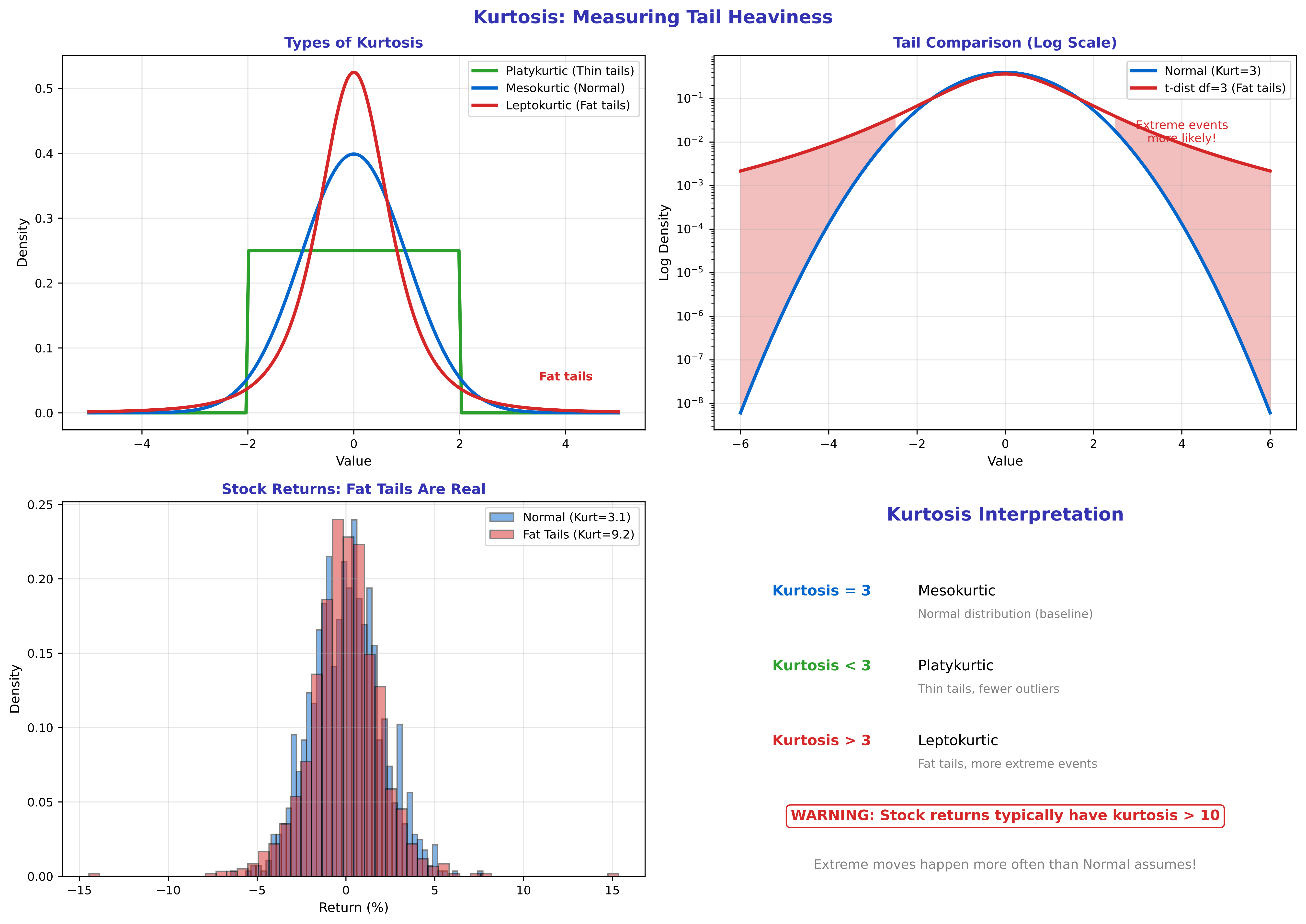
Kurtosis: Measuring Tail Heaviness
Types of Kurtosis
Platykurtic (Thin tails)
Mesokurtic (Normal)
Leptokurtic (Fat tails)
Fat tails
Density
Value
Tail Comparison (Log Scale)
Normal (Kurt=3)
t-dist df=3 (Fat tails)
Extreme events more likely!
Log Density
Value
Stock Returns: Fat Tails Are Real
Normal (Kurt=3.1)
Fat Tails (Kurt=9.2)
Density
Return (%)
Kurtosis Interpretation
Kurtosis = 3
Mesokurtic
Normal distribution (baseline)
Kurtosis < 3
Platykurtic
Thin tails, fewer outliers
Kurtosis > 3
Leptokurtic
Fat tails, more extreme events
WARNING: Stock returns typically have kurtosis > 10
Extreme moves happen more often than Normal assumes!