Here are some example values that could be used as initial benchmarks:

1. Initial balance: Any positive numerical value representing the starting amount of money in the portfolio. For example, $10000 or $500000.
2. Stock allocation percentage: A numerical value between 0 and 1 representing the percentage of the initial balance allocated to stocks. For example, 0.6 for 60% allocation to stocks.
3. Bond allocation percentage: Similar to the stock allocation percentage, a numerical value between 0 and 1 representing the percentage of the initial balance allocated to bonds. For example, 0.3 for 30% allocation to bonds.
4. Oil allocation percentage: Again, a numerical value between 0 and 1 representing the percentage of the initial balance allocated to oil. For example, 0.1 for 10% allocation to oil.
5. Number of years for simulation: A positive integer representing the number of years over which the portfolio will be simulated. For example, 10 for a 10-year simulation.
6. Number of steps per year: A positive integer representing the number of time steps per year used in the simulation. This can vary based on the desired level of granularity. For example, 252 for daily steps. It typically excludes weekends (Saturdays and Sundays) as well as holidays when the financial markets are closed. This provides a more accurate representation of the number of actual trading days within a year, allowing for more precise modeling of market dynamics and investment strategies.

Risk Tolerance-based Parameters:
In the portfolio simulation, risk tolerance plays a pivotal role in determining the growth rates and volatility parameters associated with each asset class. The risk tolerance levels are categorized into low, medium, and high, each influencing the drift constants and standard deviations to reflect varying degrees of investment risk.

Low Risk Tolerance: Advocates of conservative strategies, rooted in stability over speculative vigor, find solace in low-risk tolerance. Here, the bedrock of asset growth is anchored by modest drift constants—0.03 for stocks, 0.02 to 0.03 for bonds, and 0.03 to 0.08 for oil—each sculpted to weather market vicissitudes with steadfast resolve. Standard deviations, mirroring this conservative ethos, stand guard at 0.05 for stocks, 0.03 to 0.05 for bonds, and 0.08 to 0.17 for oil, reinforcing a sanctuary of prudence amidst financial tumult.

Notes: Investors with low risk tolerance prioritize capital preservation and stability, favoring investments with lower potential for loss. By opting for conservative growth expectations and minimizing exposure to volatile asset classes such as stocks and oil, they aim to safeguard their portfolios against abrupt market downturns. While this approach may yield moderate returns, its primary focus lies in shielding investments from significant downside risks.

Medium Risk Tolerance: Seekers of equilibrium between growth prospects and risk hedging embrace the medium risk tolerance ethos as a compass navigating the intricate trade-offs of investment dynamics. Drift constants, calibrated at 0.07 for stocks, 0.04 to 0.05 for bonds, and 0.05 to 0.15 for oil, herald a harmonious blend of growth ambition and stability. Mirroring this

calibrated dance, standard deviations stand poised at 0.09 for stocks, 0.05 to 0.07 for bonds, and 0.08 to 0.17 for oil, embodying a finely tuned symphony of risk and reward.

Notes: Medium-risk tolerance investors strike a balance between capital growth and risk mitigation, aiming to achieve respectable returns while managing volatility. By embracing a moderate level of risk, they position their portfolios to capitalize on growth opportunities presented by diverse asset classes. While accepting a higher degree of volatility compared to conservative strategies, this approach seeks to optimize risk-adjusted returns over the long term.

High Risk Tolerance: Pioneers of the bold frontier, emboldened by a high risk tolerance ethos, embrace volatility as a conduit to lofty aspirations. Here, drift constants soar to dizzying heights—0.09 for stocks, 0.05 to 0.07 for bonds, and 0.05 to 0.17 for oil—ushering in an era of audacious growth ambitions. Standard deviations, mirroring this ethos of calculated risk-taking, stand as sentinels at 0.15 for stocks, 0.05 to 0.07 for bonds, and 0.08 to 0.17 for oil, fortifying a bastion of resilience against the tempestuous tides of market flux.

Notes: High-risk tolerance investors exhibit a willingness to embrace uncertainty and volatility in pursuit of potentially higher returns. By allocating a significant portion of their portfolios to growth-oriented assets like stocks and oil, they aim to capitalize on market upswings and generate substantial wealth over time. While this approach entails higher levels of risk, it also offers the potential for outsized returns, making it suitable for investors with a long-term investment horizon and a stomach for market fluctuations.