. . . .

A PROOF OF THE PARAMETER CONSTRAINTS (4) (5)

Here we show that partnership dissolution is a meaningful problem only if both parameter constraints are satisfied, which is why impose them in the paper.

First, suppose constraint (4) is violated, i.e.

$$\pi < \alpha(1 + \alpha - \frac{1}{2} q_{nh}\alpha). \tag{20}$$

We show that then it is never efficient to dissolve.

Recall the value function (11) of the firm under full efficiency. The assumption implies that the maximizer over the first branch, defined by $I \geq \tilde{I}$, is $I_1 = 1 + \alpha$ and that $I_1 > \tilde{I}$. Therefore, the assertion follows if I_1 is the maximizer of $V^*(I)$. Now suppose the maximizer of $V^*(I)$ is not equal to I_1. Then the optimal investment must be the maximizer over the second branch of the V^* function, defined for $I \leq \tilde{I}$, which is equal to $I_2 := \min\{I^*, \tilde{I}\}$, where $I^* = \arg\max_{I \geq 0} \psi_2(I) = 1 + \alpha(1 - q_{nh})$ (ignoring the constraint $I \leq \tilde{I}$). However,

$$\begin{aligned} \psi_1(I_1) - \psi_2(I_2) &\geq \psi_1(I_1) - \psi_2(I^*) \quad \text{by definition of } I^* \\ &= q_{nh}\left((1 + \alpha - \frac{1}{2} q_{nh}\alpha)\alpha - \pi\right) > 0 \quad \text{by assumption (20)} \end{aligned}$$

which contradicts the assumption that I_1 is not the maximizer of $V^*(I)$.

Second, we show that constraint (5) is sufficient to assure that a partnership is set up.

We have shown that if the partnership dissolves in all states, it will not be set up in the first place. Now we want to prove that if condition (5) is satisfied, the partnership is always set up if the partnership only dissolves in states $s \in \{th, nh\}$.

Recall that if the partnership is formed, each partner's expected payoff is equal to $\frac{1}{2}V(I)$, with $V(I)$ bounded from below by:

$$V(I) \geq \psi_3(\hat{I}) = \frac{1}{2}(1 + \alpha - q_{nh}\alpha - q_{th}\alpha)^2 + (q_{nh} + q_{th})\pi$$

Whereas if each partner goes alone, his expected payoff is equal to

$$V_i(I) := I + \frac{1}{2}(q_{nh} + q_{th})\pi - \frac{1}{2}I^2.$$

whose maximizer is $I_a = 1$.

The partnership is always set up if:

$$\frac{1}{2}\psi_3(\hat{I}) \geq V_i(I) \Leftrightarrow \frac{1}{2}(1+\alpha-q_{nh}\alpha-q_{th}\alpha)^2+(q_{nh}+q_{th})\pi \geq 1+(q_{nh}+q_{th})\pi$$
$$\Leftrightarrow \alpha \geq \frac{\sqrt{2}-1}{1-q_{nh}-q_{th}}$$

B PROOF OF PROPOSITION 2

Here we solve the dissolution subgames assuming that both partners may call for dissolution (as in Section 5) and prove the sufficient condition stated in Proposition 2.

We have already shown in Lemma 6–8 that if partner 2 proposes, he proposes the price $p_2 = \frac{I+\pi}{2}$; furthermore, in equilibrium $I < 2\tilde{I}$. Therefore, we only need to solve the dissolution subgames for 1) $I \in [0, \tilde{I})$, 2) $I \in [\tilde{I}, 2\tilde{I})$.

LEMMA 12 *Suppose $I < \tilde{I}$. Then, the equilibrium dissolution strategies are: Partner 1 calls for dissolution and sets $p_1 = \frac{I}{2}$, if and only if $s \in \{th, nh\}$; and if he gets the buy-sell option, "buys" if and only if the strike price $p \leq \frac{I+\pi}{2}$ and $s \in \{th, nh\}$. Partner 2 calls for dissolution, i.e. $\tau_2(I) = 1$, sets $p_2 = \frac{I+\pi}{2}$, if and only if $(q_l, I) \in S_1 := \{(q_l, I) \mid q_l \leq \frac{\pi}{2\pi+\alpha I}\}$; if he gets the buy-sell option, he sells if and only if the strike price is $p \geq \frac{I}{2}$.*

PROOF Suppose partner 1 plays the asserted equilibrium strategy. We determine for which parameters it is a best reply of partner 2 to play $\tau_2(I) = 1$, $p_2 = \frac{I+\pi}{2}$.

Denote the payoff of partner 2 if he plays $\tau_2(I) = 1$ by u_2 and that if he plays $\tau_2(I) = 0$ by u_2'. Then,

$$u_2 - u_2' = \frac{I+\pi}{2}(1-2q_l) + q_l I - \left((1-q_l)\frac{I}{2} + q_l\frac{I(1+\alpha)}{2}\right)$$
$$\geq 0 \iff (q_l, I) \in S_1.$$

Next, suppose partner 2 plays the asserted equilibrium strategy. If that strategy prescribes $\tau_2(I) = 0$, we are back in the game where only partner 1 proposes (see Lemma 3). If $\tau_2(I) = 1$, any price below p_2 (including the above stated price p_1) is a best reply of partner 1. Because then partner 1 buys at p_2 if and only if $s \in \{th, nh\}$ and thus earns the payoff $u_1 = \frac{I+\pi}{2}$, regardless of which state occurred; whereas if he quotes a higher price than p_2, partner 2 will sell, which leads to the payoff

$$u_1' = \begin{cases} I+\pi-p_1 & \text{if} \quad s \in \{th, nh\} \\ I - p_1 & \text{otherwise,} \end{cases}$$

which is obviously smaller than u_1. Hence, the asserted strategies are mutual best replies. □

LEMMA 13 *Suppose $I \in [\tilde{I}, 2\tilde{I})$. Then, the equilibrium dissolution strategies are: Partner 1 calls for dissolution and sets $p_1 = \frac{I}{2}$ if and only if $s = nh$; and if he gets the buy-sell option, "buys" if and only if the strike price $p \leq \frac{I+\pi}{2}$ and $s \in \{th, nh\}$. Partner 2 calls for dissolution, i.e. $\tau_2(I) = 1$ and $p_2 = \frac{I+\pi}{2}$, if and only if $(q_l, q_{th}, I) \in S_2 := \{(q_l, q_{th}, I) \mid q_l \leq \frac{\pi(1-q_{th}-\alpha I q_{th}}{2\pi+\alpha I}\}$; if he gets the buy-sell option, he sells if and only if the strike price is $p \geq \frac{I}{2}$.*

PROOF The proof is similar to the proof of Lemma 12 and hence omitted. □

From these two Lemmas we conclude that in equilibrium partner 2 never calls for dissolution if $q_l \geq \frac{1}{2}$, as asserted in Proposition 2.

C PROOF OF LEMMAS 10, 11

In the reduced game under BSP with veto right, the strategy of partner 1 is his probability of quoting a price p, denoted by $\sigma_1(p; I, s) := \Pr\{P = p \mid S = s\}$, with some support $\mathcal{P}$. The strategy of partner 2 is $\sigma_2(p; I) = \Pr\{\text{sell} \mid p\}$ and $1 - \sigma_2(p; I) = \Pr\{\text{veto} \mid p\}$. And the beliefs of partner 2 are denoted by $\delta_s(p, I) := \Pr\{S = s \mid p\}$.

Here we give detailed statements and proofs of Lemmas 10 and 11.

LEMMA 10 *The equilibrium strategies and beliefs of the "partial separating equilibrium" are:*
Strategies:

$$\sigma_1(\hat{p}(I); th, I) := \eta(I), \quad \sigma_1(p_1'; th, I) := 1 - \eta(I) \tag{21}$$

$$\sigma_1(\hat{p}(I); nh, I) := 1, \quad \sigma_1(p_1; l, I) := 1 \tag{22}$$

$$\frac{I}{2} \leq p_1 < p_1' < \frac{(1+\alpha)I}{2} \leq \hat{p}(I) := \frac{1}{2}\left(I(1+\alpha) + \delta_{th}(\hat{p}(I), I)\pi\right) \tag{23}$$

$$\sigma_2(p; I) = \begin{cases} 1 & \text{if} \quad p > \hat{p}(I) \quad \text{or} \quad \left(p = \hat{p}(I) \quad \text{and} \quad I < \tilde{I}\right) \\ 0 & \text{otherwise} \end{cases} \tag{24}$$

$$\eta(I) := \begin{cases} 0 & \text{if} \quad I \in I_3 \cup I_4 \\ \frac{q_{nh}(\pi - 2\alpha I)}{2q_{th}\alpha I} & \text{if} \quad I \in I_2 \\ 1 & \text{if} \quad I \in I_1 \end{cases} \tag{25}$$

Beliefs:

$$\delta_{th}(p,I) := \begin{cases} 1 & \textit{if} \quad p \in [p_1', \hat{p}(I)) \\ \frac{q_{th}\sigma_1(\hat{p}(I);th,I)}{q_{nh}+q_{th}\sigma_1(\hat{p}(I);th,I)} & \textit{if} \quad p = \hat{p}(I) \\ 0 & \textit{if} \quad p < p_1' \quad \textit{or} \quad p > \hat{p}(I) \end{cases} \tag{26}$$

$$\delta_{nh}(p,I) := \begin{cases} 1 & \textit{if} \quad p > \hat{p}(I) \\ \frac{q_{nh}}{q_{nh}+q_{th}\sigma_1(\hat{p}(I);th,I)} & \textit{if} \quad p = \hat{p}(I) \\ 0 & \textit{if} \quad p < \hat{p}(I) \end{cases} \tag{27}$$

$$\delta_{l}(p,I) := \begin{cases} 1 & \textit{if} \quad p < p_1' \\ 0 & \textit{otherwise} \end{cases} \tag{28}$$

Proof The beliefs are obviously consistent with the stated strategies, using Bayes' rule, when it applies. Also, partner 2's strategy is evidently a best reply, given his beliefs. It remains to be shown that partner 1's strategies are best replies, given the beliefs $\delta(p,I)$, for all investment levels.

1) Suppose $I \in I_4$. Then, $\eta(I) = 0$, $\sigma_1(\hat{p}(I);nh,I) = \sigma_1(p_1';th,I) = \sigma_1(p_1;l,I) = 1$, $\sigma_2(p) = 1$ if $p > \hat{p}(I)$ and $\sigma_2(p;I) = 0$ for all other p, $\delta_{th}(\hat{p}(I);I) = 0$, $\delta_{nh}(\hat{p}(I);I) = 1$, and $\hat{p}(I) = \frac{1}{2}V_p(I,nh)$.

Consider type $s = nh$. In the asserted equilibrium, he shall quote the price $\hat{p}(I)$ with certainty. If he deviates, he can only change the outcome if he quotes a higher price, p. However, this does not pay, since the gain from that deviation is negative:

$$\begin{aligned} I + \pi - p - \frac{1}{2}V_p(I,nh) <& I + \pi - V_p(I,nh) \\ =& I + \pi - (1+\alpha)I \\ =& \pi - \alpha I \\ \leq& \pi - \alpha\tilde{I} \quad (\text{since } I \geq \tilde{I}) \\ =& 0 \quad (\text{by definition of } \tilde{I}). \end{aligned}$$

Consider $s = th$. In the asserted equilibrium, partner 1 proposes the price p_1', and partner 2 vetoes. If partner 1 deviates, he can only change the outcome by proposing a price $p > \hat{p}$, at which partner 2 sells, just like in the above case $s = nh$. Evidently, maintaining the partnership is more profitable than in the event $s = nh$. Therefore, such a deviation is even less profitable than in the case $s = nh$, described above.

Consider $s = l$. In the asserted equilibrium, partner 1 proposes the price p_1, and partner 2 vetoes. Again, partner 1 can only make a difference if he quotes a price $p > \hat{p}(I)$, which pays even less for him than in the cases described above.

2) Suppose $I \in I_3$. Then, $\eta(I) = 0$, $\sigma_1(\hat{p}(I); nh, I) = \sigma_1(p_1'; th, I) = \sigma_1(p_1; l, I) = 1$, $\sigma_2(p) = 1$ if $p \geq \hat{p}(I)$ and $\sigma_2(p; I) = 0$ for all other p, $\delta_{th}(\hat{p}(I); I) = 0$, $\delta_{nh}(\hat{p}(I); I) = 1$, and $\hat{p}(I) = \frac{1}{2}V_p(I, nh)$.

Consider type $s = nh$. In the asserted equilibrium, he shall quote the price $\hat{p}(I)$, at which partner 2 sells. If partner 1 deviates, he can only change the outcome by quoting a lower price, $p < \hat{p}(I)$. However, this does not pay, since the gain from that deviation is negative:

$$\begin{aligned}\frac{1}{2}V_p(I, nh) - (I + \pi - \frac{1}{2}V_p(I, nh)) =& V_p(I, nh) - (I + \pi) \\ =& \alpha I - \pi \\ <& \alpha \tilde{I} - \pi \quad (\text{since } I < \tilde{I}) \\ =& 0 \quad (\text{by definition of } \tilde{I}).\end{aligned}$$

Consider $s = th$. In the asserted equilibrium, partner 1 proposes the price p_1', and partner 2 vetoes. If partner 1 deviates, he can only change the outcome by proposing a price $p \geq \hat{p}$, at which partner 2 sells. However, the gain from such a deviation is negative, since

$$\begin{aligned}(I + \pi - p) - \frac{1}{2}V_p(I, th) \leq& \frac{\pi}{2} - \alpha I \\ \leq& \frac{1}{2}\left(\pi - \alpha \tilde{I}\right) \quad (\text{since } I \geq \frac{\tilde{I}}{2}) \\ =& 0 \quad (\text{by definition of } \tilde{I}).\end{aligned}$$

Consider $s = l$. In the asserted equilibrium, partner 1 proposes the price p_1, and partner 2 vetoes. Again, partner 1 can only make a difference if he quotes a price $p = \hat{p}(I)$, which pays even less for him than in the previous case.

3) Suppose $I \in I_2$. Then, $\eta(I) = \frac{q_{nh}(\pi - 2\alpha I)}{2q_{th}\alpha I}$, $\sigma_1(\hat{p}(I); nh, I) = \sigma_1(p_1; l, I) = 1$, $\sigma_1(\hat{p}(I); th, I) = \eta$, $\sigma_1(p_1'; th, I) = 1 - \eta$, $\sigma_2(p) = 1$ if $p \geq \hat{p}(I)$ and $\sigma_2(p; I) = 0$ for all other p, $\delta_{th}(\hat{p}(I); I) = 1 - \frac{2\alpha I}{\pi}$, $\delta_{nh}(\hat{p}(I); I) = \frac{2\alpha I}{\pi}$, and $\hat{p}(I) = \frac{1}{2}(I(1 - \alpha) + \pi)$.

Consider type $s = nh$. In the asserted equilibrium, he shall quote the price $\hat{p}(I)$, at which partner 2 sells. If partner 1 deviates, he can only change the outcome by quoting a lower price, $p < \hat{p}(I)$. However, this does not pay, since the gain from that deviation is negative:

$$\frac{I(1 + \alpha)}{2} - (I + \pi - \hat{p}(I)) = -\frac{\pi}{2} < 0.$$

Consider $s = th$. In the asserted equilibrium, partner 1 randomizes between the prices p_1' and $\hat{p}$, partner 2 vetoes if $p = p_1'$ and sells if $p = \hat{p}(I)$. For that to be an equilibrium, partner 1 must be indifferent between these two actions, which confirms:

$$\frac{1}{2}((1 + \alpha)I + \pi) - (I + \pi - \hat{p}(I)) = 0.$$

If he deviates, that can only make a difference if he quotes either a price lower than p_1 (but those prices are dominated and were already eliminated in Lemma 9) or a price above $\hat{p}(I)$, which is obviously not an improvement either.
Consider $s = l$. In the asserted equilibrium, partner 1 proposes the price p_1, and partner 2 vetoes. Partner 1 can only make a difference if he quotes a price $p = \hat{p}(I)$. However, the gain from that deviation is negative:

$$I - \hat{p}(I) - \frac{I(1+\alpha)}{2} = -\frac{\pi}{2} < 0.$$

4) Suppose $I \in I_1$. Then, $\eta(I) = 1$, $\sigma_1(\hat{p}(I); nh, I) = \sigma_1(p_1; l, I) = \sigma_1(\hat{p}(I); th, I) = 1$, $\sigma_2(p) = 1$ if $p \geq \hat{p}(I)$ and $\sigma_2(p; I) = 0$ for all other p, $\delta_{th}(\hat{p}(I); I) = \frac{q_{th}}{q_{nh}+q_{th}}$, $\delta_{nh}(\hat{p}(I); I) = \frac{q_{nh}}{q_{nh}+q_{th}}$, and $\hat{p}(I) = \frac{1}{2}(I(1+\alpha) + \frac{q_{th}}{q_{nh}+q_{th}}\pi)$.
Consider type $s = th$. In the asserted equilibrium, he shall quote the price $\hat{p}(I)$, at which partner 2 sells. If partner 1 deviates, he can only change the outcome by quoting a lower price, $p < \hat{p}(I)$. However, this does not pay, since the gain from that deviation is negative:

$$\begin{aligned}\frac{I(1+\alpha)+\pi}{2} - (I + \pi - \hat{p}(I)) =& \alpha I - \frac{\pi}{2} + \frac{\pi q_{th}}{2(q_{nh}+q_{th})} \\ <& 0.\end{aligned}$$

Consider $s = nh$. In the asserted equilibrium, he shall quote the price $\hat{p}(I)$, at which partner 2 sells. If partner 1 deviates, he can only change the outcome by quoting a lower price, $p < \hat{p}(I)$. However, this does not pay, since the gain from that deviation is obviously even smaller than the gain from the same deviation for type *th*, which was already shown to be negative.
Consider $s = l$. In the asserted equilibrium, partner 1 proposes the price p_1, and partner 2 vetoes. Partner 1 can only make a difference if he quotes a price $p = \hat{p}(I)$. However, the gain from that deviation is negative:

$$I - \hat{p}(I) - \frac{I(1+\alpha)}{2} = -\frac{\pi q_{th}}{2(q_{nh}+q_{th})} - \alpha I < 0.$$

□

LEMMA 11 *The equilibrium strategies and beliefs of the "partial pooling equilibrium" for $I \in I_3 \cup I_4$ are:*
Strategies:

$$\sigma_1(p_1; s, I) := 1, \textit{for all}\, s \in \Theta \tag{29}$$

$$\frac{I}{2} \leq p_1 < \hat{p}(I) := \frac{1}{2}\left(I(1+\alpha) + \pi\right) \tag{30}$$

$$\sigma_2(p; I) = \begin{cases} 1 & \textit{if} \quad p \geq \hat{p}(I) \\ 0 & \textit{otherwise} \end{cases} \tag{31}$$

Beliefs:

$$\delta_{th}(p,I) := \begin{cases} 1 & \textit{if} \quad p \geq \hat{p}(I) \\ q_{th} & \textit{if} \quad p \in [p_1, \hat{p}(I)) \\ 0 & \textit{otherwise} \end{cases} \tag{32}$$

$$\delta_{nh}(p,I) := \begin{cases} q_{nh} & \textit{if} \quad p \in [p_1, \hat{p}(I)) \\ 0 & \textit{otherwise} \end{cases} \tag{33}$$

$$\delta_{l}(p,I) := \begin{cases} q_{l} & \textit{if} \quad p \in [p_1, \hat{p}(I)) \\ 1 & \textit{if} \quad p < p_1 \\ 0 & \textit{otherwise} \end{cases} \tag{34}$$

Proof The beliefs are obviously consistent with the stated strategies, using Bayes' rule, when it applies. Also, partner 2's strategy is evidently a best reply, given his beliefs. Partner 1 could only make a difference if he deviates and quotes a price $p \geq \hat{p}(I)$, at which partner 2 sells for sure. However, that never pays. □

D PROOF OF COROLLARY 1

Proof Suppose $\pi > 2\tilde{\pi}(\alpha) - \alpha^2 q_{nh}$, we want to show that the buy-sell provision with veto right never leads to a lower expected firm value than the buy-sell provision without veto right. The *ex ante* net value of the firm for all choices of I, using the subgame equilibrium in Lemma 10 is:

$$V(I) := \begin{cases} \psi_1(I) & \text{if} \quad I \in I_4 \\ \psi_2(I) & \text{if} \quad I \in I_3 \\ \psi_2(I) - q_{th}\alpha I \eta(I) := \psi_{2a}(I) & \text{if} \quad I \in I_2 \\ \psi_3(I) & \text{if} \quad I \in I_1 \end{cases} \tag{35}$$

The maximizer of the first branch over I_4 of the above value function is $\min\{\tilde{I}, 1+\alpha\}$; the maximizer over I_3 is $\frac{\tilde{I}}{2}$; that over I_2 is $1+\alpha$ if $\pi \in [2\alpha(1+\alpha), 2(1+\frac{q_{th}}{q_{nh}})\alpha(1+\alpha)]$, is $\frac{\tilde{I}}{2}$ if $\pi < 2\alpha(1+\alpha)$, and is equal to $\frac{q_{nh}\tilde{I}}{2(q_{nh}+q_{th})}$ if $\pi > 2(1+\frac{q_{th}}{q_{nh}})\alpha(1+\alpha)$; that over I_1 is $\min\{\hat{I}, \frac{q_{nh}\tilde{I}}{2(q_{nh}+q_{th})}\}$.

Recall from Lemma 5, the optimal investment level under buy-sell provision without veto right is $I \in \{\tilde{I}, \hat{I}\}$. Denote the equilibrium firm value under BSP without veto right as V_{nv} and that under BSP with veto right as V_v. We distinguish two cases.

1) Suppose $\tilde{\pi}(\alpha) \leq \pi \leq \max\{\pi_0(\alpha), \tilde{\pi}(\alpha)\}$. Then $V_{nv} = \psi_2(\tilde{I})$. Since $\frac{\tilde{I}}{2}$ is a local maximizer of value function (35), we have $V_v \geq \psi_2(\frac{\tilde{I}}{2})$. Then

$$V_v - V_{nv} \geq \psi_2(\frac{\tilde{I}}{2}) - \psi_2(\tilde{I}) = \frac{\pi}{8\alpha^2}(3\pi - 4\alpha(1 + \alpha - q_{nh}\alpha)) > 0$$

by assumption $\pi > 2\tilde{\pi}(\alpha) - \alpha^2 q_{nh}$.

2) Suppose $\pi > \max\{\pi_0(\alpha), \tilde{\pi}(\alpha)\}$. Then $V_{nv} = \psi_3(\hat{I})$. If $I = \hat{I}$ is a local maximizer over I_1 of value function (35), obviously $V_v \geq V_{nv}$. In the following we show that $V_v \geq V_{nv}$ when $\hat{I}$ is not the local maximizer on I_1 of (35).

Suppose $\pi \leq (1 + \frac{q_{th}}{q_{nh}})(2\tilde{\pi}(\alpha) - \alpha^2 q_{nh} - 2\alpha^2 q_{th})$ holds. Then the local maximizer of (35) over I_1 is equal to $\frac{q_{nh}\tilde{I}}{2(q_{nh}+q_{th})}$, instead of $I = \hat{I}$.

Since $\frac{\tilde{I}}{2}$ is the maximizer of (35) over I_3, we have $V_v \geq \psi_2(\frac{\tilde{I}}{2})$. Suppose the firm value without the right to veto is higher, that is, $V_v < V_{nv}$. Then:

$$\psi_3(\hat{I}) - \psi_2(\frac{\tilde{I}}{2}) = \frac{1}{8\alpha^2}\left(\pi^2 - 4\pi\alpha(1 + \alpha - q_{nh}\alpha) - 4\alpha^2(1 + \alpha - q_{nh}\alpha - q_{th}\alpha)^2\right) \geq V_{nv} - V_v > 0$$

which implies $\pi > 2\pi_0(\alpha)$. However, that contradicts the assumption $\pi \leq (1 + \frac{q_{th}}{q_{nh}})(2\tilde{\pi}(\alpha) - \alpha^2 q_{nh} - 2\alpha^2 q_{th})$ since

$$(1 + \frac{q_{th}}{q_{nh}})(2\tilde{\pi}(\alpha) - \alpha^2 q_{nh} - 2\alpha^2 q_{th}) < 2\pi_0(\alpha)$$

since $q_{nh} < \frac{1}{\alpha}(1 + \alpha - q_{th}\alpha)$. □

E EFFICIENT EQUILIBRIUM IF RENEGOTIATION IS ALLOWED

In this appendix, we spell out the strategies and belief systems of the partial separating equilibrium described in section 7.1.

Recall that we are considering the case that partner 1 proposes renegotiation, after he has called for dissolution; full efficiency means $I = I^*$ and dissolution if and only if $s = nh$.

We proceed as follows: First, we show that efficient dissolution is established through renegotiation only if $I \in \Lambda := [\frac{q_l\tilde{I}}{2(q_{th}+q_l)}, \frac{(q_l+2q_{th})\tilde{I}}{2(q_{th}+q_l)}] \subset [0, \tilde{I}]$. Since $I^* \in [0, \tilde{I}]$, we conclude that full efficiency is restored if $I^* \in \Lambda$.

1) The following beliefs and strategies are a perfect equilibrium of the dissolution/renegotiation subgame if $I \in \Lambda$.

1a) Partner 1 requests dissolution with a price $p = p^* = I/2$ in all states and offers renegotiation if and only if $s \in \{l, th\}$, in which case he requests a transfer $t = \bar{t} := \frac{\alpha I}{2} + \frac{q_{th}\pi}{2(q_{th}+q_l)}$.

1b) Partner 2 has the following beliefs: $\Pr\{S = nh \mid t\} = 0$ if renegotiation is offered and the transfer offered is $t \leq \bar{t}$; if renegotiation is offered and the $t > \bar{t}$ or if no renegotiation is offered, $\Pr\{S = nh \mid t\} = 1$.

1c) Partner 2 accepts a renegotiation offer if and only if $t \leq \bar{t}$; if he is not offered renegotiation or rejects a renegotiation offer, he sells if $p \geq p^*$ and buys otherwise.

The associated equilibrium outcome is that the partnership is dissolved if and only if $s = nh$ and partner 1 earns the transfer $\bar{t}$ in exchange for having revoked his request for dissolution in all other states.

Given that belief system, partner 2 updates his beliefs to $\Pr\{S = l\} = q_l/(q_l + q_{th}), \Pr\{S = th\} = q_{th}/(q_l + q_{th})$ if he is offered renegotiation with $t \leq \bar{t}$ and to $\Pr\{S = nh\} = 1$ if he is not offered renegotiation. Based on these beliefs, the above strategies are mutually best replies, and the assumed beliefs are consistent with the stated strategies.

2) One can easily confirm that no (partially) separating equilibrium exists that implements efficiency if $I^* \notin \Lambda$.

3) We conclude that full efficiency may be restored only if $I^* \in \Lambda$, which occurs if and only if the parameters satisfy $\pi(\alpha) \in [\frac{2(q_l+q_{th})}{q_l+2q_{th}} \left(\tilde{\pi}(\alpha) - \frac{1}{2}q_{nh}\alpha^2\right), \left(\frac{q_{th}+q_l}{q_l}\right) \left(2\tilde{\pi}(\alpha) - q_{nh}\alpha^2\right)]$ in addition to constraints (4) and (5). If $I^* \notin \Lambda$ the above partial separating equilibrium no longer implements efficiency.