

following equilibrium variables

$$\begin{aligned} h_0 &= 0.87, & p_0 &= 0.95, \\ h_D &= 0.61, & p_D &= 0.69. \end{aligned}$$

If state D is realized, the equilibrium asset price drops from $p_0 = 0.95$ to $p_D = 0.69$, a drop of 0.26. The comparison of the drop in price to the drop in fundamental depends on which agent's beliefs to use. For the marginal buyer at $t = 0$, the move to state D reduces the fundamental by only 0.09, while for the marginal buyer in state D , the drop in fundamental is 0.19. The greatest drop in fundamental – by 0.20 – is perceived by the agent with $h = 0.5$. No agent therefore considers the asset fundamental to have dropped as much as the asset price.

The price drop is so severe for two reasons in addition to the drop in fundamental. First, the most optimistic agents who were buying the asset in period 0 are wiped out by the move to D thus removing the agents with the highest valuation from the pool of potential buyers. Second, borrowing margins increase significantly: In period 0 each agent could borrow 0.69 against the purchase of the asset at price 0.95 which implies a percentage margin of $(0.95 - 0.69) / 0.95 = 27\%$. In state D only 0.2 can be borrowed against the asset price 0.69, implying a much higher margin of $(0.69 - 0.2) / 0.69 = 71\%$. The main contributor to the increase in the margin is the increase in one-period uncertainty. For agent h , the variance of the asset between period 0 and period 1 is given by

$$h(1-h)(1-0.69)^2 = 0.096h(1-h)$$

Once state D is reached however, the variance between period 1 and period 2 is given by

$$h(1-h)(1-0.2)^2 = 0.69h(1-h)$$

so the one-period variance increases seven-fold for all agents $h \in (0, 1)$, regardless of their belief.

[Simsek \(2010\)](#) stresses that the distortions are limited in a setting in which the payoff of the collateral asset can take on many values, since each optimisit has to borrow from the pessimist who value the collateral asset less. This restrains optimist's credit and risk taking capacity. Only if the asset payoff is very (positively) skewed is the downward risk limited such that pessimists are willing to lend more to optimist.

Models with heterogeneous beliefs (non-common priors) have the drawback that