Externality: $C^{ext}(N_i) = \alpha N_i - \beta N_i^2$

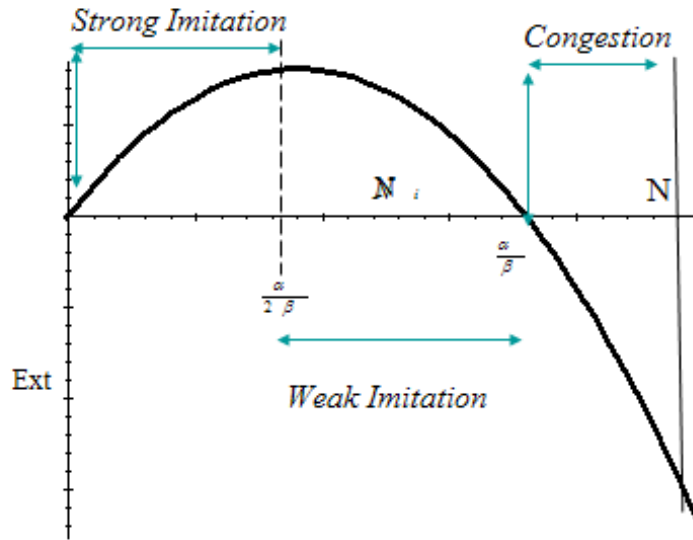
Strong Imitation

Congestion

N_i

N

$\frac{\alpha}{\beta}$

$\frac{\alpha}{2\beta}$

Ext

Weak Imitation

Figure 1

Vertical product differentiation:

$(x_1 + x_2) < 0$ or $(x_1 + x_2) > 2$

0   1

The low quality (store 1) survive:

$(x_1 + x_2) < 0$

x_1 x_2

The low quality (store 2) survive:

$(x_1 + x_2) > 2$

x_1 x_2

Figure 2

Horizontal product differentiation

$$0 \leq (x_1 + x_2) \leq 2$$

0   1

Positional advantage of store 2:

$$0 < (x_1 + x_2) < 1$$

x_1 x_2

Positional advantage of store 1:

$$1 < (x_1 + x_2) < 2$$

x_1 x_2

Figure 3