**Supplement: Perfect Bayesian Equilibria at Borderline Cost Conditions**

At the borders between the cost regimes (low, separating, mixed, and high costs), there exist additional PBEs. Because these PBEs depend on a knife-edge cost condition, they are substantively unimportant except in extremely specific circumstances. They are noted here for the sake of completeness and for their theoretical interest.

**The border between separating and low cost: ($c_w \leq$ 1-2$x$) $\wedge$ ($c_{uw}$ = 1- $x$).** Let us first examine *uw* type's best response function. If *R* trusts the signal, $u(s)$=1-(1-$x$) = $x$ and $u(ns)$ = $x$. Thus, *uw* type *E* is indifferent between sending and not sending the signal. If *R* does not trust the signal, *uw* type's best response is not to send the signal. For the *w* type, if *R* trusts the signal, sending the signal is the best response. If *R* does not trust the signal, not sending the signal is *w* type's best response. *R* trusts the signal if $\mu_{w|s} \geq \frac{x}{1-x}$. Suppose all *w* type send the signal and the *uw* type sends the signal with probability $q$. Then $\mu_{w|s} = \frac{p_w}{p_w+(1-p_w)q}$. *R* trusts the signal if $\frac{p_w}{p_w+(1-p_w)q} \geq \frac{x}{1-x}$, or $q \leq \frac{p_w(1-2x)}{(1-p_w)x}$. This result implies that for each ($c_w$, $c_{uw}$) with ($c_w \leq$ 1-2$x$) $\wedge$ ($c_{uw}$ = 1- $x$) there exists a continuum of PBEs, regardless of $p_w$, in which *R* trusts the signal, *w* type always sends the signal, and the *uw* type sends the signal with probability $q \leq \frac{p_w(1-2x)}{(1-p_w)x}$. Are these outcomes supportable by an evolutionary stable proportion of types? In the *R* position, payoffs are the same for both types: $\frac{p_w}{p_w+(1-p_w)q}(1-x)+\frac{(1-p_w)q}{p_w+(1-p_w)q}(0)$. In the *E* position, the *uw* type's fitness is $x$ and the *w* type gets 1-$x$-$c_w$. Thus, if $x = 1 - x - c_w$, or $c_w = 1 - 2x$, the mixed strategy PBE is supported by an evolutionary stable proportion of types for any $p_w$. If $c_w < 1 - 2x$, the mixed strategy PBE is supported by an evolutionary stable $p_w = 1$. If $p_w \geq \frac{x}{1-x}$, then there also exists a Generalized Trust PBE as previously defined (that is not supported by an evolutionary stable proportion of types.)

**The border between high cost and mixed cost: ($c_w$ > 1-2$x$) $\wedge$ ($c_{uw}$ = 1- $x$).** Here, not sending the signal is a dominant action for the *w* type due to the high signaling costs. Thus, signals are never trusted and the *uw* type never sends the signal either. The PBE is Generalized Trust if $p_w \geq \frac{x}{1-x}$, and Generalized Distrust if $p_w < \frac{x}{1-x}$.

**The border between separating and high cost: ($c_w$ = 1-2$x$) $\wedge$ ($c_{uw}$ > 1- $x$).** If *R* trusts the signal, *w* type is indifferent between sending and not sending the signal. Sending the signal is a dominated action for the *uw* type. Thus, there exist, for all $p_w$, a continuum of PBEs in which the *w* type sends the signal with probability $q$ ($0 < q < 1$) and the *R* trusts the signal. Can this equilibrium be supported by an evolutionary stable propotion of types? In the *R* position the two types have the same fitness regardless of $q$. In the *E* position, the *uw* type gets $x$ and the *w* type gets $x$ as well, regardless of $q$. Thus, any proportion $p_w$ is evolutionary stable.

**The border between low cost and mixed cost: ($c_w$ = 1-2$x$) $\wedge$ ($c_{uw}$ < 1- $x$).** Here, the *uw* type wants to send the signal if it is trusted. The *w* type is indifferent. Suppose the *uw* type sends the signal with probability 1 and the *w* type sends the signal with probability $q$. From previous analysis, we know that $\mu_{w|s} \geq \frac{x}{1-x}$ is the sequential rationality condition for an *R* player to trust the signal. Here, that implies $\mu_{w|s} = \frac{qp_w}{qp_w+(1-p_w)} \geq \frac{x}{1-x}$, or $q \geq \frac{(1-p_w)x}{p_w(1-2x)}$. This PBE does not exist if $p_w < \frac{x}{1-x}$. In general the PBE requires a larger $q$ as $p_w$ gets smaller and $x$ gets larger. The generalized trust PBE exists if $p_w \geq \frac{x}{1-x}$. The generalized distrust PBE is the only PBE if $p_w < \frac{x}{1-x}$.

Are there any evolutionary stable PBEs in this border? Generalized distrust PBE's are evolutionary stable for any $p_w < \frac{x}{1-x}$. Are there any mixed strategy evolutionary stable PBEs? (We know now that we only need to compare the two types' fitness in the *E* position.) In the mixed strategy PBE described above, *w* type gets *x* and the *uw* type gets more than *x*, causing $p_w$ to decline below the threshold $p_w = \frac{x}{1-x}$ needed to support the equilibrium. Thus, in this borderline, the generalized distrust PBE is the only evolutionary stable PBE.

**The intersection of all four cost regimes: ($c_w$ = 1-2$x$) $\wedge$ ($c_{uw}$ = 1- $x$).** Here, when the signal is trusted, both types are indifferent between sending and not sending the signal. Let $q_w$ and $q_{uw}$ be the respective probabilities that *w* and *uw* types send the signal. The probability that a signal sender is the *w* type is $\frac{p_w q_w}{p_w q_w (1-p_w) q_{uw}}$, which has to be at least $\frac{x}{1-x}$ for *R* to trust the signal. That is, $q_w \geq \frac{(1-p_w)x}{p_w(1-2x)} q_{uw}$. All PBE's at this intersection are evolutionary stable for any $p_w$ (every type makes the same payoff in any equilibrium.)