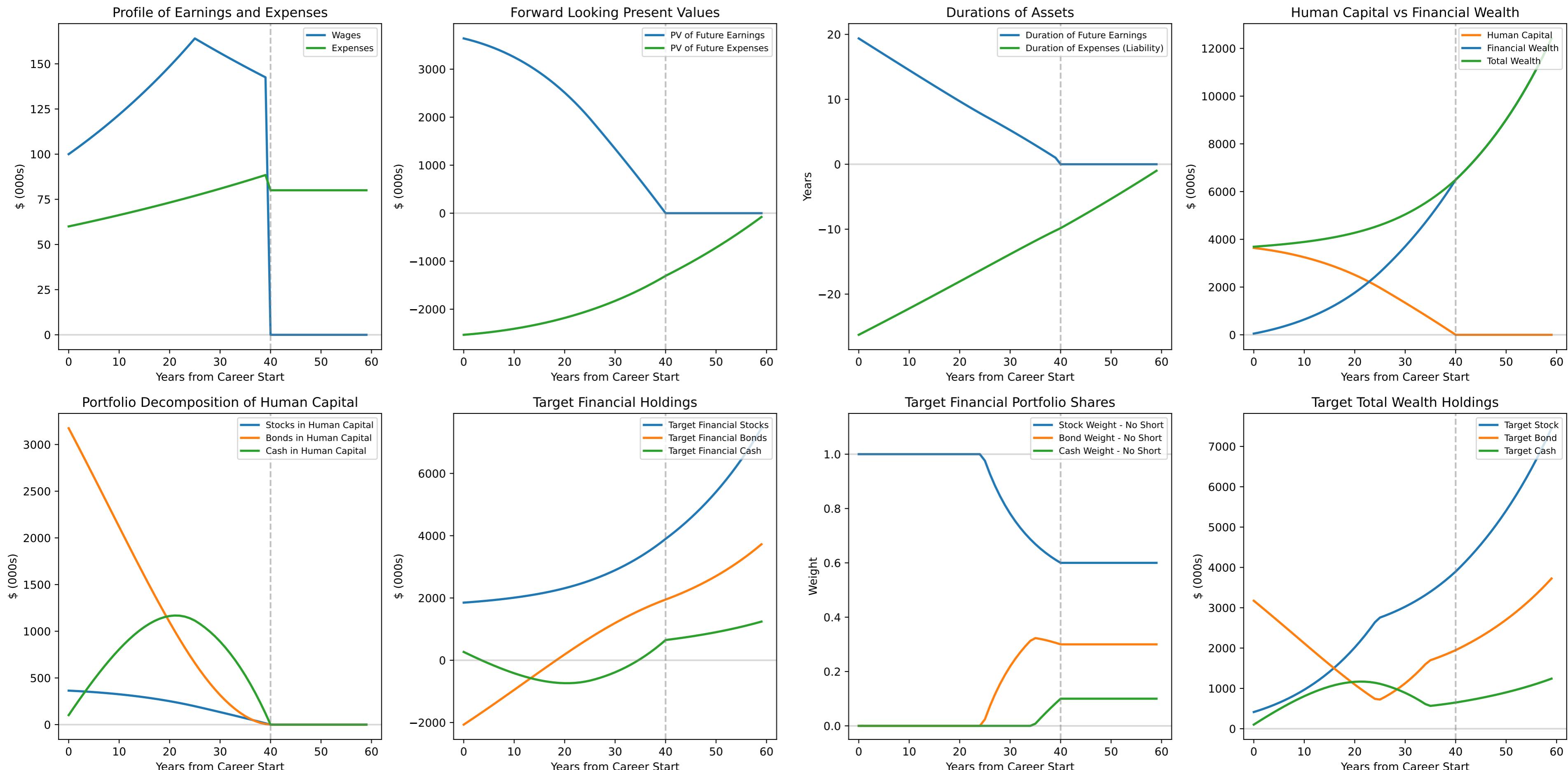
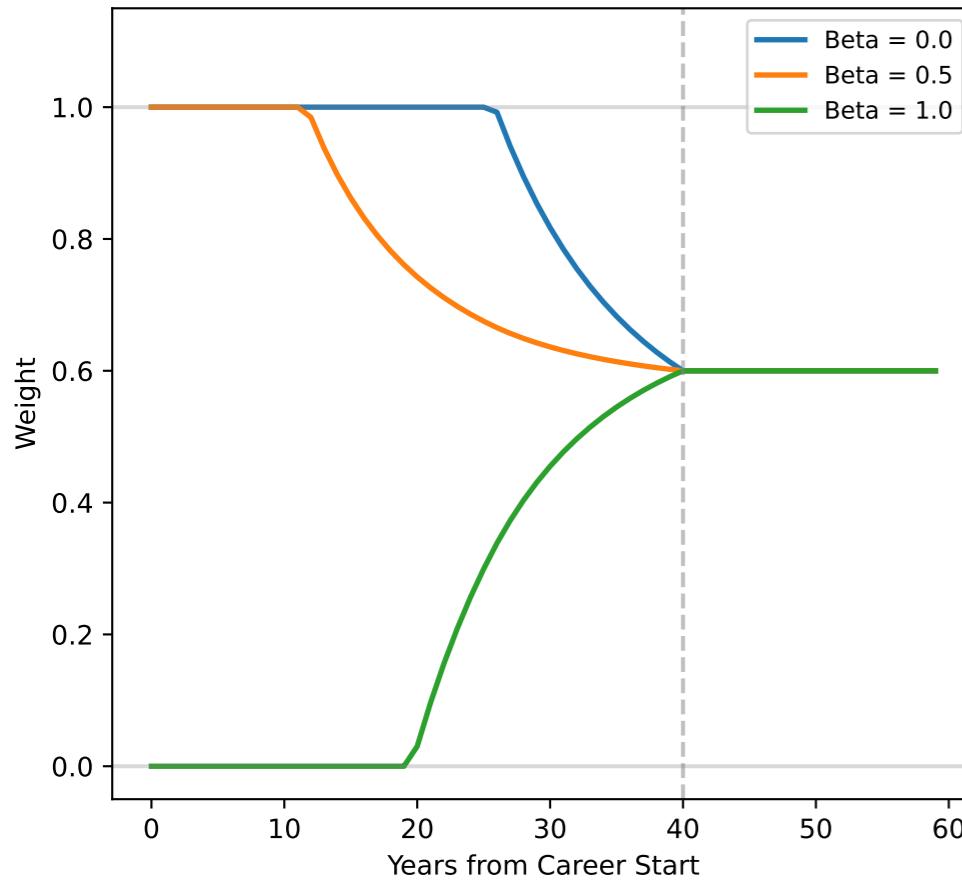


# Lifecycle Investment Strategy - Median Path Analysis

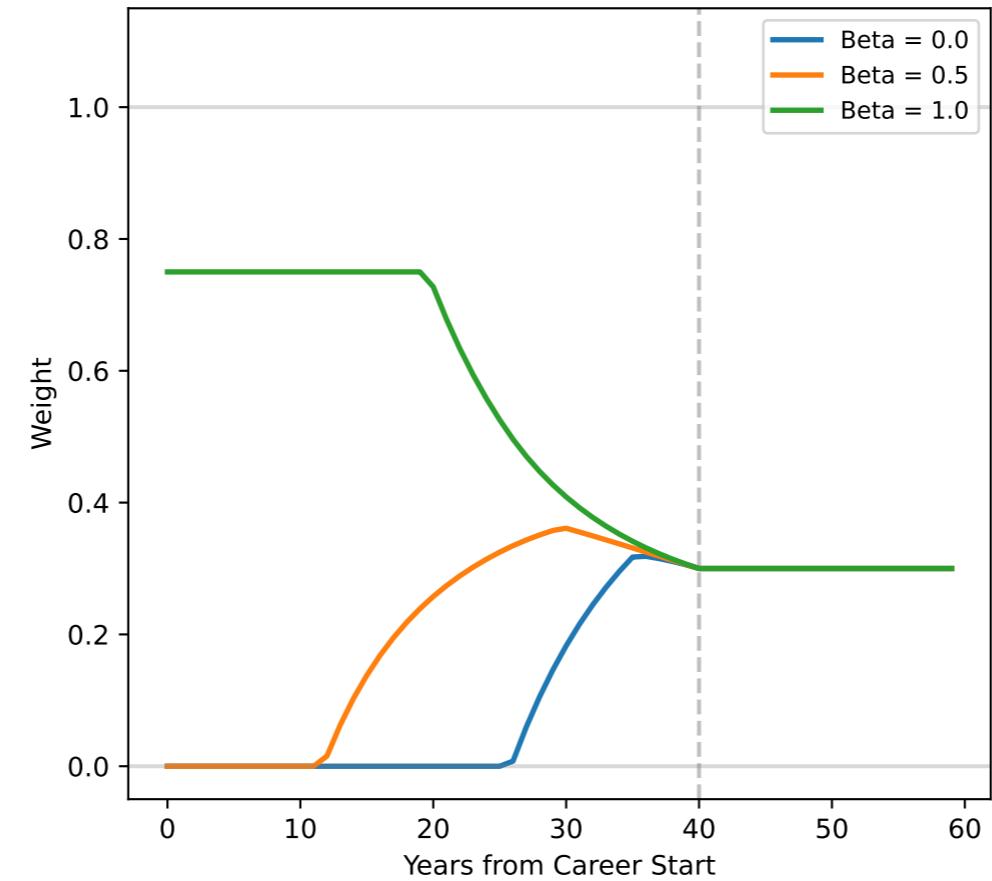


## Effect of Stock Beta on Portfolio Allocation

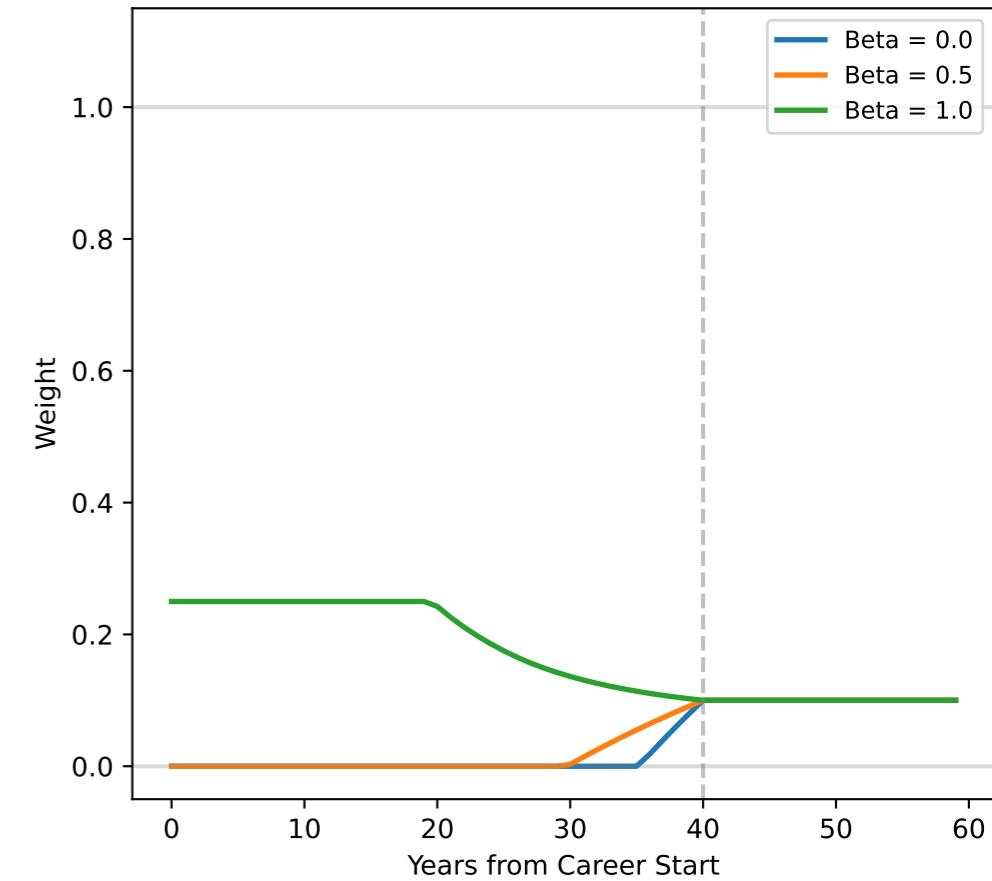
Stock Weight by Beta



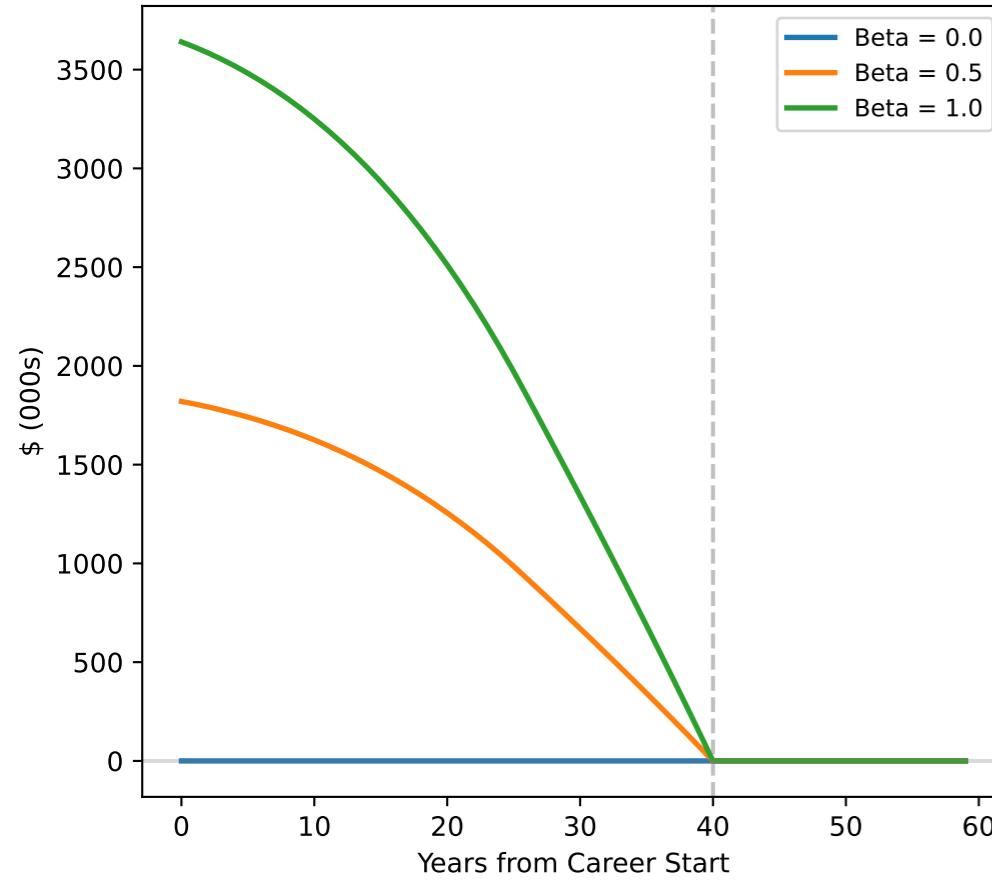
Bond Weight by Beta



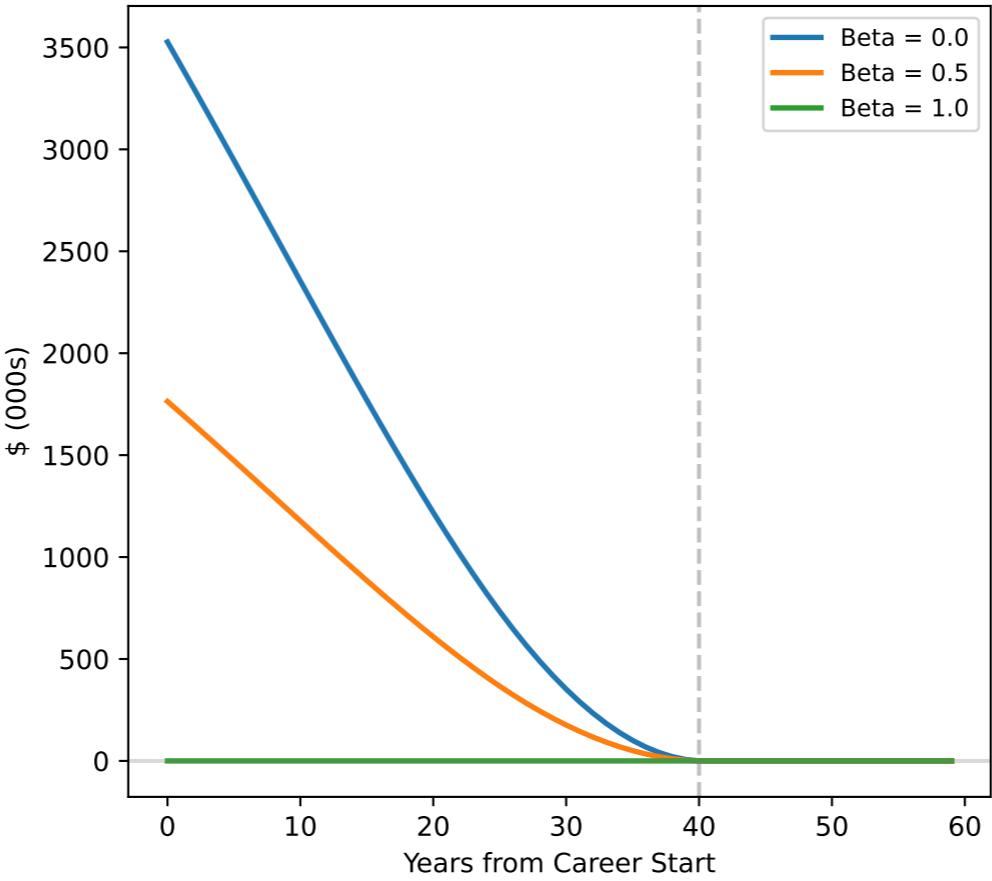
Cash Weight by Beta



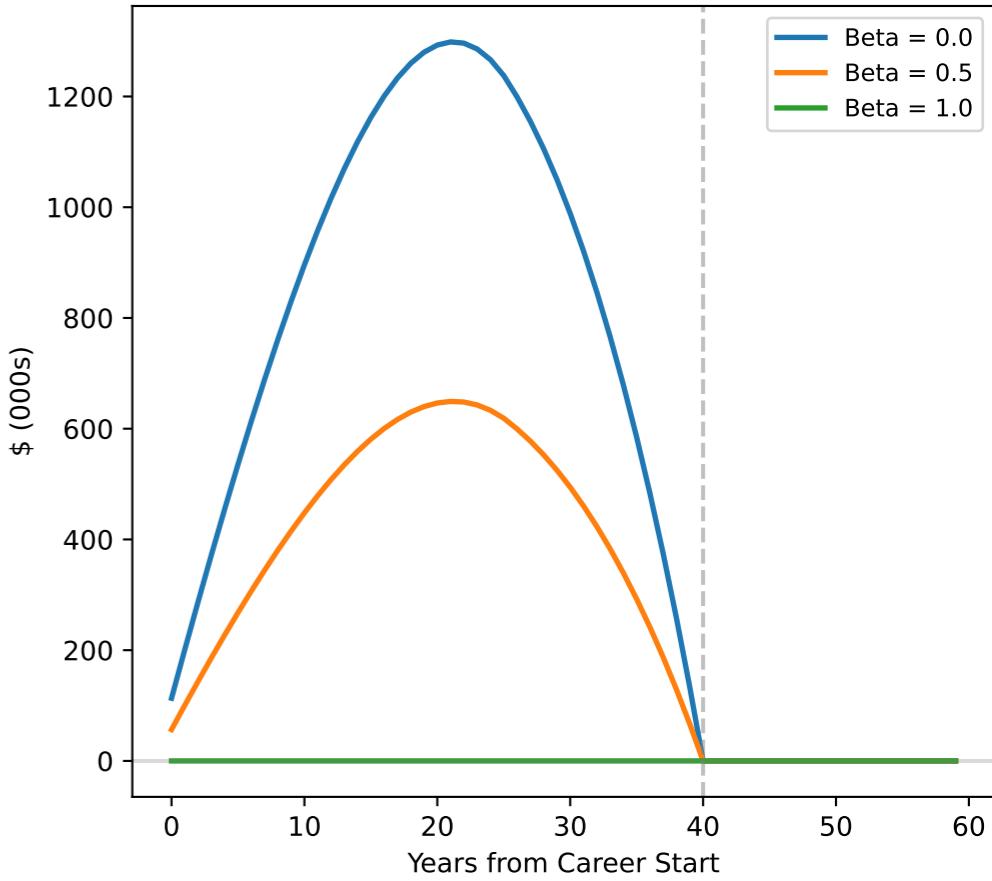
Stock Component of Human Capital



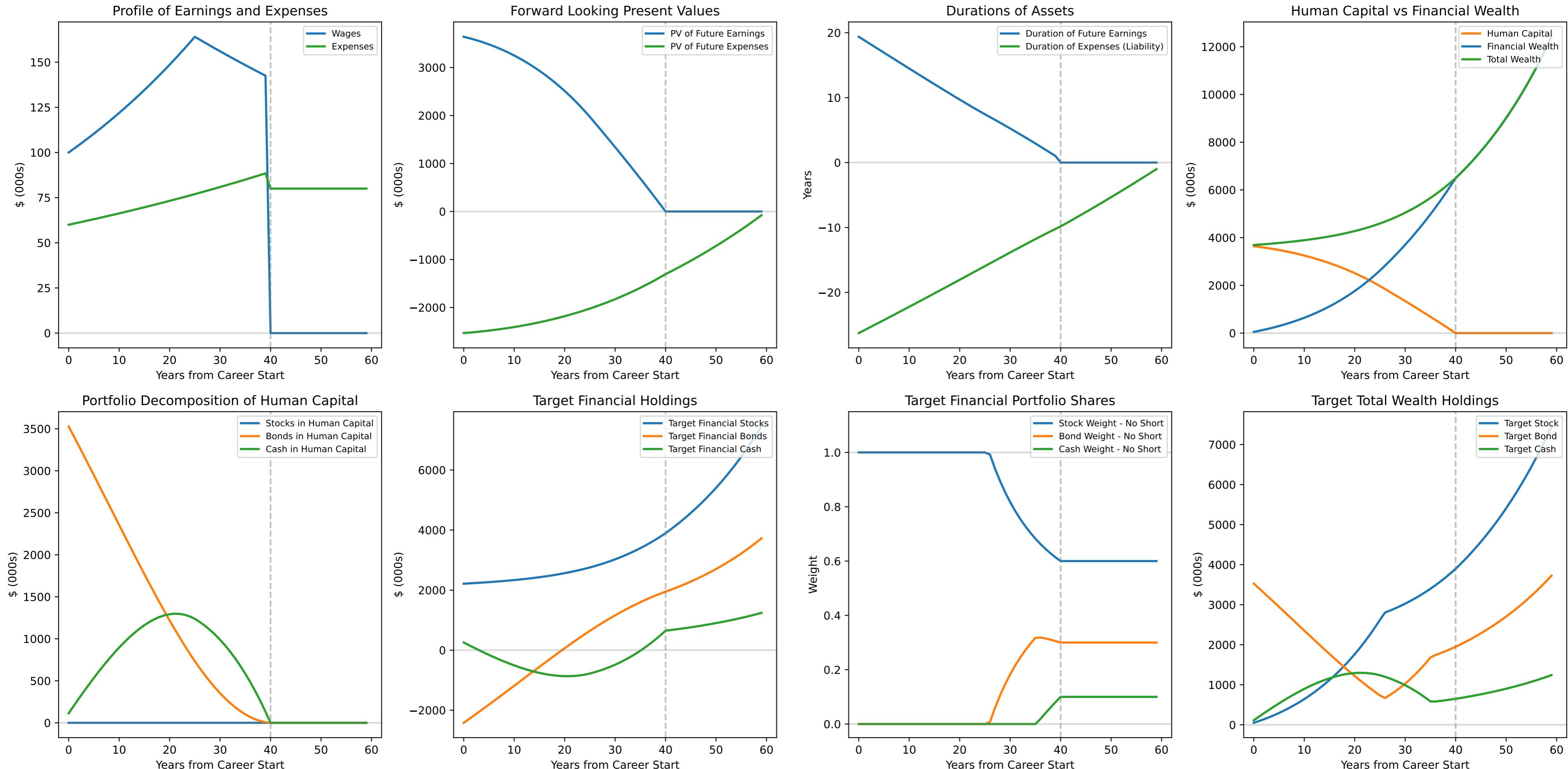
Bond Component of Human Capital



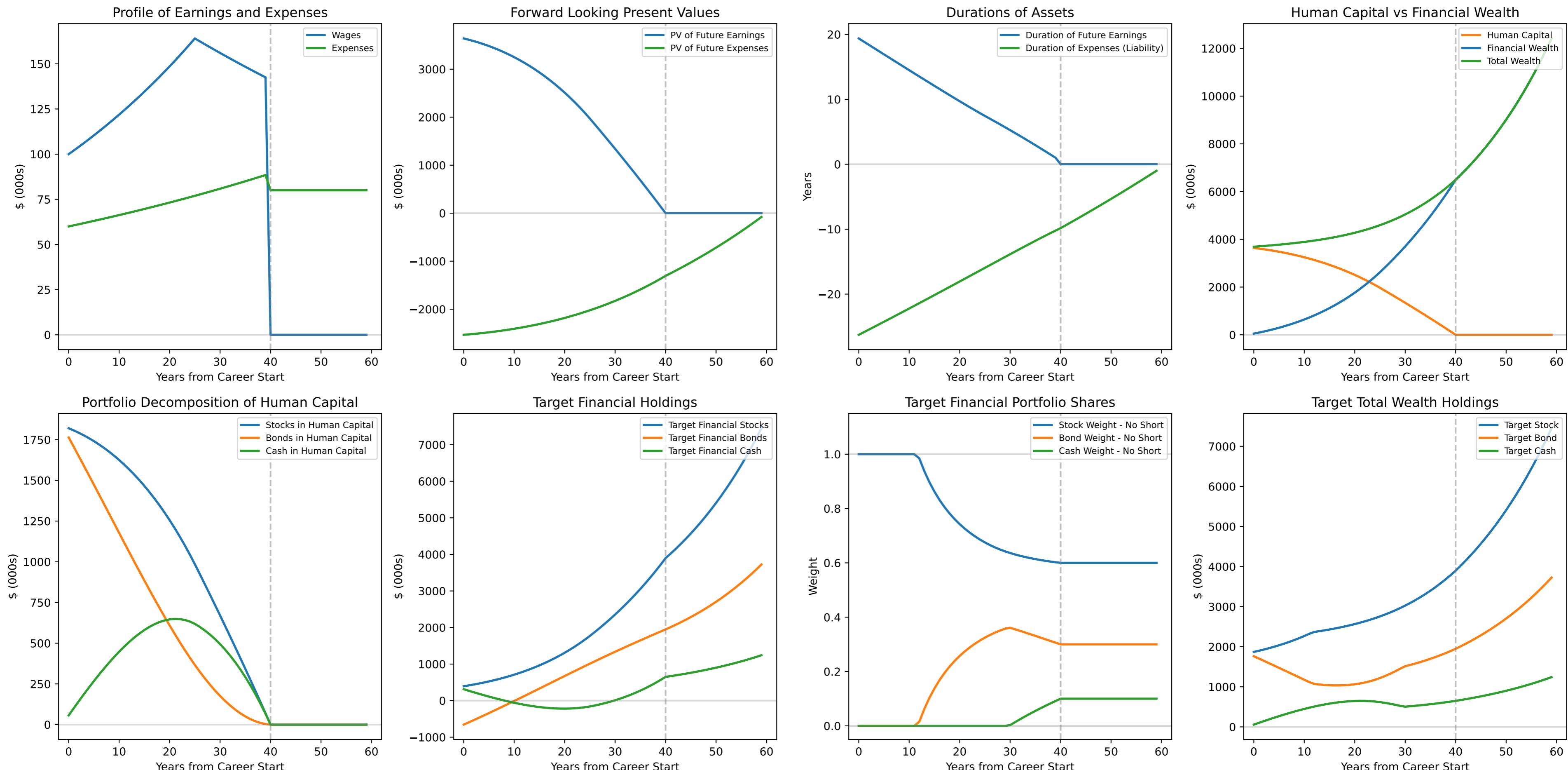
Cash Component of Human Capital



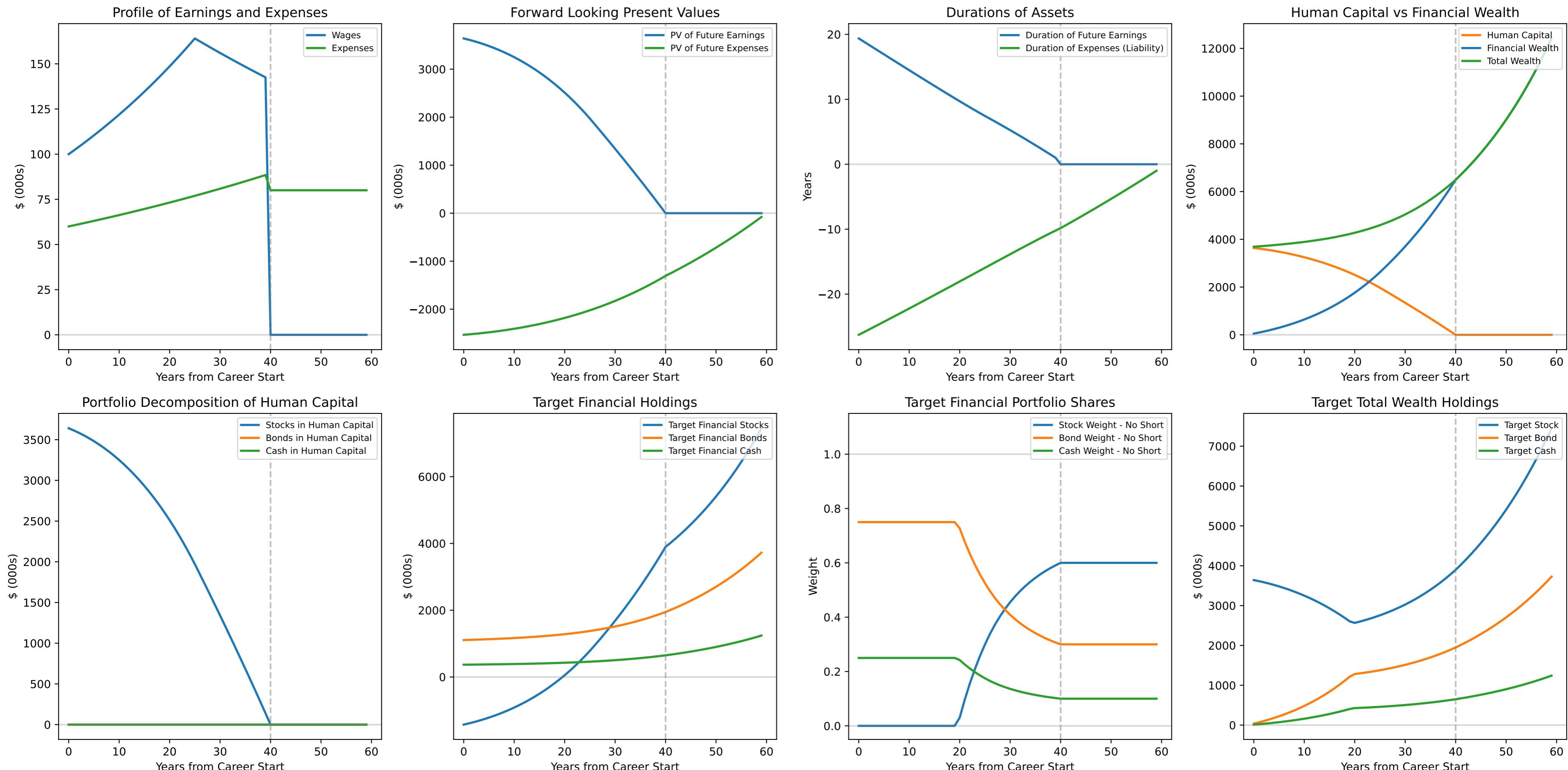
# Lifecycle Investment Strategy - Beta = 0.0



# Lifecycle Investment Strategy - Beta = 0.5



# Lifecycle Investment Strategy - Beta = 1.0



## Lifecycle Investment Strategy Parameters

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### Age Parameters:

- Career Start: 25
- Retirement Age: 65
- Planning Horizon: 85

### Income Parameters:

- Initial Earnings: \$100k
- Earnings Growth: 2.0%
- Peak Earnings Age: 50

### Expense Parameters:

- Base Expenses: \$60k
- Retirement Expenses: \$80k

### Human Capital Allocation:

- Stock Beta: 0.10
- Bond Duration Benchmark: 20.0 years
- Non-stock portion allocated to bonds/cash based on HC duration

### Target Total Wealth Allocation:

- Stocks: 60%
- Bonds: 30%
- Cash: 10%

### Economic Parameters:

- Risk-Free Rate: 2.0%
- Equity Risk Premium: 4.0%
- Rate Persistence (phi): 1.00

### Key Insights:

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1. Human capital is decomposed using stock beta for equity exposure and duration for fixed income allocation.
2. Stock component = HC \* stock\_beta (market correlation).
3. Non-stock portion allocated between bonds/cash based on duration: higher duration = more bond-like exposure.
4. As HC duration shortens near retirement, more of the non-stock portion shifts from bonds to cash.
5. This approach captures both market risk (via beta) and interest rate risk (via duration) in human capital.