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

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)

- Commitment to peace, not resolve to fight
- Concessions are costly signals instead of bargaining chip
- 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: $g_1, g_2 \in \mathbb{R}_+$

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
  - e.g. player's i's payoff if both parties play "Trust" in every period: $\sum_{t=1}^{\infty} \delta_i^{t-1} T = \frac{T}{1-\delta_i}$
- 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 δ^* is the cutoff for sustaining (Trust,Trust) eqm
- p: probability of high type
- Low type's cost to give concession g: $c_l(g) > c_h(g) = g$

Some equilibria of interest

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

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.

- The smallest concession is $c_l^{-1}\left(p\left(T+D\right)\right)$
- If p is low, high types are better off in the 'fight' pooling equilibrium

Burning money is unattractive

Allow giver of concession to also choose $0 \leqslant e \leqslant 1$, where 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
- The benefit appears in the high type's expected utility

Concessions can hurt the giver

Now assume a low type will use concessions against you, i.e. to increase their payoffs from fighting Modified Payoffs

Theorem 4

There are parameters under which the optimal equilibrium features inefficient concessions.

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

- If p is low, concessions likely to be used against you, so remove material value
- Conjecture: Pooling on 'Fight' optimal over larger set of parameters

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
- Cost of concession must be greater than benefit for low type

Theorem 5

A mediator can eliminate inefficient concessions.

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.