Deconstructing the Weighted Percentage (T_p) Calculation

In ZeroLend's model, T_p represents the Total or Weighted Percentage, crucial for determining rewards. This metric combines the proportions of dynamic Liquidity Provision (dLP_p) and single-staked ZERO (Z_p) relative to the total USD value of a user's lending deposits. Here's a clearer breakdown:

Calculating dLP_p and Z_p

dLP_p Calculation : Measures the USD value of dLP locked, factoring in the double valuation of ZERO within LP tokens.

d L P p = d L P D e p o s i t s = ZERO 2 × 2 D e p o s i t s dLP_p = \frac{dLP}{Deposits} = \frac{\textrm{ZERO}_2 \times 2}{Deposits} d L P p

= De p os i t s

d L P

= De p os i t s

ZERO 2

×

2 Note: ZERO 2 \textrm{ZERO}_2 ZERO 2 adjusts with LP token ratios, while veZERO earnings depend solely on the ZERO quantity at deposit time.

Z_p Calculation : Relates to the USD value of ZERO locked in single asset staking.

Z p = ZERO 1 D e p o s i t s Z_p = \frac{\textrm{ZERO}_1}{Deposits} Z p

= De p os i t s

ZERO 1 Combining for Total Percentage (T_p)

T p = 4 × d L P p + 1 × Z p = 4 × ZERO 2 × 2 D e p o s i t s + 1 × ZERO 1 D e p o s i t s T_p = 4 \times dLP_p+1\times Z_p = 4 \times \frac{\textrm{ZERO}_2 \times 2}{Deposits} + 1 \times \frac{\textrm{ZERO}_1}{Deposits} T p

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+ 1

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= 4

× De p os i t s

ZERO 2

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× De p os i t s

ZERO 1 and,

f (T p) = f (4 × ZERO 2 × 2 D e p o s i t s + 1 × ZERO 1 D e p o s i t s) = { 0 if 0.00 ≤ T p < 0.10 0.5 if 0.10 ≤ T p < 0.15 0.75 if 0.15 ≤ T p < 0.20 1.0 if 0.20 ≤ T p < 0.25 1.1 if 0.25 ≤ T p < 0.30 1.25 if 0.30 ≤ T p < 0.40 1.5 if 0.40 ≤ T p < 0.50 2.0 if 0.50 ≤ T p f(T_p) = f(4 \times \frac{\textrm{ZERO}_2 \times 2}{Deposits} + 1 \times \frac{\textrm{ZERO}_1}{Deposits}) = \begin{cases} 0 & \text{if } 0.00 \leq T_p< 0.10 \ 0.5 & \text{if } 0.10 \leq T_p <0.15\ 0.75 & \text{if } 0.15 \leq T_p < 0.20 \ 1.0 & \text{if } 0.20 \leq T_p <0.25\ 1.1 & \text{if } 0.25 \leq T_p < 0.30 \ 1.25 & \text{if } 0.30 \leq T_p <0.40\ 1.5 & \text{if } 0.40 \leq T_p < 0.50 \ 2.0 & \text{if } 0.50 \leq T_p \

\end{cases} f (T p)

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ZERO 2

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+ 1

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ZERO 1)

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T p

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0.50 if 0.50

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T p This function assigns reward levels based on the calculated T_p value, with different tiers from 0 to 2.0, enhancing rewards progressively as T_p increases.

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