Findings Report: Strategy-Rebalancer

Group 1 • Week 2
https://github.com/tonkers-kuma/strategy-rebalancer

Finding: Heavier TokenB weight will revert ShouldTend

Description: Line 214 AmountIn is calculated using IdealAUsd and debtAUsd, which are assigned from the associated weight ratio of tokens A and B in the pool, if token B's weight is more than A's (> 50%) then the safeMath.sub will revert as IdealAUsd will be less than debtAUsd.
Risk: Probably half the time ShouldTend will revert
**Recommendation:** Add an if statement and an else to handle a heavier B weight

```
function shouldTend() public view returns (bool _shouldTend){
    // 18 == decimals of USD
    uint debtAUsd = _adjustDecimals(providerA.totalDebt().mul(providerA.getPriceFeed()).div(10 ** providerA.getPriceFeedDecimals()), _decimals(tokenA), 18);
    uint debtBUsd = _adjustDecimals(providerB.totalDebt().mul(providerB.getPriceFeed()).div(10 ** providerA.getPriceFeedDecimals()), _decimals(tokenB), 18);
    uint debtTotalUsd = debtAUsd.add(debtBUsd);
    uint idealAUsd = debtAUsd.add(debtBUsd).mul(currentWeightA()).div(1e18);
    uint idealBUsd = debtAUsd.add(debtBUsd).sub(idealAUsd);


    uint weight = debtAUsd.mul(1e18).div(debtTotalUsd);
    if (weight > 0.95 * 1e18 || weight < 0.05 * 1e18) {
        return true;
    }


    uint amountIn = _adjustDecimals(idealAUsd.sub(debtAUsd).mul(10 ** providerA.getPriceFeedDecimals()).div(providerA.getPriceFeed()), 18, _decimals(tokenA));
    uint amountOutIfNoSlippage = _adjustDecimals(debtBUsd.sub(idealBUsd).mul(10 ** providerB.getPriceFeedDecimals()).div(providerB.getPriceFeed()), 18, _decimals(tokenB));
    uint amountOut;
```

Finding: Deep Uncertain Inheritance Tree

Recommendation: Follow updates and the code closely
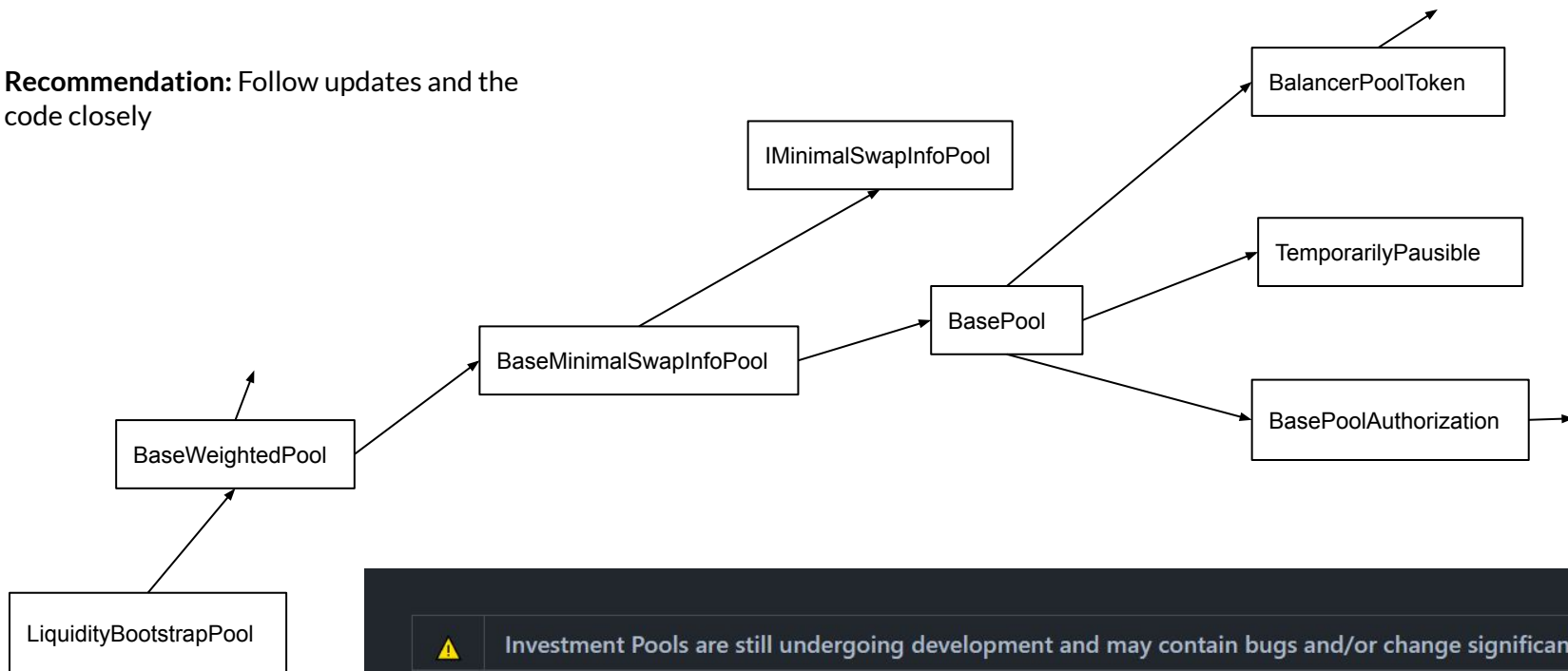
⚠ Investment Pools are still undergoing development and may contain bugs and/or change significantly.

Finding: Some Gas Optimization

- Lines 206-7 can use totalDebtUsd previously created, helps with readability too
- Line 156 unused variable lbptotal
- Line 260 unused variable atLimit
- Line 487 '_decimals' can be omitted from returns statement to clear ` This declaration shadows an existing declaration.` warning.

Thank you