



Lecture Review: Leverage Cycles

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- ▶ **Endowment:** individuals are endowed with one unit of money and one unit of asset Y .



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$$\left\{ \begin{array}{ll} \text{Buy} & \text{if } p < h \cdot 1 + (1 - h) \cdot 0.2 \\ \text{Sell} & \text{if } p > h \cdot 1 + (1 - h) \cdot 0.2 \\ \text{Indifferent} & \text{if } p = h \cdot 1 + (1 - h) \cdot 0.2 \end{array} \right.$$



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- ▶ No short selling!



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- ▶ In equilibrium, demand = supply.

$$\frac{1}{p^*}(1 - h^*) = h^* \quad (2)$$



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$$p^{*2} + 0.8p^* - 1 = 0 \implies p^* = \frac{-2 \pm \sqrt{29}}{5} = 0.677, -1.477$$



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$$\implies h^* = \frac{1}{1 + 0.677} = 0.60.$$



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- ▶ In equilibrium, demand = supply.

$$h^* = \frac{1}{p^*} (1 - h^* + 0.2) \tag{3}$$



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$$\implies h^* = \frac{1.2}{1 + 0.75} = 0.69.$$



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Takeaways

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- ▶ Thus, asset prices \neq fundamental value; rather dependent on borrowing constraints (leverage).



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- ▶ Leverage cycles mostly responsible for asset price fluctuations.



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- ▶ Looser the borrowing constraints, $\uparrow h^*, \uparrow p^*$.
- ▶ Thus, asset prices \neq fundamental value; rather dependent on borrowing constraints (leverage).
- ▶ Leverage cycles mostly responsible for asset price fluctuations.
- ▶ Regulation preventing big leverage cycles can prevent asset price cycles.