|  |
| --- |
|  |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | MMF2025 – Risk Management Lab  Pantelis Isaiah – 995354593  Sergio Ortiz Orendain - 1002248533  José Saad Canales - 999048392  Ryan Shrott - 998931223 | |  | | --- | |  | |  | |  | | |
| |  |  |  | | --- | --- | --- | | July 2016 | Risk | **Report** | |

# Portfolio decompositions

## By sector

Say something about the decomposition by sector.

# By asset class and by currency

Say something about the decomposition by asset class.

# Sensitivities

|  |  |
| --- | --- |
| Sensitivities | |
| Duration | 8.05 |
| Convexity | 0.96 |
| DV01 | $210,300 |
| CR01 | $-17,100$ |

# Value-at-Risk calculations — Monte Carlo

## Value at Risk (VaR) and Conditional Value at Risk (CVaR)

Amounts in CAD. Percentages of the total value of the portfolio.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| VaR | 95% | | 99% | |
| 1-day | 2.68M | 1.09% | 3.79M | 1.54% |
| 10-day | 8.48M | 3.45% | 12.00M | 4.88% |
| 1-year | 54.45M | 22.14% | 78.39M | 31.87% |
| CVaR | **95%** | | **99%** | |
| 1-day | 3.35M | 1.36% | 4.33M | 1.76% |
| 1-year | 68.52M | 27.83% | 86.84M | 35.31% |

## Marginal Value at Risk (MVaR)

|  |  |  |
| --- | --- | --- |
| 1-day 99% MVaR | | |
| bonds | 3.87M | 1.58% |
| CDS | -0.015M | 0.01% |
| options | 0.01M | 0.005% |
| stocks | 0.05M | -0.02% |

## Incremental Value at Risk (IVaR)

|  |  |  |
| --- | --- | --- |
| 1-day 99% IVaR | | |
| bonds | 3.46M | 1.39% |
| CDS | 0.46M | 0.19% |
| options | 0.54M | 0.22% |
| stocks | 0.68M | 0.27% |

# Value-at-Risk calculations — Historical

## Value at Risk (VaR) and Conditional Value at Risk (CVaR)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| VaR | 95% | | 99% | |
| 1-day | 2.97M | 1.19% | 4.57 | 1.84% |
| 10-day | 9.38M | 3.77% | 14.46 | 5.82% |
| 1-year (estimate) | 47.08M | 18.94% | 72.61M | 29.22% |
| CVaR | **95%** | | **99%** | |
| 1-day | 5.40M | 2.17% | 11.33M | 4.56% |

## Incremental Value at Risk

|  |  |  |
| --- | --- | --- |
| 1-day 99% IVaR | | |
| bonds | 4.06M | 1.63% |
| CDS | -0.33M | -0.13% |
| options | -0.32M | -0.13% |
| stocks | -0.26M | -0.10% |

# Credit VaR

## Bonds

|  |  |
| --- | --- |
| Credit VaR for the bond portfolio | |
| 20.04M | 8.07% |
| 40.40M | 16.25% |
| 50.64M | 20.38% |

## CDS

|  |  |
| --- | --- |
| Credit VaR for the CDS portfolio | |
| 27.56M | 11.09% |
| 48.77M | 19.62% |
| 50.68M | 20.39% |

# Credit and Debt Value Adjustments (CVA and DVA)

In thousands CAD

|  |  |  |
| --- | --- | --- |
| CDS # | CVA | DVA |
| 1 | 4095 | 84570 |
| 2 | 1791 | 155832 |
| 3 | 0 | 3557 |
| 4 | 0 | 1633 |
| 5 | 7 | 1259 |
| 6 | 12229 | 5468 |
| 7 | 42515 | 1675 |
| 8 | 53922 | 572 |
| 9 | 282 | 2809 |

# Stress scenarios

