Exit/Entry

- Firms that exit producing cannot reenter the market at a later stage
- Prospective entrant enter replacing exiting firm
  - Inherits the same firm (same asset a and technology abatement φ)
  - But receives a signal q about her productivity with $q \sim Q(q)$.
  - Conditional on entry, the distribution of the idiosyncratic shock in the first period of operation is $H(z'|q)$, strictly decreasing in q
  - pays entry cost $c_e \geq 0$ when decide to enter.
- Given aggregate state Γ, the value of a prospective entrant that obtains a signal q is:

$$
\begin{aligned}
V_e(\Gamma, q, a) \quad &= \quad \max_x -x - g(x, \varphi) + \beta \int V(\Gamma', z', a') dH(z'|q) J(\Gamma'|\Gamma) \\
&\text{s.t.} \quad \varphi' = (1 - \delta_\varphi)\varphi + f(x) \\
&\qquad\quad\; a' = \pi(z, a, \varphi) + R\, a + (1 - \delta) a - x
\end{aligned}
\tag{10}
$$

- She starts operating if $V_e(\Gamma, q, a) \geq c_e$