# The University of Texas at Austin
# In-Class Work 11

*M339D Introduction to Financial Mathematics*

October 16, 2026

## The Binomial Asset Pricing Model.

**Problem 11.1.** In the setting of the one-period binomial model, denote by $i$ the **effective** interest rate f per period. Let $u$ denote the "up factor" and let $d$ denote the "down factor" in the stock-price model. If

$$d < u \leq 1 + i$$

then there certainly is no possibility for arbitrage. *True or false? Why?*

**Problem 11.2.** In our usual notation, does this parameter choice create a binomial model with an arbitrage opportunity?

$u = 1.18, \quad d = 0.87, \quad r = 0.05, \quad \delta = 0, \quad h = 1/4$