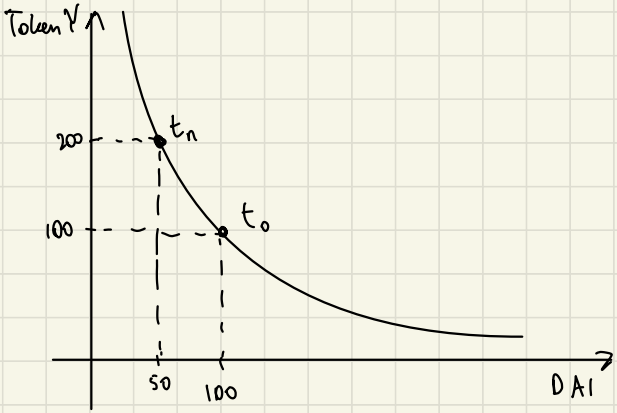
Divergence loss Estimation method: (without fees)

Example based on constant-product protocol:



At t_0 a Liquidity provider enters the pool at the proportion 100 DAI : 100 Token Y.
Because DAI is a stablecoin such that 1 DAI = 1$, the value of 100 DAI + 100 Y at t_0 is $200.

Consider t_n and that L.P. leaves the pool at the proportion 50 DAI : 200 Token Y
The value of 50 DAI + 200 Y at t_n is $100.
However, if one were to hold the 100 DAI and 100 Token Y, then at t_n one would have $125.
Thus, divergence loss is $25.

Notice that hopefully the divergence loss is compensated by transaction fees on the pool between time t_0 and t_n.

Divergence loss Estimation function:

Iterate the number of times you want to run simulation:

→ Initialize pools

→ Provide Liquidity

→ Generate a new equilibrium scenario

→ Withdraw

→ Calculate how much money one would have without providing liquidity (Hold)

→ append to a pool's unique list hold − withdraw

Return the averages of all lists.

calc pool value at t_0

→ value of pool token