Strategic Moves

Terminology
Unconditional Strategic Moves
Commitment

Conditional Strategic Moves
Threats
Promises

Commitments

Game of Chicken

Dean / James

		Swerve	Straight
James	Swerve	$(0,0)$	$(-1,1)$
	Straight	$(1,-1)$	$(-2,-2)$

No dominant strategies.
(Swerve, Straight) and (Straight ,Swerve) are Pure NE.
Next, look for mixed strategies.
James prefers (Straight, Swerve) which corresponds with $(1,-1)$.

James can commit or not.
If not, we remain in the above table.
If commit (by removing steering wheel), the table reduces to the bottom two cells, so (Straight, Swerve) is the NE.

James can commit by reputation instead of forcing it as before. This changes James' payoffs:

Dean / James

		Swerve	Straight
James	Swerve	$(-3,0)$	$(-4,1)$
	Straight	$(1,-1)$	$(-2,-2)$

The NE is (Straight, Swerve) her as well.

In either case, we see James would prefer to commit.

Two Firms Considering Market Entry
The overall market potential is $\$10,000,000$.

The entry cost is $\$7,000,000$.

		Them	
		In	Out
Us	In	$(-2,-2)$	$(3,0)$
	Out	$(0,3)$	$(0,0)$

The NE are (Out, In) and (In, Out).

In another version of this game, say we initially invest $\$1,000,000$.

		Them	
		In	Out
Us	In	$(-2,-2)$	$(3,0)$
	Out	$(-1,3)$	$(-1,0)$

The NE are (Out, In) and (In, Out).
Here, we are involved.

In a third version, say we initially invest $\$3,000,000$.

		Them	
		In	Out
Us	In	$(-2,-2)$	$(3,0)$
	Out	$(-3,3)$	$(-3,0)$

The dominant strategy is (In, Out).
Here, we are committed.

<u>Cross-Shareholding</u>

		2	
		L	H
1	L	$(40,40)$	$(65,35)$
	H	$(35,65)$	$(60,60)$

This is a Prisoner's Dilemma style game with equilibrium (40, 40) and Pareto Optimal solution (60, 60).

Say instead that each agrees to own 20% of the other.

		2	
		L	H
1	L	$(40,40)$	$(59,41)$
	H	$(41,59)$	$(60,60)$

We calculated (L, H) (and (H, L)) as follows: (.8)(65)+(.2)(35) = 59 and (.2)(65)+(.8)(35) = 41.
Then, our solution is (60, 60).

Threats

Ten Suppliers

Each has two options:

1. Deliver on-time -> cost of $\$70,000$,
2. Deliver late -> cost of $\$20,000$.

The payment is $\$100,000$.

We need 9 or more suppliers and the suppliers know that.

So, us saying we will not deal with any late suppliers is not a credible threat.

There are two equilibria: all on-time, all late (more likely).

Instead, make the credible threat: randomly turn away one late supplier.

Arbitrarily number the suppliers one through ten.

Reject delivery from the lowest numbered late supplier.

If numbered one, supplier know they'd be turned away if late, so they are on-time. By induction, all suppliers will be on-time.