__README_BACKTEST_METHODOLOGY_REPORT__

__TOTAL_BACKTEST_SIGNALCOL_METH__

GRAPHS
SUM. BACKTESTING [SENSITIVITY] RESULTS REPORT
[3.67 YR., 1M AGG. BARS - PSEUDO-BONDS]

[NOTE: FIRST CUMPNL IN BACKTESTERPNL CLASS]
I. MAIN BACKTESTERPNL CLASS – MOMENTUM-BASED. CUMPNL GRAPH, TRADE EXEC, ALL MAIN BT CALCS: @VEC_CALCS DAYS SENS. (25D, 50D, 75D, 100D, 125D, 150D, 175D, 200D)
II. DSP SIGNAL PROCESS EVAL. – RAW PREM/DISC SIGNAL SPACE
III. FAST VEC – SIGNAL BT (Opt.)
IV. MAIN NETTAKER CLASS – MAIN(): TRADE SIGNAL & EXEC., MEAN-REVERSION WINDOWS & SIZING.
V. EVENT-BASED CUSTOM ALGOS [MOMO ONLY]
a. NEW PERIODICITY SLOW AND FAST COUNTING SZ. (LONG SHORT SIDE LARGEST DIV, EXP CH. ONLY ALGOS) AND INTRADAY OPEN/CLOSE ALGOS
b. TRADES SPECIFIC SEMI-FUND. CRITERIA NON-PATH DEP. RULES, CAPTURING ONLY SPECIFIC EVENTS AND MATCHING SYMB CRITERIA (EARLY COINT FORM.)
NOTE: RESULTS FOCUS ON LARGEST RECENT PERIODICITY FOR MOMO ONLY, EVENT-DRIVEN CUSTOM ALGOS.
MAIN MEAN-REVERSION IN BONDS PREM DISC NAV CORR CUMRES SP.
NOTE II: BASE V ONLY, V1. V2 OPTIMIZATIONS WITH PP$T + $ADV EFFICACY AND LIVE-TRADING V1.

I.
MAIN BACKTESTERPNL CLASS
[CUMPNL RESULTS]
Method:
c. Aggressive Sensitivity iter. – Vectorized Calcs sensitivity wrapper on main backtesting final funcs., results to console.
d. Master-key querying + mgmt.
i. Global bounded latency perc % [min-max lat. exp. vol units]: ‘latency_entry_exit_sec’. Hist. constrained vol ratio metric sp. near max-min lat.!
e. All stored vars in complex DS dict key comp. struct. For queueing up ex. prior regr. params, trade pos. for low-latency pre-calcs.
f. Early Warning System - Anomalous non-para. ML (Mod.) pred.: Custom Flags + L/S Vol Obs + Custom tb code exec. err. (unique local flags counts), Volatility Flags, cum, per side flags for vol flagging scenarios ex. volatile pos. > global cumres perc % keys

II.
PREMIUM DISCOUNT SIGNAL SPACE – DSP PROCESS: SIGNAL FILTERING QUALITY & DSP EFFICACY
PURE RAW ORIGINAL PREMIUM DISCOUNT SIGNAL VS. FILTERED PREMIUM DISCOUNT SIGNAL SP. & ADJ. (EARLY-BT)

> TOTAL LOG (3.67 YRS.) RAW SIGNAL. ROLLING BETA RAW AND ADJ. PREM/DISC SPREAD

BASIS:
>>>> RAW TOTAL SIGNALCOL (ADJ TOTAL RAW SIGNALCOL PREM_DISC) Results Analysis
>>>> Legend:
>>>> Blue repr. raw premium discount spread; both on rolling basis. Red denotes the filtered Butter SOS signal.
>>>> BLUE - UNFILTERED RAW TOTAL SIGNALCOL
>>>> Graph Desc. [Interpretation]:
>>>> Blue (COMPLETE RAW NAV):
>>>> Erratic growth and uncontrolled trends (see non-linear mvmts./dev.). Rolling better, but unfiltered signal still not quite clean.
>>>> Red:
>>>> RED - FILTERED DSP TOTAL SIGNALCOL*****
>>>> *****(NOT DIFFERENCED PER SYMBOL, COMPLETELY RAW) SIGNALCOL

>>>> Tightly-clustered groupings, normalized centered around 0 mean, with binary signal lines w/ coint pairs.
>>>> Log time-scale: (3 yr., 1m DSP stoch. resampled bars (reusable freq. agn. DSP bars)).

>>>> _MAIN_V0_BASE_SIGNALCOL_METH__
>>>> ROLLING 900D RAW vs. FILTERED ROLLING PREM DISC
>>>> *ADD-IN EXPENSES (FULLY-LOADED, PLUS ADDED-IN LEVERAGE %)
>>>> AFTER INCLUDING ONLY 1 PERIOD – FFILL LAST REPORTED FREQUENCY AND EXPENSES
>>>> VOLMINSIMPZ SIGNALCOL:
>>>> MEAN-REVERSION (REVERSED SIGNAL) RAW SIGNAL (GLOBAL KEY AVG. QUERY) VOLMINSIMPZ (200m-200m shift) - WIP
>>>> MAIN FILTERED SIGNAL FREQUENCY RESPONSE:
>>>> ATTENTUATES (CANCELS-OUT) EXTREMA FREQ. VALUES WHILE LETTING MIDDLING FREQ. VALUES PASS-THROUGH.
>>>> STOCHASTIC RESAMPLING [PREM-DISC] OUTPUT:
>>>> [DISCRETELY-UPSAMPLED [5-5-5] 15MIN TOTAL TRADING-WINDOW]: [19.98 20.1
  20.085 ... 14.02 14.02 14.   ]

IV.
MAIN NETTAKER CLASS - MEAN-REVERSION
I. $ADV NETTAKER UNITS
a. OPTIMIZING CUM. RES., SIDE/NET PAIR WEIGHTS, SYMB. LIST
II. $ADV v2 – TOT. TIME EXP., TOT. UNITS SENSITIVITY ANALYSIS + CDF
Methods:
a. REGRESSION: Rolling ADV units over N ret bars.
i. RETURNS OPTIMIZED CUM. RESIDUALS + HEDGE, WEIGHTS
b. CUSTOM SIZING ALGOS: UNIQUE SIGNAL-FREQ. BASED POS.
i. Reusing DSP processes - free algo-sizing ops
ii. If weekly vol_ratio > vol ratio hist (1.5) < 2.5 max hist.
i. Size down to 0.2x (entry-z) then 0.46x (next-z) then 0.38x (next-z) then 0.33 (next-z, close). Size up time +5 by [5,5,5] forward-backward DSP passes.
1. zscore: 2.0 | 3.0 | 4.0 | 5.0 | 6.0
2. sizing: .2 to .46 to .38 to .33 to .3

3. timein: [10]| [15]| [20] | [25] | [30] incr. 5m win.
iii. Size up to (0), 1, 2.5237.., 4.5, end..(6.891) but 5 max. Same time-window: [5,5,5].
iv. Result: pos. does not size up/down until next-z (or two) max pos at 3 min. vol., 2-3 pos. max vol. z-confirm. NOTE: Freq. agn.: Change func. window to s, ms, micro, …

* END OF STATISTICAL ARBITRAGE STRAT REPORT: SUMMARY, BACKTESTING, SENSITIVITY *
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DATE: 9/5/24