans Bank**
- 17. Rizal Commercial Banking Corp.**
- 18. Security Bank Corp.**
- 19. Standard Chartered Bank**
- 20. United Coconut Planters Bank**

Annex D. Method to Incorporate Yields from Value “T+0”, “T+2” or “T+3” transactions into a Value Tomorrow (“T+1”) Weighted Average Yield

This section describes the procedure for generating a “value tomorrow equivalent” price for a benchmark security based on the transacted yield from non-value tomorrow deal. The conversion is done so that the benchmark security’s transaction data can be included in the calculation of the Weighted Average Price and subsequent determination of the Weighted Average Yield of that specific benchmark security.

1. Select the Yield to Maturity (YTM) of the non-value tomorrow transaction of a benchmark security
2. Apply bond price formula to calculate a new transaction price using the transaction’s YTM and adjusted settlement date (T+1). This shall be the “value tomorrow equivalent” or “T+1” price.
3. Include the calculated “T+1” price of this transaction when generating the Weighted Average Price of that specific benchmark security
 - a. Calculate Clean Value per transaction of the specific benchmark security (Face Amount times Price/100)
 - b. Sum all the Clean Values traded for that benchmark security (T+1)
 - c. Sum all the Face Amounts traded for that benchmark security (T+1)
 - d. Divide Sum of Clean Value by Sum of Face Amounts and multiply by 100. This shall be the Weighted Average Price of a Benchmark Security (T+1).
4. Apply the Price to Yield formula on the Weighted Average Price with a T+1 settlement date and the result shall be the Weighted Average Yield of the Benchmark Security

Sample Conversion of Value Today to Value Tomorrow Equivalent Price

	Value Today Figures	Value Tomorrow Equivalent
Series	FXTN 20-17	same
Coupon	8.0000%	same
Maturity	07/19/2013	same
YTM	5.2500%	same
Settlement Date	10/10/2013	10/11/2013
Clean Price	127.3515182	127.3486114

Annex E. Days to Maturity for Benchmark Tenors

Tenor/Settlement Day	Monday	Tuesday	Wednesday	Thursday	Friday
Overnight Rate	1				
1M	37	36	35	34	33
3M	93	92	91	90	89
6M	184	183	182	181	180
1Y	359	358	364	363	362
2Y	731				
3Y	1,096				
4Y	1,461				
5Y	1,827				
7Y	2,557				
10Y	3,653				
20Y	7,305				
25Y	9,132				