Inefficient Concessions and Mediation

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In conflict scenarios, concessions are sometimes inefficient

- We show inefficient concessions may be preferable if efficient concessions have potential future cost
- Cost: concessions used against you by negotiating partner who violates agreement
- Can you trust that partner will make peace?

New explanation for mediation

- Can remove uncertainty about ability of negotiating partner to commit to peace
- Removes need for inefficient concessions

What we do

Start with simple, two-player repeated Prisoners' Dilemma

- Asymmetric information about δ_i: can partner commit to peace?

Add time zero: let partners give concessions with both signaling and material value

- Let material value provide help/harm to the giver
- Let partners destroy some/all of the material value

Mediator removes uncertainty about partner's δ

Literature

Signaling: Spence (1973), but signal has material value

- cost/benefit tradeoff differs b/c of δ_i, $C_i(g)$

Gift-Giving: Camerer (1988), Prendergast & Stole (2001)

- Source of inefficiency differs: gifts can be used against giver

Conflict: Slantchev (2011), Arena (2013)

- Concessions are costly signals instead of bargaining chip
- Commitment to peace, not resolve to fight
- Costly signals are concessions instead of proof of resolve

Mediation: Fey and Ramsay (2008, 2011), Horner et al. (2010)

- Information is about ability to commit, not resolve

Timeline

-1. Nature independently determines types of Country 1 and Country 2: $\delta_i \in \{\delta_h, \delta_l\}$

0. Countries simultaneously give costly concessions: $g_i \in \mathbb{R}_+$

1–∞. Countries engage in a simultaneous Prisoners' Dilemma interaction

Stage Game

	Trust	Fight
Trust	T, T	-D, T+W
Fight	T+W,-D	W-D, W-D

where

- $T \geqslant 0$: Benefit from the other country playing Trust
- $W \geqslant 0$: Additional benefit from playing Fight
- $D \geqslant 0$: Damages due to the other country playing Fight

Assume $T > W - D$

- Payoffs: sum the discounted stage game payoffs plus any concessions given or received
  - e.g. player's i's payoff if both parties give no concession and play "Fight" in every period:

$$\sum_{t=1}^{\infty} \delta_i^{t-1}(W - D) = \frac{W - D}{1 - \delta_i}$$

- Parameters are common knowledge with the exception of δ_i, which is country i's private information
- Social welfare measured as sum of high types' expected utilities

Benchmark Model

Assume two types: δ_h and δ_l

- $\delta_h > \delta^* > \delta_l$ where $\delta^* = \frac{W}{T+D}$ is the cutoff for sustaining (Trust,Trust) eqm
- p: probability of high type
- Cost of giving concessions g: $g = c_l(g) \geqslant c_h(g) = g$

Some equilibria of interest

- Separating without concessions
- Separating through concessions
- Pool on 'Fight'

Separating through concessions

Theorem 2

In the best concessions separating equilibrium, high types give the smallest concession necessary to separate. Low types do not give a concession.

$$U_h = pg - c_h(g) + \frac{\delta_h}{(1-\delta_h)}\left[pT + (1-p)(W-D)\right]$$

- The smallest concession is $p(T+D)$
- If p is low, high types are better off in the 'fight' pooling equilibrium

Timeline

-1. Nature independently determines types of Country 1 and Country 2: $\delta_i \in \{\delta_h, \delta_l\}$

0. Concessions

   0a. Countries simultaneously give costly concessions and decide on the efficiency of the concessions: $(g_i, e_i) \in \mathbb{R}_+ \times [0, 1]$

   0b. Countries decide what proportion of a received concession to invest in civil society (vs. military capabilities): $\alpha_i \in [0, 1]$

1–∞. Countries engage in a simultaneous Prisoners' Dilemma interaction

Burning money is unattractive

Now benefit of concession is *eg*

Theorem 3

When concessions confer no material help or harm on the giver, it is optimal to give efficient gifts ($e = 1$) in a separating eqm.

- The benefit of the gift appears on both sides of the incentive constraint for both individuals, so cancels out
- Costs of giving a concession don't change
- The benefit appears in the high type's expected utility

Timeline

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Concessions can hurt the giver

Theorem 4

When the low type country can use concessions to reduce the payoffs of its negotiating partner during a 'fight' stage (i.e. $\alpha_L < 1$), there are parameters under which the separating-through-concessions equilibrium features inefficient concessions.

Modified Payoffs

$$U_h = peg - c_h(g) + \frac{\delta_h}{1-\delta_h}\left[pT(1+eg) + (1-p)(W - D(1+eg))\right]$$

- If p is low, concessions likely to be used against you, so remove material value

Peace not possible in some scenarios

Theorem 5

When $\alpha_L < 1$ is allowed, peace becomes unachievable for some parameters under which it is achievable when concessions do not have material value.

- If peace is achievable, concessions may be either efficient or inefficient
- High-type utility may increase or decrease from no-material-value case

Mediator as mechanism designer

'Manipulative' mediator: parties report their types, must deliver the stipulated concessions

- Mechanism: if two high types, give concession and play 'Trust'; Otherwise, no concession and 'Fight'
- Concession is necessary to get truthful revelation, but only to high type
- Need cost of concession for low type to be not too large relative to cost for high type

Theorem 6

A mediator restores peace where $\alpha_i < 1$ destroys it, eliminates inefficient concessions, and reduces the threshold δ_h for high types.

Modified Stage Game Payoffs

	Trust	Fight
Trust	$T(s_2 + \alpha_2 g_1)$, $T(s_1 + \alpha_1 g_2)$	$-D(m_2 + (1-\alpha_2) g_1)$, $T(s_1 + \alpha_1 g_2)$ $+ W(m_2 + (1-\alpha_2) g_1)$
Fight	$T(s_2 + \alpha_2 g_1)$ $+ W(m_1 + (1-\alpha_1) g_2)$, $-D(m_1 + (1-\alpha_1) g_2)$	$W(m_1 + (1-\alpha_1) g_2)$ $-D(m_2 + (1-\alpha_2) g_1)$, $W(m_2 + (1-\alpha_2) g_1)$ $-D(m_1 + (1-\alpha_1) g_2)$

Back to Concessions can hurt the giver.