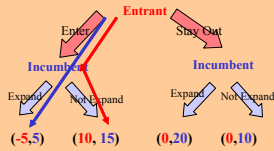


Sequential Games



A Sequential Game

- Our basic payoff matrix assumes that strategies are enacted at the same time, as in odds or evens
- In many games, the moves take place in sequence
 - In chess, one player moves
 - Then the other player moves

A Sequential Game

- A firm is considering entering a new business. After it enters, or doesn't, the incumbent can either expand or maintain his capacity.

A Sequential Game

- A firm is considering entering a new business. After it enters (or doesn't), the incumbent can either expand or maintain his capacity.
- The incumbent threatens that it will expand capacity if the new firm enters. If it does, the new firm will lose money.

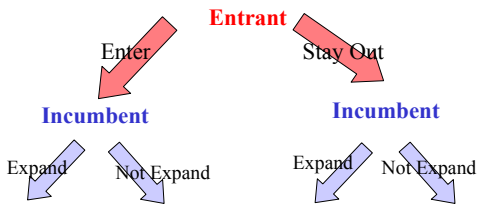
A Sequential Game

- A firm is considering entering a new business. After it enters, or doesn't, the incumbent can either expand or maintain his capacity.
- The incumbent threatens that it will expand capacity should the new firm enter the business. If it does, the new firm will lose money.
- A simple test: Is it then in the interest of the existing firm to expand? If so, the threat to expand is credible. If not, it is simply a bluff.

The Payoff Strategy



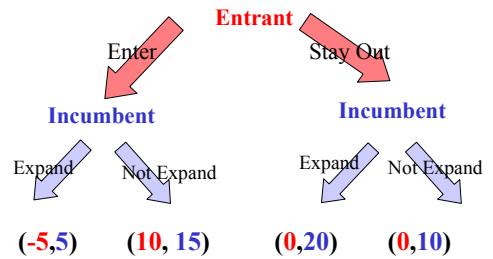
The Payoff Strategy



KENT STATE UNIVERSITY

Sequential Games

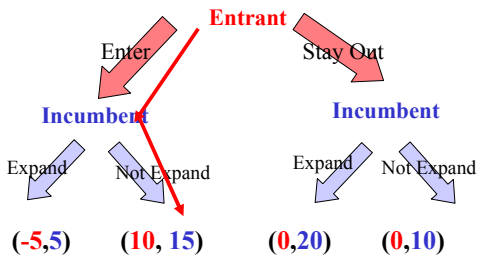
The Payoff Strategy



KENT STATE UNIVERSITY

Sequential Games

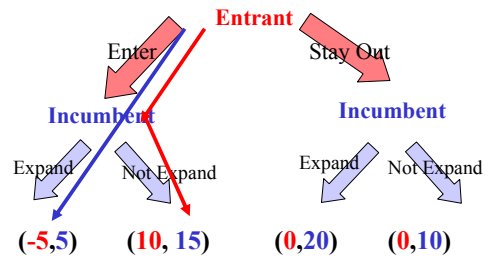
The Payoff Strategy



KENT STATE UNIVERSITY

Sequential Games

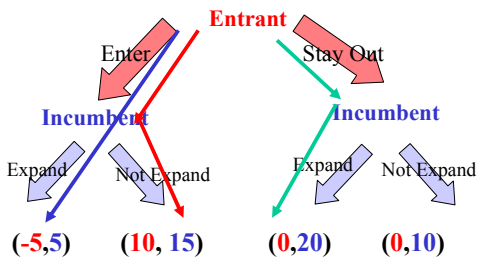
The Payoff Strategy



KENT STATE UNIVERSITY

Sequential Games

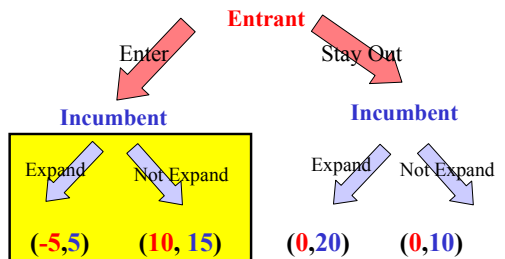
The Payoff Strategy



KENT STATE UNIVERSITY

Sequential Games

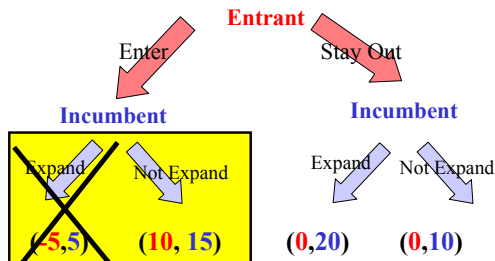
The Payoff Strategy



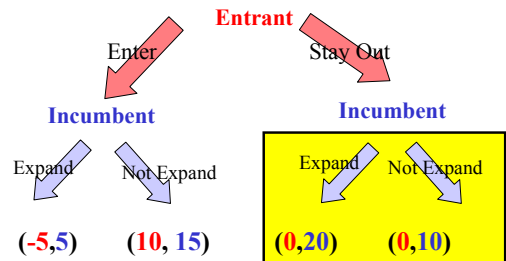
KENT STATE UNIVERSITY

Sequential Games

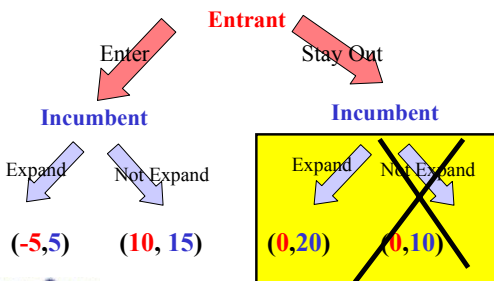
The Payoff Strategy



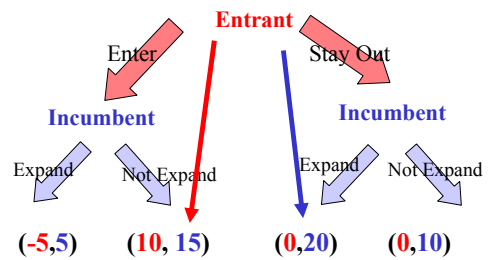
The Payoff Strategy



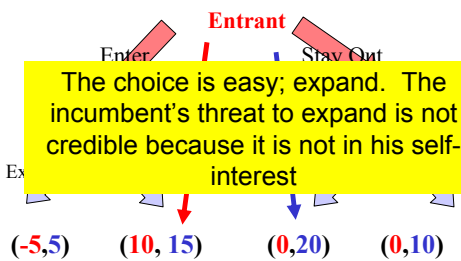
The Payoff Strategy



The Payoff Strategy



The Payoff Strategy



How to be Credible

- How can the incumbent firm make its threat credible?
 - It wants to expand, but also wants to keep the new entrant out.

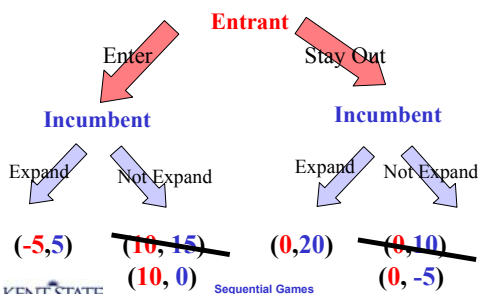
How to be Credible

- How can the incumbent firm make its threat credible?
- It could, for example, sign a binding contract on a new building.

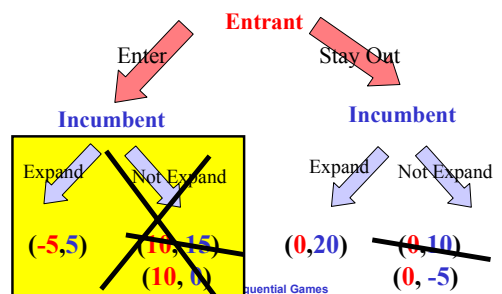
How to be Credible

- How can the incumbent firm make its threat credible?
- It could, for example, sign a binding contract on a new building.
 - Suppose it spends \$15 on a new building.
 - If it actually expands, the money is not lost.
 - If it doesn't the money is lost forever.

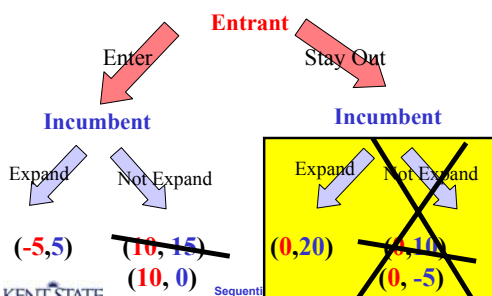
The Payoff Strategy



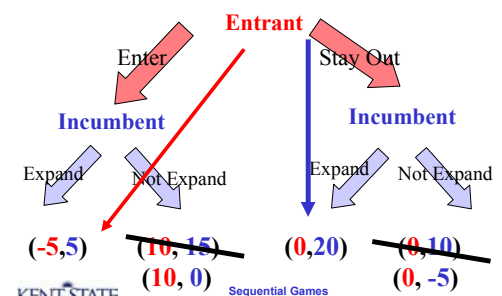
The Payoff Strategy



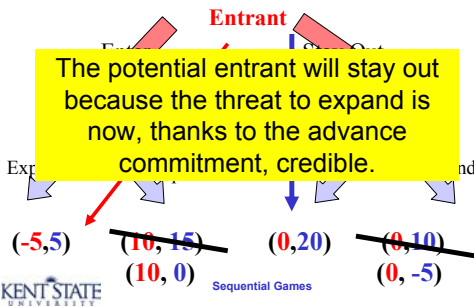
The Payoff Strategy



The Payoff Strategy



The Payoff Strategy



How to be Credible

- This example illustrates the importance of credibility and how to achieve it.

How to be Credible

- This example illustrates the importance of credibility and how to achieve it.
- An example: *Independence Day*
 - Important to be the holiday blockbuster
 - With this title, the promise to come out is credible.

Another Illustration

- I am thinking of hiring you to do some work.

Another Illustration

- I am thinking of hiring you to do some work.
 - I get \$60 of benefit
 - You give up \$40 of leisure
 - We agree on \$50.

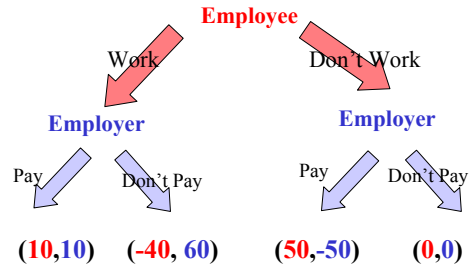
Another Illustration

- I am thinking of hiring you to do some work.
 - I get \$60 of benefit
 - You give up \$40 of leisure
 - We agree on \$50.
- However the agreement is not enforceable.

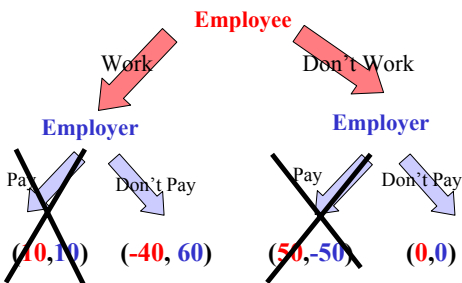
Another Illustration

- I am thinking of hiring you to do some work.
- However the agreement is not enforceable.
- Should you show up and do the work?

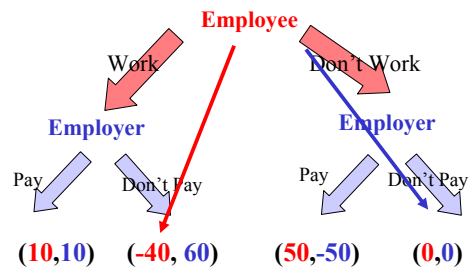
The Payoff Strategy



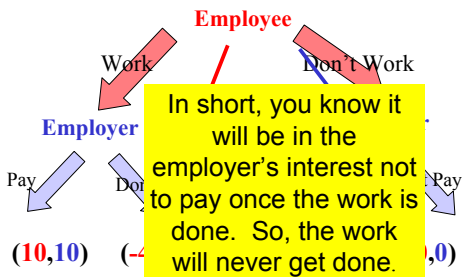
The Payoff Strategy



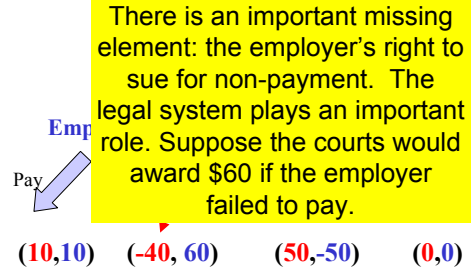
The Payoff Strategy



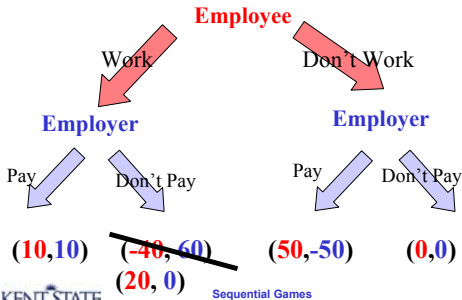
The Payoff Strategy



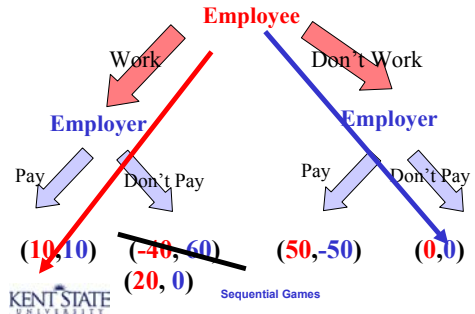
The Payoff Strategy



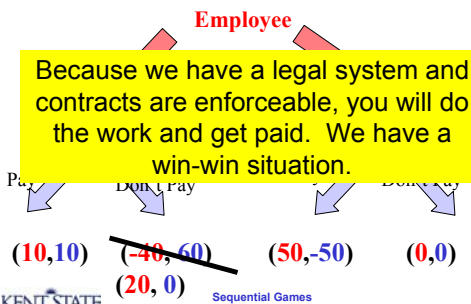
The Payoff Strategy



The Payoff Strategy



The Payoff Strategy



Some Extensions

- If I pay you in advance, we have the same issue

Some Extensions

- If I pay you in advance, we have the same issue
- Without a legal system, we would pass up many valuable opportunities for contracts and exchange of goods and services.

End