Documentation demand-system calculations. Koijen and Yogo (2017).

I. Definitions

Denote the current price by $P_t(n)$. We solve two counterfactuals:

1. Latent demand for all investors is set to one. We will refer to equilibrium price as $P_t^F(n)$.

2. We set the latent demand of the household sector to one. We refer to the equilibrium price as $P_t^H(n)$.

Denote the market value of the firm by $M_t(n) = S_t(n)P_t(n)$ and the fundamental value by $M_t^F(n) = S_t(n)P_t^F(n)$. The valuation impact of institutional demand is

$$VI_t^I(n) = S_t(n)\left[P_t^H(n) - P_t^F(n)\right].$$

Th valuation impact of the household sector is defined recursively as

$$VI_t^H(n) = S_t(n)\left[P_t(n) - P_t^H(n)\right].$$

With these definitions in hand, we have

$$M_t(n) = M_t^F(n) + VI_t^I(n) + VI_t^H(n).$$