1 Thresholds for the assets of the entrant

Derived from the incentive compatibility constraint (IC) of the entrant:

$$R^S = B \tag{1}$$

Derived from the investors' participation (IP) constraint:

$$\pi_E^{t=2} - R^S \geq K - A' \tag{2}$$

Initial assets of the entrant at t=2(i), if the incumbent does not copy:

$$A' = A + \underbrace{\delta(1-\beta)}_{\pi_E^{t=1}} \tag{3}$$

Initial assets of the entrant at t=2(i), if the incumbent copies:

$$A' = A + \underbrace{0}_{\pi_E^{t=1}} \tag{4}$$

Calculate $\underline{A}_S$
Plug $\pi_E^{t=2} = \Delta + \delta$, (1) and (3) into (2):

$$\begin{aligned} \Delta + \delta - B &\geq K - A - \delta(1-\beta) \\ \implies A \geq \underline{A}_S &= K + B - \Delta - \delta(2-\beta) \end{aligned} \tag{5}$$

Calculate $\underline{A}_C$
Plug $\pi_E^{t=2} = 2\delta(1-\beta)$, (1) and (3) into (2):

$$\begin{aligned} 2\delta(1-\beta) - B &\geq K - A - \delta(1-\beta) \\ \implies A \geq \underline{A}_C &= K + B - 3\delta(1-\beta) \end{aligned} \tag{6}$$

Calculate $\overline{A}_S$
Plug $\pi_E^{t=2} = \Delta$, (1) and (4) into (2):

$$\begin{aligned} \Delta - B &\geq K - A \\ \implies A \geq \overline{A}_S &= K + B - \Delta \end{aligned} \tag{7}$$

Calculate $\overline{A}_C$
Plug $\pi_E^{t=2} = \delta(1-\beta)$, (1) and (4) into (2):

$$\begin{aligned} \delta(1-\beta) - B &\geq K - A \\ \implies A \geq \overline{A}_C &= K + B - \delta(1-\beta) \end{aligned} \tag{8}$$

2 Thresholds for the fixed costs of the incumbent

Fixed cost threshold, if the entrant invests for sure:

$$F \leq F_{\sigma_E}^{YY} = \pi_I(\sigma_E, ©, Y) - \pi_I(\sigma_E, \varnothing, Y) \tag{9}$$

Fixed cost threshold, if the incumbent can prevent the entrant to develop its product:

$$F \leq F_{\sigma_E}^{YN} = \pi_I(\sigma_E, ©, N) - \pi_I(\sigma_E, \varnothing, Y) \tag{10}$$

Benefits of the incument for different choices:

$$\pi_I(S, ©, Y) = \underbrace{\pi_E(I_P + I_C; E_C)}_{\pi_E^{t=1}} + \underbrace{\pi_E(I_P + I_C; E_C + E_P)}_{\pi_E^{t=2}} = u + \delta \tag{11}$$

$$\pi_I(S, \varnothing, Y) = \underbrace{\pi_E(I_P; E_C)}_{\pi_E^{t=1}} + \underbrace{\pi_E(I_P; E_C + E_P)}_{\pi_E^{t=2}} = u + \delta\beta \tag{12}$$

$$\pi_I(S, ©, N) = \underbrace{\pi_E(I_P + I_C; E_C)}_{\pi_E^{t=1}} + \underbrace{\pi_E(I_P + I_C; E_C)}_{\pi_E^{t=2}} = 2(u + \delta) \tag{13}$$

$$\pi_I(C, ©, Y) = \underbrace{\pi_E(I_P + I_C; E_C)}_{\pi_E^{t=1}} + \underbrace{\pi_E(I_P + I_C; E_C + \tilde{E}_C)}_{\pi_E^{t=2}} = 2u + 2\delta + \delta\beta \tag{14}$$

$$\pi_I(C, \varnothing, Y) = \underbrace{\pi_E(I_P; E_C)}_{\pi_E^{t=1}} + \underbrace{\pi_E(I_P; E_C + \tilde{E}_C)}_{\pi_E^{t=2}} = 2u + 3\delta\beta \tag{15}$$

$$\pi_I(C, ©, N) = \underbrace{\pi_E(I_P + I_C; E_C)}_{\pi_E^{t=1}} + \underbrace{\pi_E(I_P + I_C; E_C)}_{\pi_E^{t=2}} = 2(u + \delta) \tag{16}$$

Calculate F_S^{YY}
Plug (11) and (12) into (9):

$$F_S^{YY} = \pi_I(S, ©, Y) - \pi_I(S, \varnothing, Y) = \delta(1 - \beta) \tag{17}$$

Calculate F_C^{YY}
Plug (14) and (15) into (9):

$$F_C^{YY} = \pi_I(C, ©, Y) - \pi_I(C, \varnothing, Y) = 2\delta(1 - \beta) \tag{18}$$

Calculate F_S^{YN}
Plug (13) and (12) into (10):

$$F_S^{YN} = \pi_I(S, ©, N) - \pi_I(S, \varnothing, Y) = u + \delta(2 - \beta) \tag{19}$$

Calculate F_C^{YN}
Plug (16) and (15) into (10):

$$F_C^{YN} = \pi_I(C, ©, N) - \pi_I(C, \varnothing, Y) = \delta(2 - 3\beta) \tag{20}$$

2.1 Additional thresholds for the game with acquisitions

Benefits of the incument for different choices with acquisition, if the entrant chooses to develop a substitute (see Proposition 4):

$$\pi_I^{ACQ}(S, \varnothing, Y) = \pi_I(S, \varnothing, Y) + \underbrace{\pi^{ACQ}/2}_{=u/2} = 3/2u + \delta\beta \tag{21}$$

If $A < \overline{A}_S$, $\pi^{ACQ} = \Delta - K$:

$$\pi_I^{ACQ}(S, ©, Y) = \pi_I(S, ©, N) + \pi^{ACQ}/2 = 2(u + \delta) + \frac{\Delta - K}{2} - F \tag{22}$$

If $A \geq \overline{A}_S$, $\pi^{ACQ} = u + \delta$:

$$\pi_I^{ACQ}(S, ©, Y) = \pi_I(S, ©, Y) + \pi^{ACQ}/2 = \frac{3(u + \delta)}{2} - F \tag{23}$$

Calculate F_S^{ACQ}
If $A \geq \overline{A}_S$, plug (23) and (21) into (9):

$$F_S^{ACQ} = \pi_I^{ACQ}(S, ©, Y) - \pi_I^{ACQ}(S, \varnothing, Y) = \delta(3/2 - \beta) \tag{24}$$

If $A < \overline{A}_S$, plug (22) and (21) into (9):

$$F_S^{ACQ} = \pi_I^{ACQ}(S, ©, Y) - \pi_I^{ACQ}(S, \varnothing, Y) = \frac{\Delta + u - K}{2} + \delta(2 - \beta) \tag{25}$$

Benefits of the incument for different choices with acquisition, if the entrant chooses to develop a complement (see Proposition 4):

$$\pi_I^{ACQ}(C, \varnothing, Y) = \pi_I(C, \varnothing, Y) + \underbrace{\pi^{ACQ}/2}_{=0} = 2u + 3\delta\beta \tag{26}$$

If $A < \overline{A}_C$, $\pi^{ACQ} = \frac{\delta - K}{2}$:

$$\pi_I^{ACQ}(C, \text{Ⓒ}, Y) = \pi_I(C, \text{Ⓒ}, N) + \pi^{ACQ}/2 = 2(u + \delta) - F + \frac{\delta - K}{2} \tag{27}$$

If $A \geq \overline{A}_C$, $\pi^{ACQ} = 0$:

$$\pi_I^{ACQ}(C, \text{Ⓒ}, Y) = \pi_I(C, \text{Ⓒ}, Y) = 2u + \delta(2 + \beta) - F \tag{28}$$

Calculate F_C^{ACQ}
If $A \geq \overline{A}_C$, plug (28) and (26) into (9):

$$F_C^{ACQ} = \pi_I^{ACQ}(C, \text{Ⓒ}, Y) - \pi_I^{ACQ}(C, \varnothing, Y) = 2\delta(1 - \beta) \tag{29}$$

If $A < \overline{A}_C$, plug (27) and (26) into (9):

$$F_C^{ACQ} = \pi_I^{ACQ}(C, \text{Ⓒ}, Y) - \pi_I^{ACQ}(C, \varnothing, Y) = \delta(5/2 - \beta) - K/2 \tag{30}$$