Cuban Missile Crisis

A. Background

In 1962, US surveillance planes discovered medium range ballistic missiles in Cuba. JFK had to decide whether the threaten the Soviets or feign ignorance. After days of consultation with his staff, he decided to blockade Cuban ports. The Soviets responded by sending their navy. The U.S. prepared to intercept.

The day before the crisis publically ended, the US gave Khrushchev an ultimatum:

a. withdraw the missiles in exchange for 1) a promise that the U.S. would not invade and 2) the removal of U.S. missiles from Turkey, or
b. "there would be drastic consequences."

…Khrushchev backed down.

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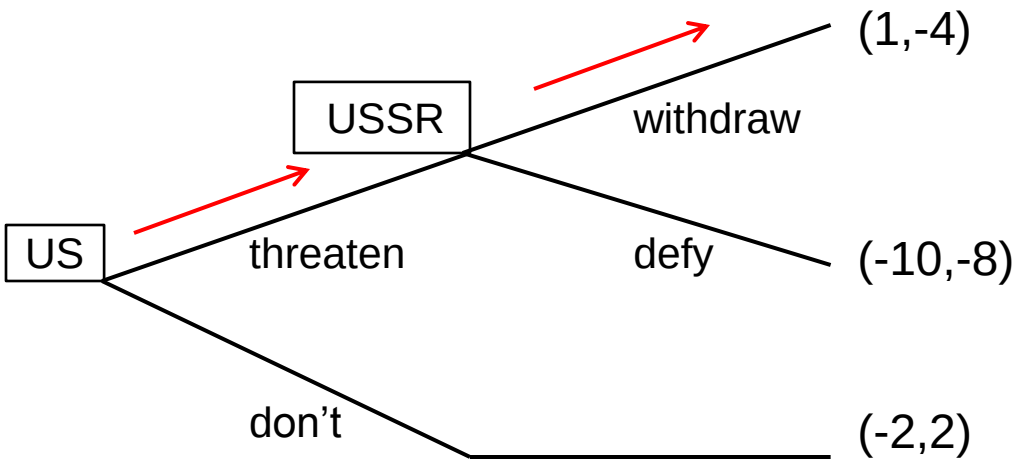
B. Two Simple Games

1. Soviet Softies



What's the S.E.?

S.E.= {threaten; withdraw}

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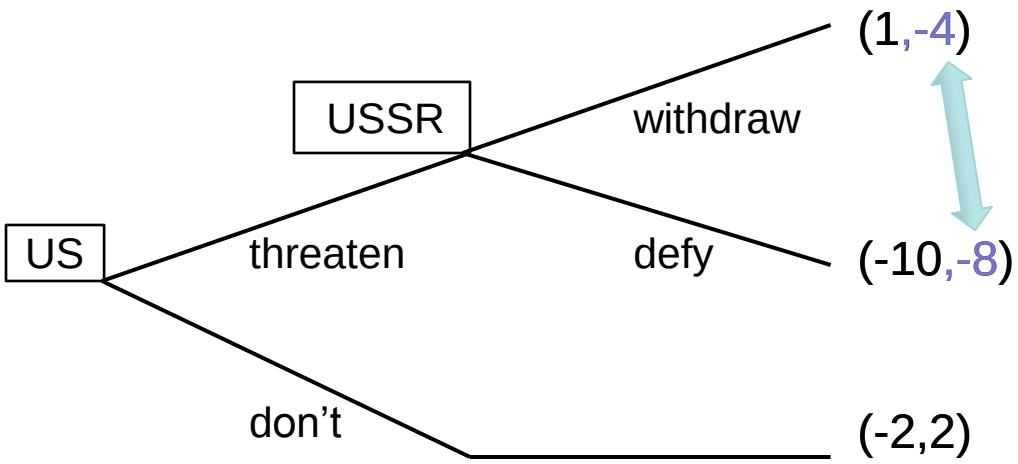
B. Two Simple Games

2. Soviet Hardliners



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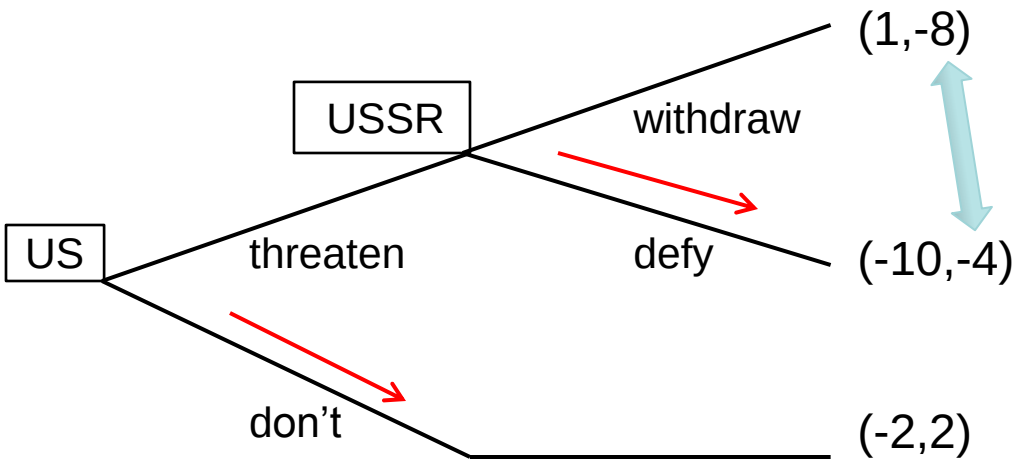
2. Soviet Hardliners



What's the S.E.? S.E.= {don't; defy}

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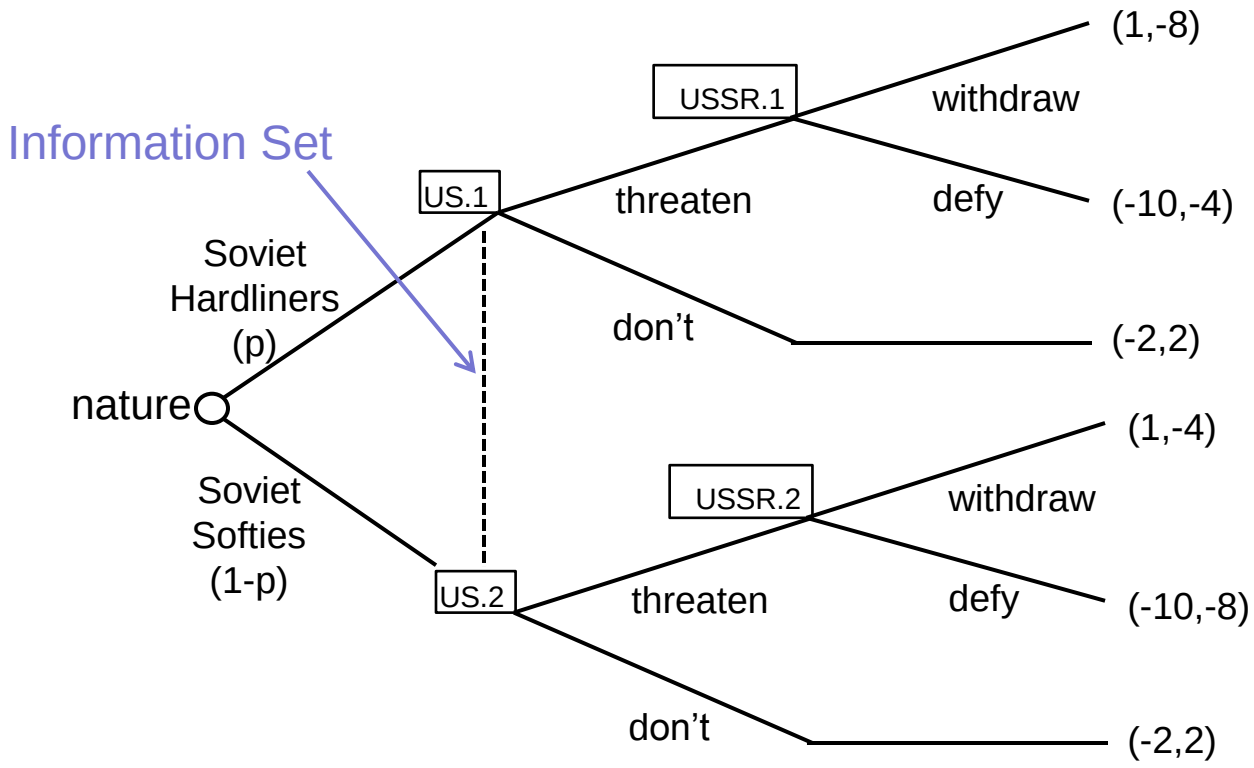
C. Incomplete Information: Unknown Soviet Payoffs



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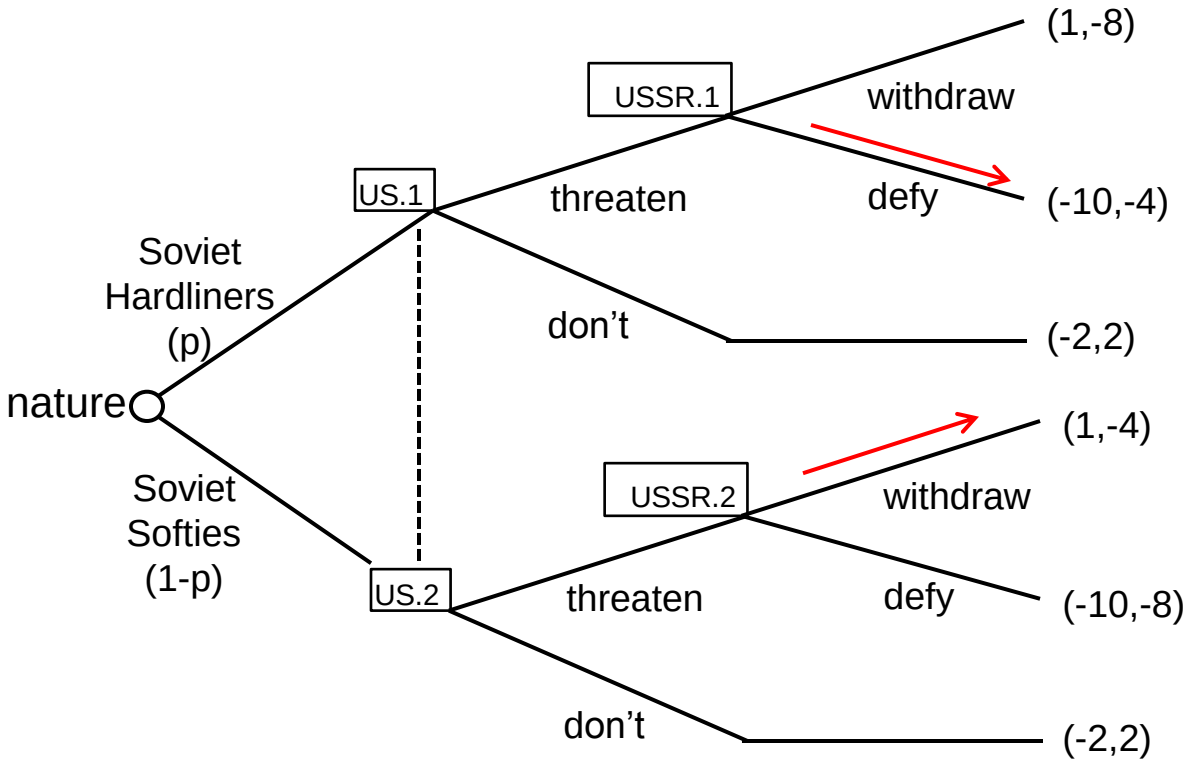

What's the S.E.?

…but the US doesn't know the Soviet type, so it must make a calculation.

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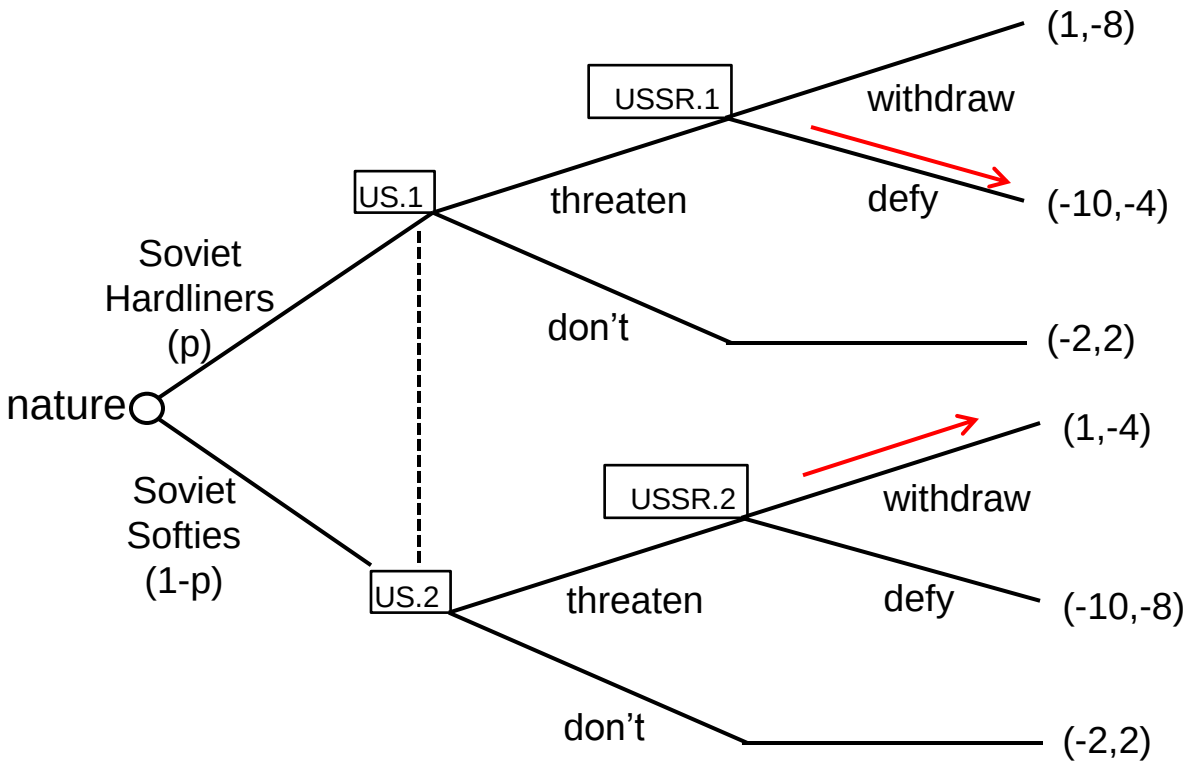

<u>If US threatens</u>:
US payoff is
-10p + 1(1-p)
= 1 – 11p

<u>If US don't</u>:
US payoff is
-2p + -2(1-p)
= -2

<u>Hence US threatens iff</u>:
1 – 11p > -2
– 11p > -3
p < 3/11

The US threatens if the probability that the soviets are hardliners is small (prob. less than 3/11).

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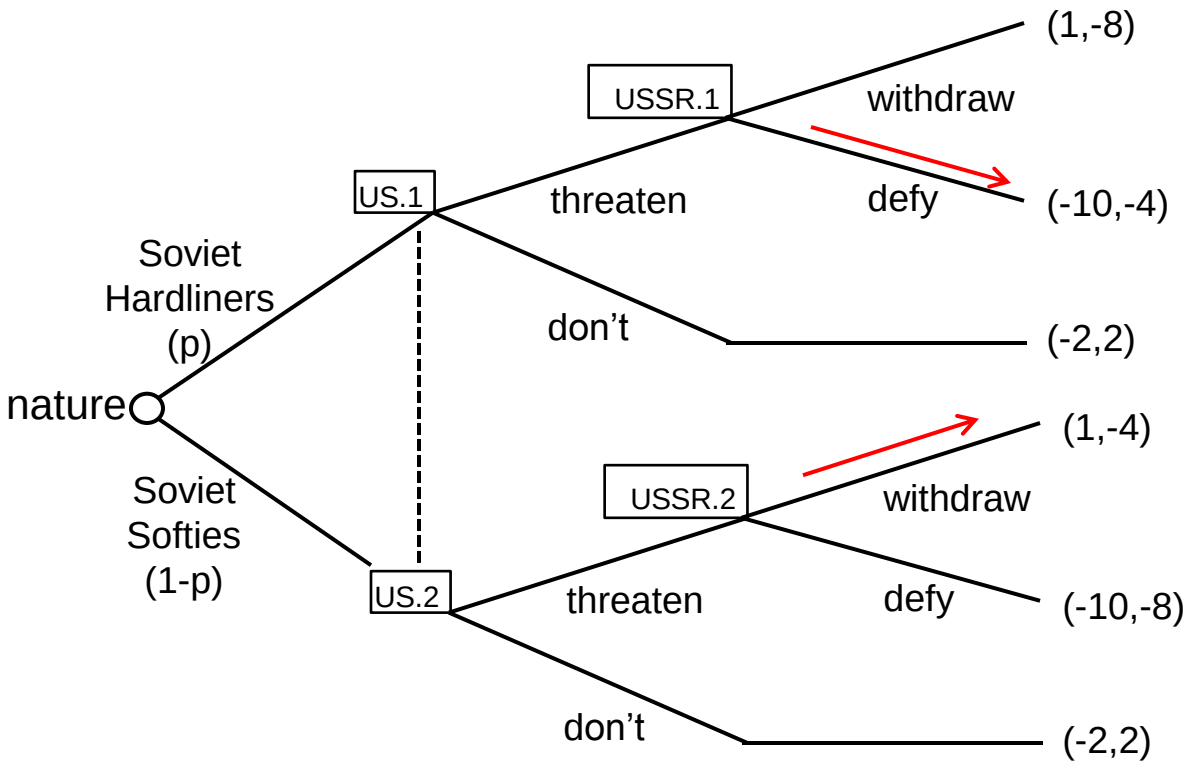

S.E. = {threaten; withdraw} if p < 3/11.
= {don't; defy} if p > 3/11.

If US threatens:
US payoff is
-10p + 1(1-p)
= 1 – 11p

If US don't:
US payoff is
-2p + -2(1-p)
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Hence US threatens iff:
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D. Conclusion

- Perhaps the Americans had sufficient reason to think that the Soviets were likely softies. This would explain their actions consistent with the more complicated game.
- The cardinality of the payoffs matter here. For example, if that -10 was -7, {threaten; withdraw} would occur if $p < 3/8$ (i.e. more of it).
- If we modeled Soviet uncertainties about whether the Kennedy administration was a hawk or dove, would we have a more precise or less precise prediction?

Generally, more incomplete information leads to less precise, but perhaps more accurate models.