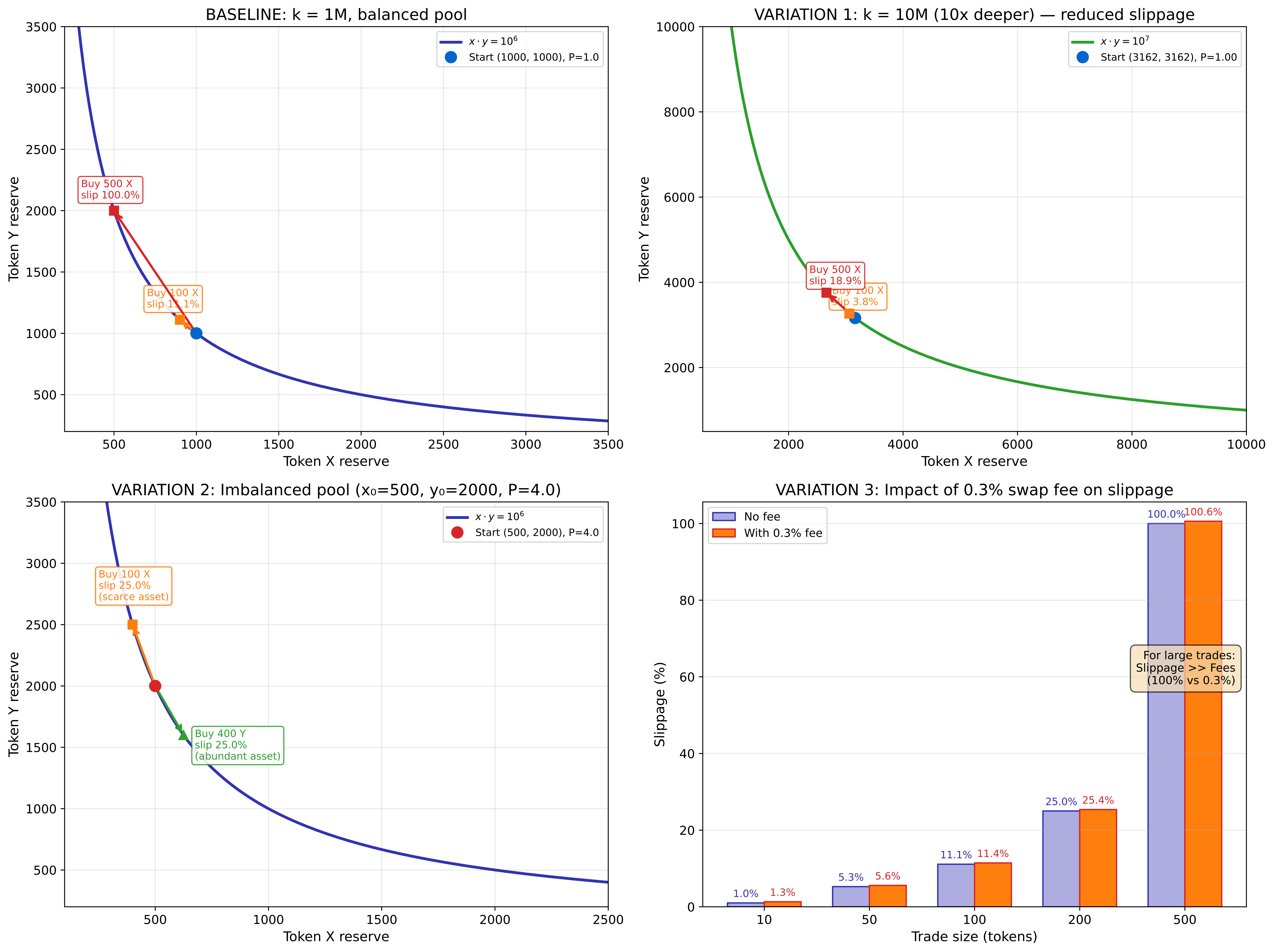
BASELINE: k = 1M, balanced pool
$x \cdot y = 10^6$
Start (1000, 1000), P=1.0
Buy 500 X
slip 100.0%
Buy 100 X
slip 11.1%
Token X reserve
Token Y reserve
VARIATION 1: k = 10M (10x deeper) — reduced slippage
$x \cdot y = 10^7$
Start (3162, 3162), P=1.00
Buy 500 X
slip 18.9%
Buy 100 X
slip 3.8%
Token X reserve
Token Y reserve
VARIATION 2: Imbalanced pool (x_0=500, y_0=2000, P=4.0)
$x \cdot y = 10^6$
Start (500, 2000), P=4.0
Buy 100 X
slip 25.0%
(scarce asset)
Buy 400 Y
slip 25.0%
(abundant asset)
Token X reserve
Token Y reserve
VARIATION 3: Impact of 0.3% swap fee on slippage
No fee
With 0.3% fee
1.0%
1.3%
5.3%
5.6%
11.1%
11.4%
25.0%
25.4%
100.0%
100.6%
For large trades:
Slippage >> Fees
(100% vs 0.3%)
Trade size (tokens)
Slippage (%)