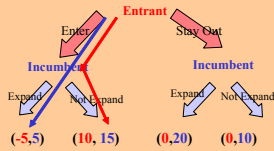


Sequential Games



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

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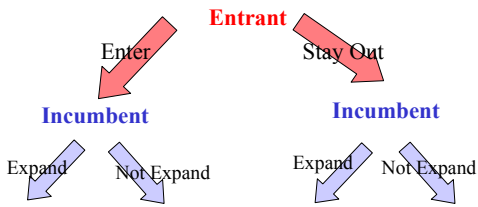
A Sequential Game

- 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



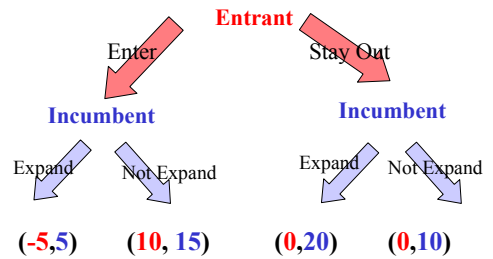
The Payoff Strategy



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Sequential Games

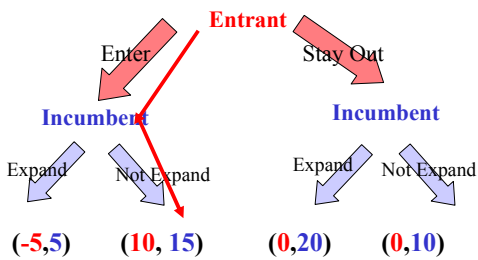
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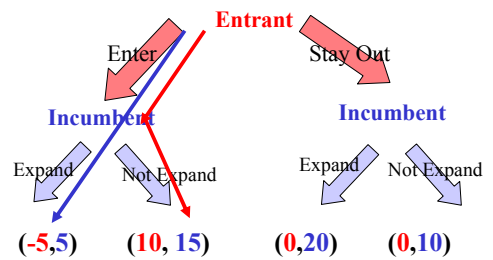
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Sequential Games

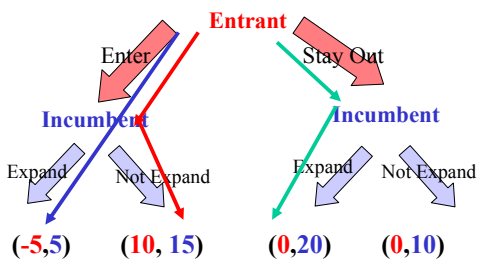
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Sequential Games

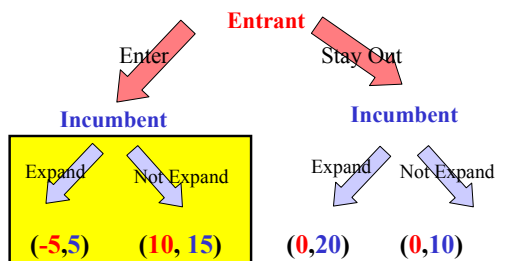
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Sequential Games

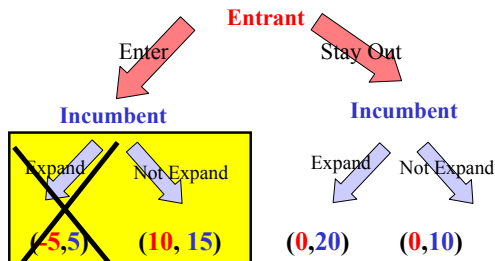
The Payoff Strategy



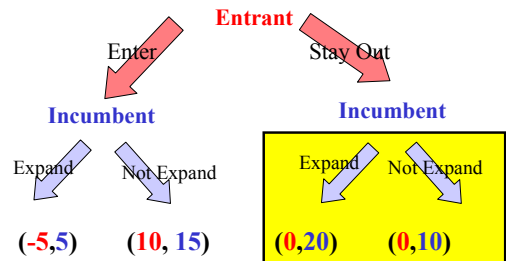
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Sequential Games

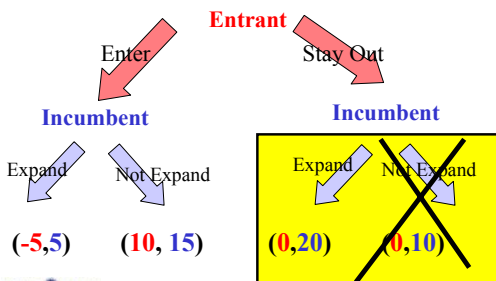
The Payoff Strategy



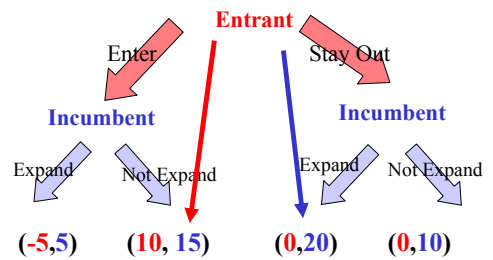
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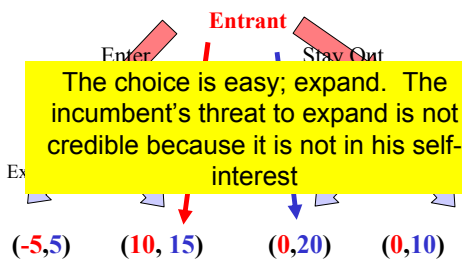
The Payoff Strategy



The Payoff Strategy



The Payoff Strategy



The choice is easy; expand. The incumbent's threat to expand is not credible because it is not in his self-interest

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.

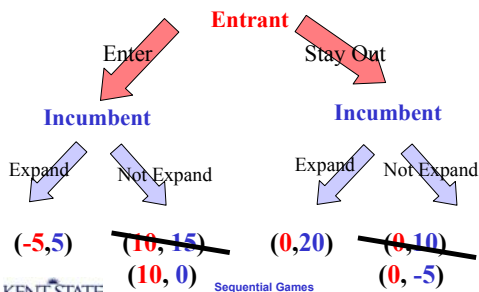
How to be Credible

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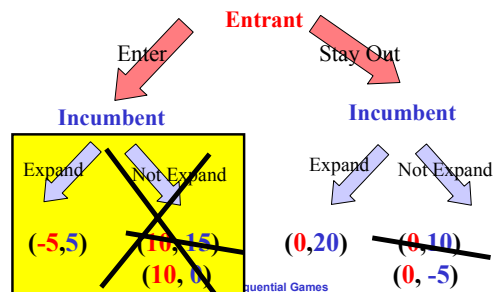
How to be Credible

- 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.

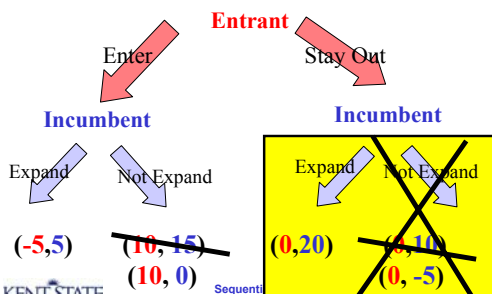
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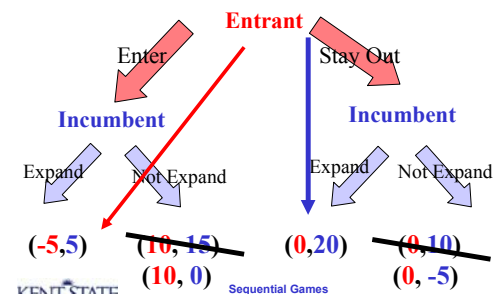
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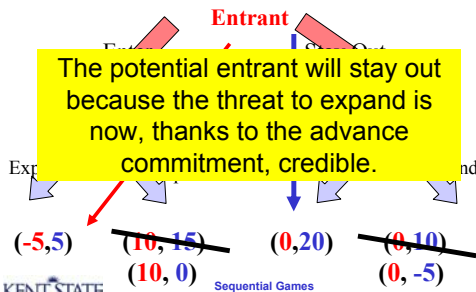
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The Payoff Strategy



The Payoff Strategy



How to be Credible

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

How to be Credible

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- 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.

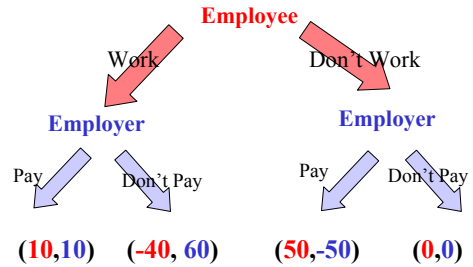
Another Illustration

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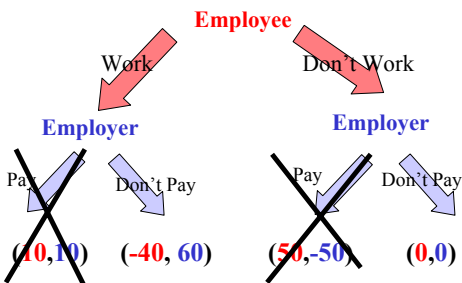
Another Illustration

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

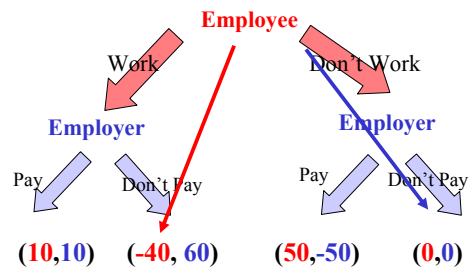
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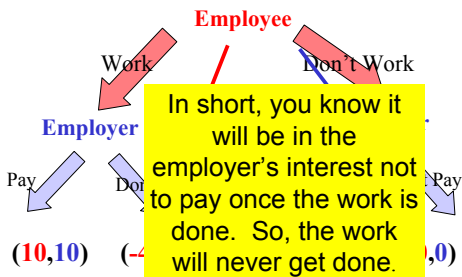
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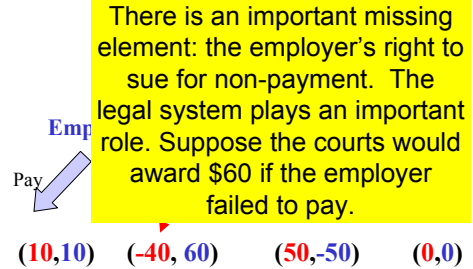
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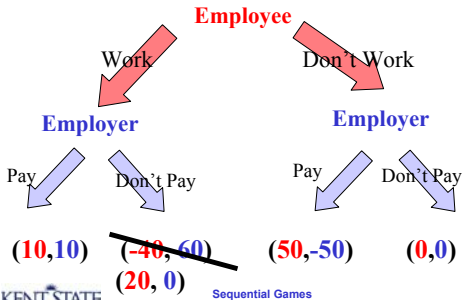
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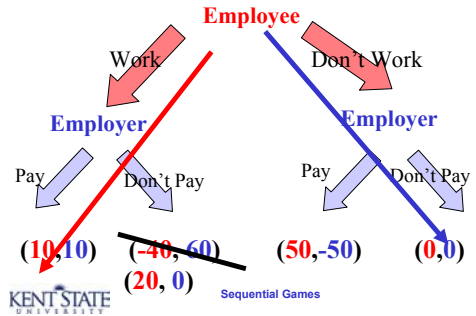
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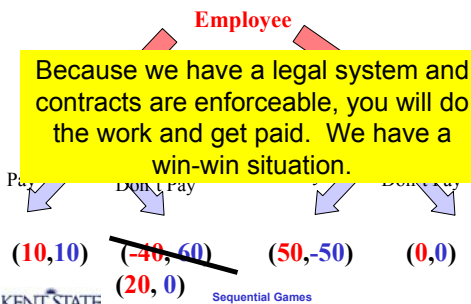
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The Payoff Strategy



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

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