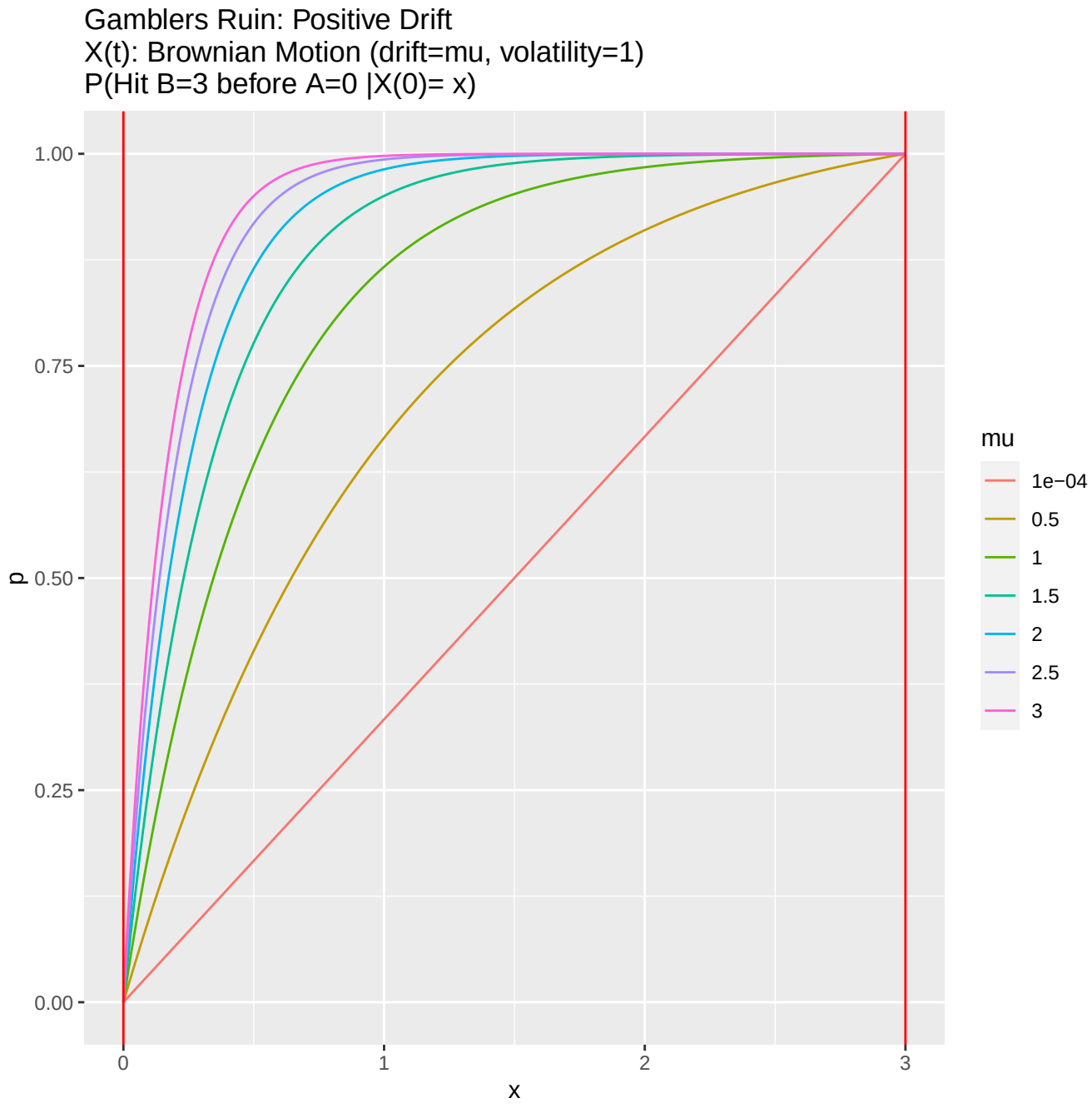
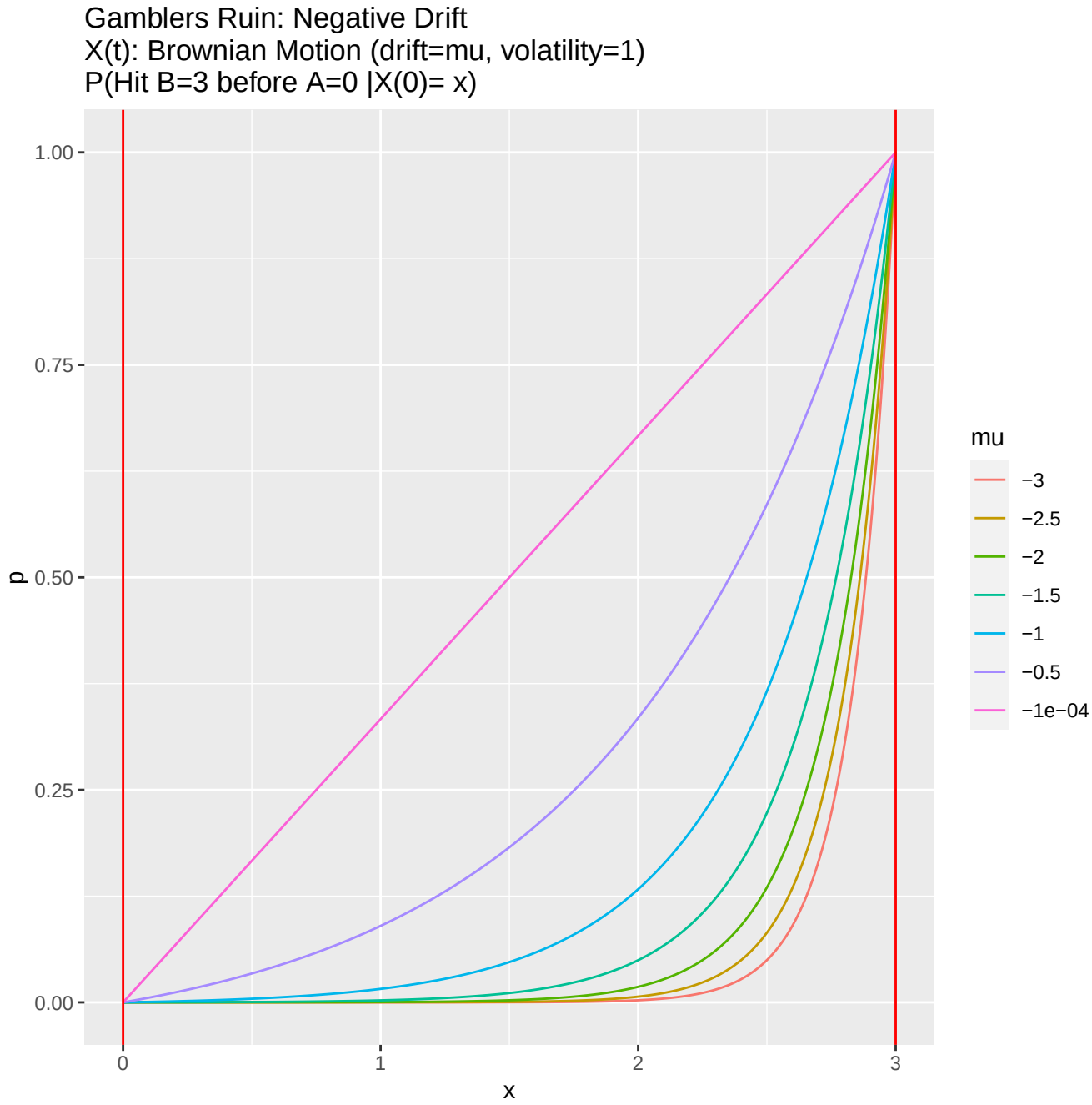
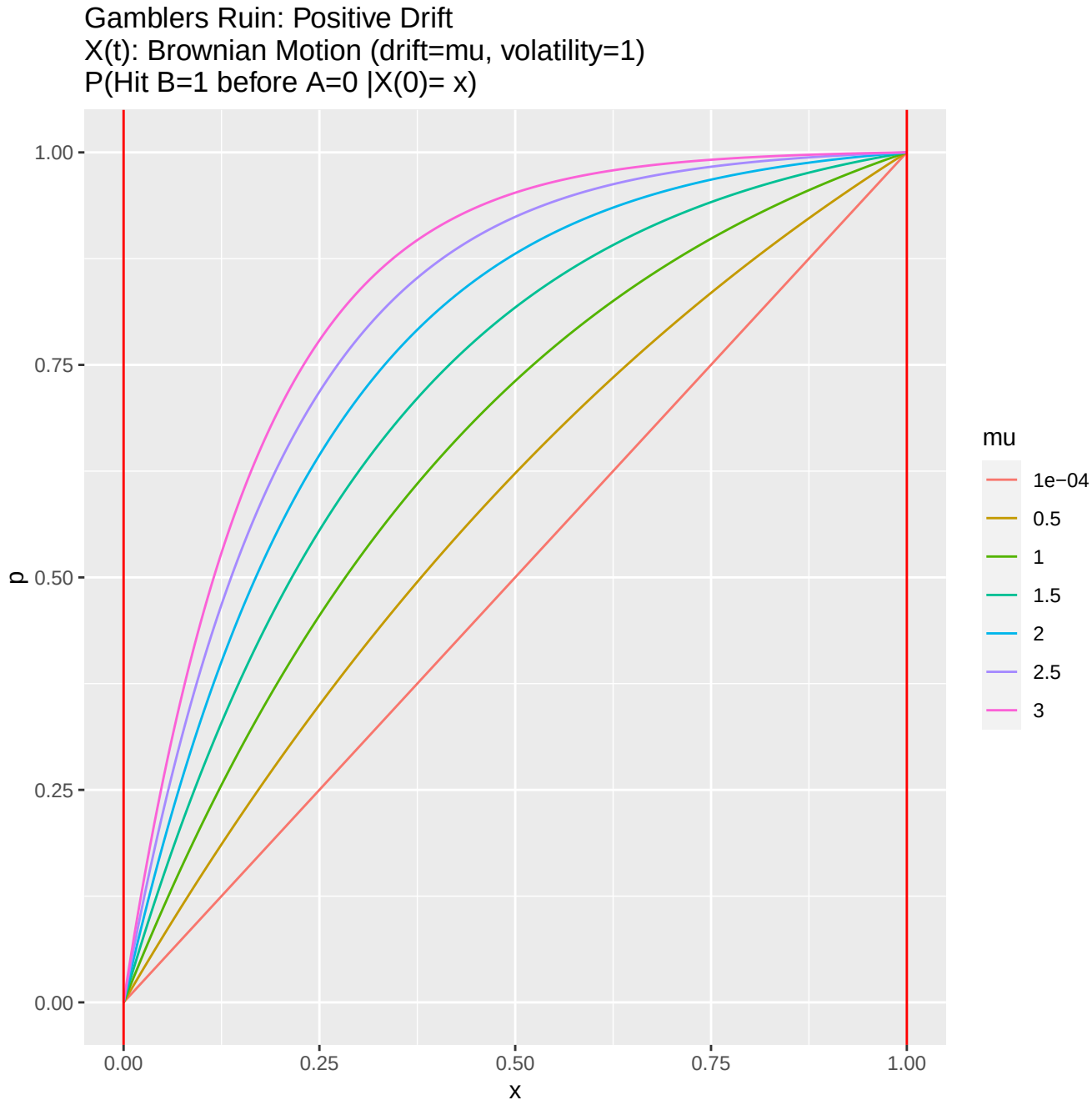
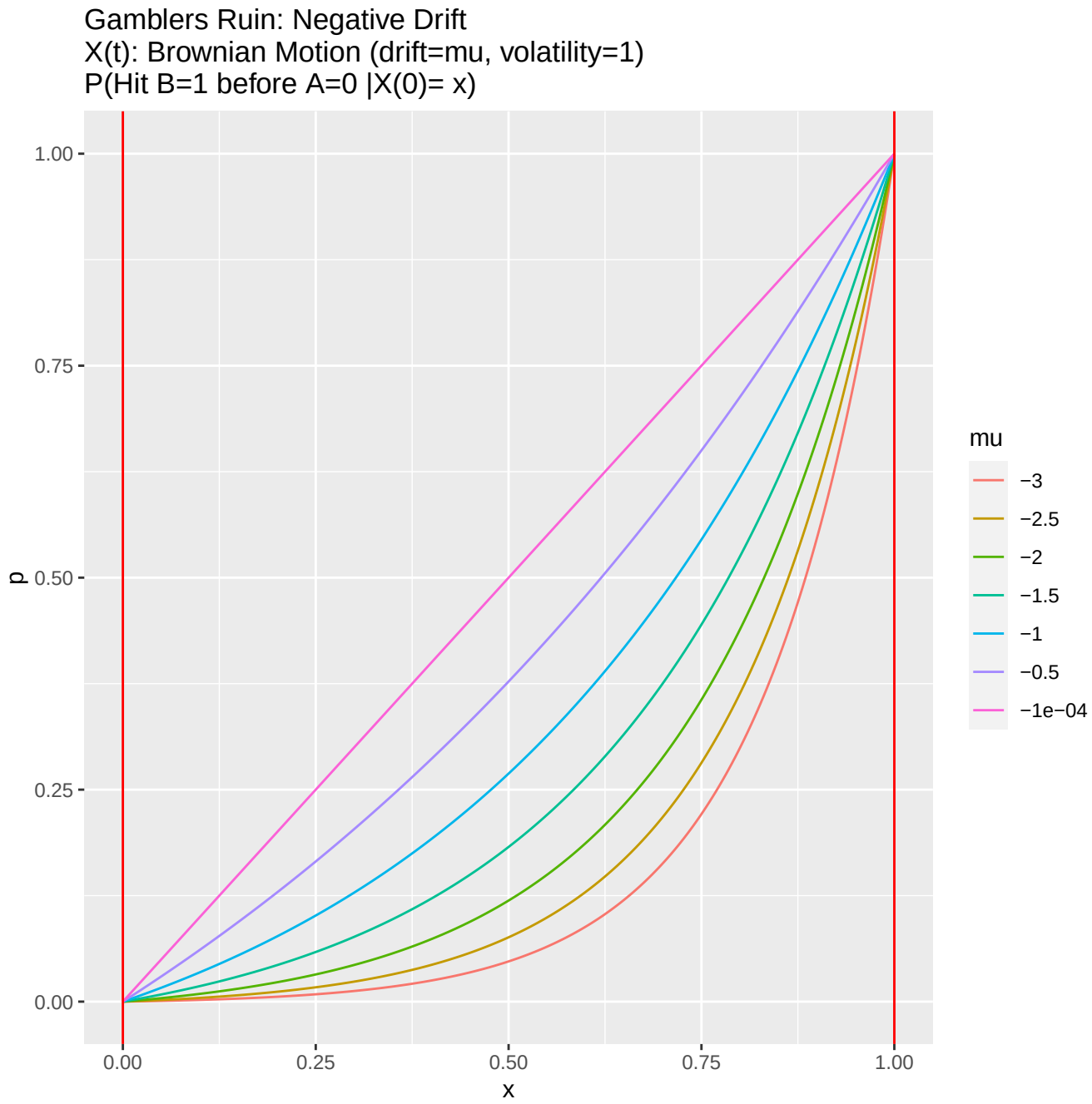

Gamblers Ruin: Positive Drift
X(t): Brownian Motion (drift=mu, volatility=1)
P(Hit B=3 before A=0 |X(0)= x)
1.00
0.75
0.50
0.25
0.00
p
0
1
2
3
x
mu
1e−04
0.5
1
1.5
2
2.5
3


Gamblers Ruin: Negative Drift
X(t): Brownian Motion (drift=mu, volatility=1)
P(Hit B=3 before A=0 |X(0)= x)
1.00
0.75
0.50
0.25
0.00
p
0
1
2
3
x
mu
−3
−2.5
−2
−1.5
−1
−0.5
−1e−04


Gamblers Ruin: Positive Drift
X(t): Brownian Motion (drift=mu, volatility=1)
P(Hit B=1 before A=0 |X(0)= x)
1.00
0.75
0.50
0.25
0.00
p
0.00
0.25
0.50
0.75
1.00
x
mu
1e−04
0.5
1
1.5
2
2.5
3


Gamblers Ruin: Negative Drift
X(t): Brownian Motion (drift=mu, volatility=1)
P(Hit B=1 before A=0 |X(0)= x)
1.00
0.75
0.50
0.25
0.00
p
0.00
0.25
0.50
0.75
1.00
x
mu
−3
−2.5
−2
−1.5
−1
−0.5
−1e−04

18.642 Topics in Mathematics with Applications in Finance

Fall 2024