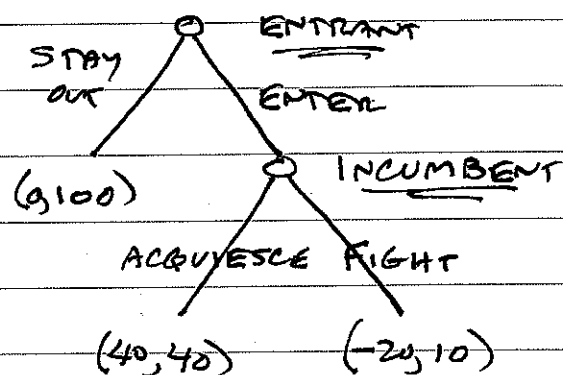


THE EFFECT OF COMMITMENT

(AN EXAMPLE)

CURRENTLY THERE IS ONLY A SINGLE ("INCUMBENT") FIRM IN THIS MARKET, BUT ANOTHER FIRM IS A POTENTIAL "ENTRANT." IF THE POTENTIAL ENTRANT CHOOSES TO ENTER, THE INCUMBENT'S PROFITS WILL BE REDUCED. IN RESPONSE TO ENTRY, THE INCUMBENT CAN "FIGHT" (E.G., ENGAGE IN A PRICE WAR) OR "ACQUIESCE" (THUS ACCEPTING THE LOWER PROFITS). THE GAME, IN EXTENSIVE FORM AND NORMAL FORM: (PAYOFFS SHOULD BE INTERPRETED AS THE NPV OF THE FUTURE STREAM OF PROFITS)

	ACQUIESCE	FIGHT
STAY OUT	0, 100	0, 100
ENTER	40, 40	-20, 10



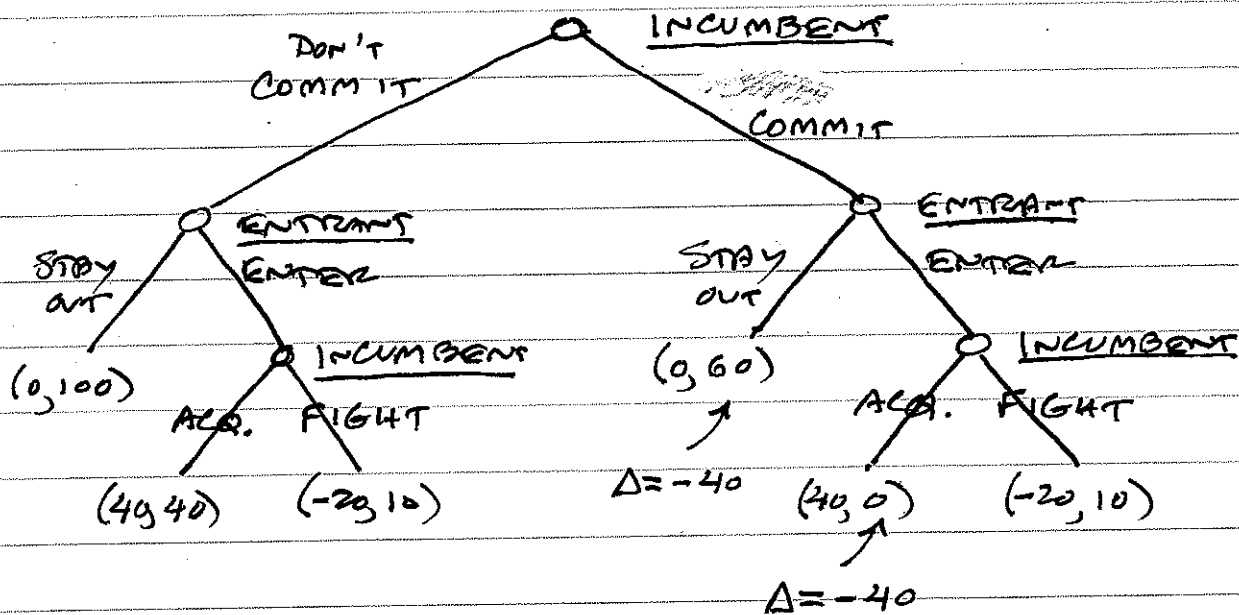
THERE ARE TWO NASH EQUILIBRIA:

- (1) (ENTER, ACQUIESCE) AND (2) (STAY OUT, FIGHT).

BUT THE SECOND EQUILIBRIUM IS UNREALISTIC — IT IS NOT "SUBGAME PERFECT," BECAUSE THE INCUMBENT, AT HIS NODE, IS BETTER OFF TO ACQUIESCE.

Now suppose that the incumbent has available a means to "commit" himself to fight — i.e., he can choose an action that will make it more costly to acquiesce than to fight (such as a financial structure predicated on a price ~~war~~ war, or a plant capacity designed to drive out an entrant).

Suppose, in particular, that if he chooses this "commit" strategy, then he suffers a unilateral loss of 40 unless he ~~ends~~ ends up fighting the entrant. The new extensive form game:



Now the only equilibrium is for the incumbent to commit and then fight entry, and for the entrant to stay out. The incumbent's payoff is 60 instead of the previous 40.