INFORMATION AND WAR

PSC/IR 265: CIVIL WAR AND INTERNATIONAL SYSTEMS

WILLIAM SPANIEL

WJSPANIEL.WORDPRESS.COM/PSCIR-265

AGENDA

1. ULTIMATUM GAME
2. EXPERIMENT #2
3. RISK-RETURN TRADEOFF
4. MEDIATION, PREDICTION, AND BLACK MARKETS
5. INCENTIVES TO MISREPRESENT
6. EXPERIMENT #3
7. THE CONVERGENCE PRINCIPLE
8. FIGHTING WITH NO INTENTION TO WIN

MOTIVATION

- MODEL FOR WAR'S INEFFICIENCY PUZZLE LACKS STRUCTURE.
  - BARGAINING RANGE HAS A LARGE NUMBER OF SETTLEMENT OFFERS THAT ARE MUTUALLY PREFERABLE TO WAR.
  - HOW DO WE DECIDE ON A PARTICULAR X?

Motivation

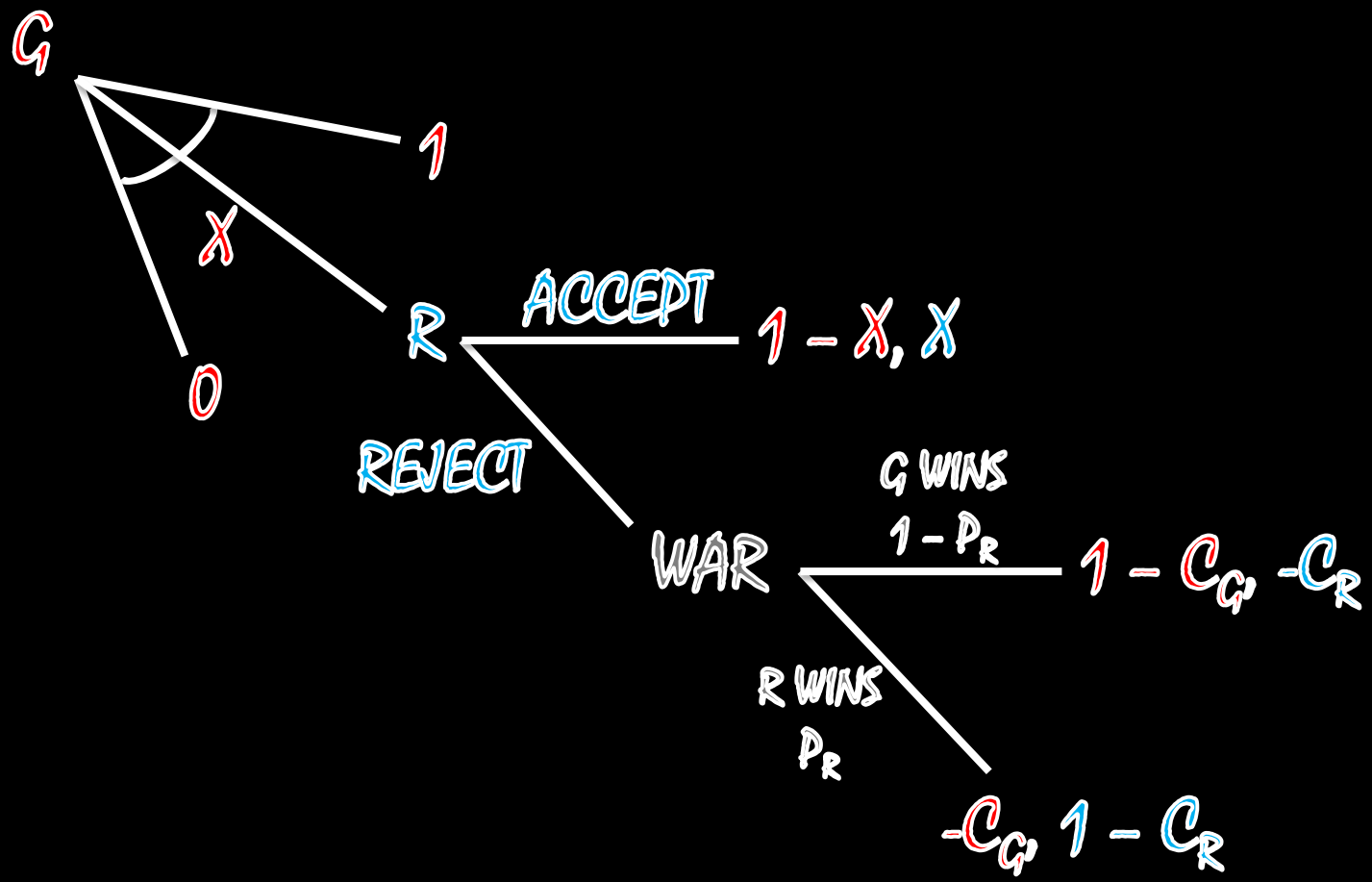
- We might not care if we only wanted to know whether war is possible or not.
  - But we might want to know more.
    - What happens when the bargaining environment becomes more complicated? Different information structure? Bargaining over time?

SOLUTION

- WE CAN STUDY NEGOTIATIONS.
- WE ARE GOING TO LOOK AT THE SIMPLEST FORM OF NEGOTIATION: THE ULTIMATUM GAME.
  - GOVERNMENT MAKES AN OFFER.
  - REBELS ACCEPT OR REJECT.

WHY SO SIMPLE?

- GOVERNMENTS TEND TO CONTROL THE STATUS QUO DISTRIBUTION. MAKES SENSE THAT THEY MAKE THE OFFERS.
- WE COULD DERIVE THE SIMILAR RESULTS WITH MORE COMPLICATED MODELS.


G
1
X
0
R
ACCEPT
1 - X, X
REJECT
WAR
G WINS
1 - P_R
1 - C_G, -C_R
R WINS
P_R
-C_G, 1 - C_R

HOW TO SOLVE?

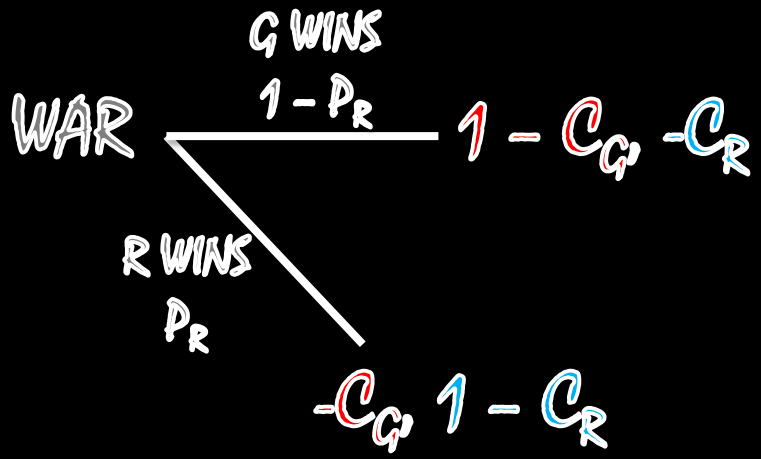
- TEMPTATION: START AT TOP AND WORK WAY DOWN.
  - FIRST MOVE SHOULD COME FIRST...RIGHT?

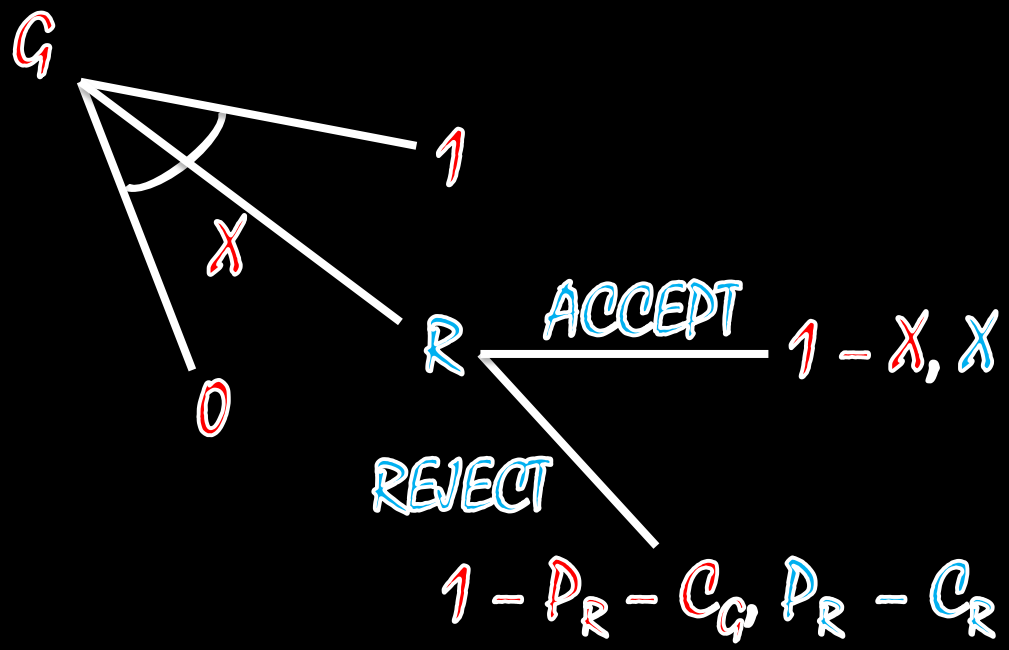
HOW TO SOLVE?

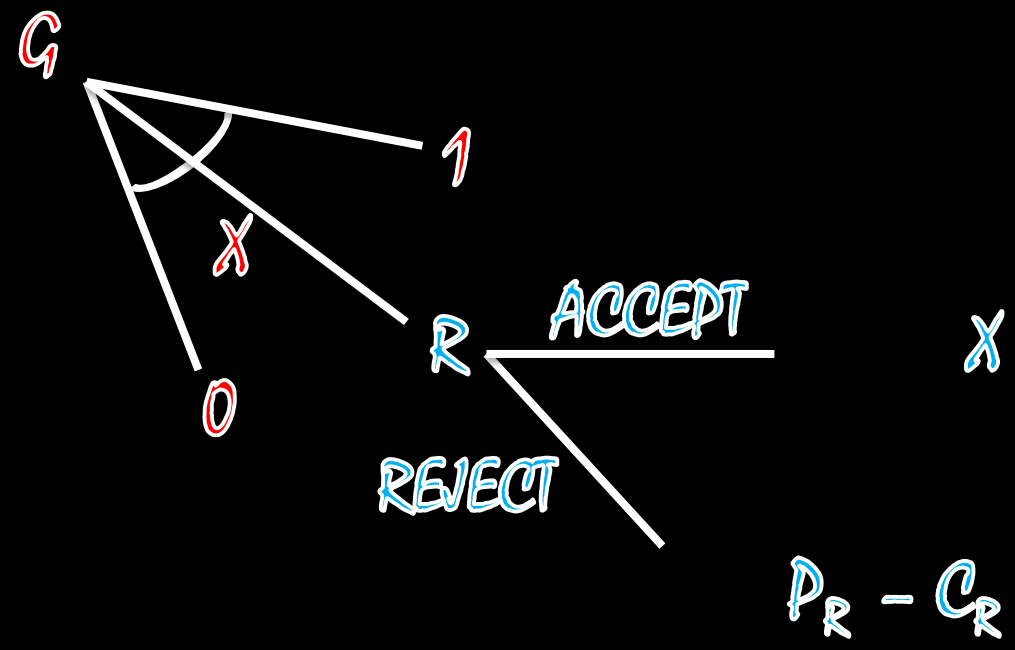
- TEMPTATION: START AT TOP AND WORK WAY DOWN.
  - FIRST MOVE SHOULD COME FIRST...RIGHT?
  - NO. WE NEED TO KNOW WHAT HAPPENS AT THE END BEFORE WE CAN FIGURE OUT WHAT HAPPENS AT THE BEGINNING.

HOW TO SOLVE?

- IT'S EASIER TO START AT THE END ANYWAY.
  - ACTOR MOVING LAST DOESN'T HAVE TO THEORIZE ABOUT OTHER STRATEGIC DECISIONS.
    - THEY HAVE ALREADY BEEN DONE. YOU ONLY NEED TO FOCUS ON THE PRESENT.

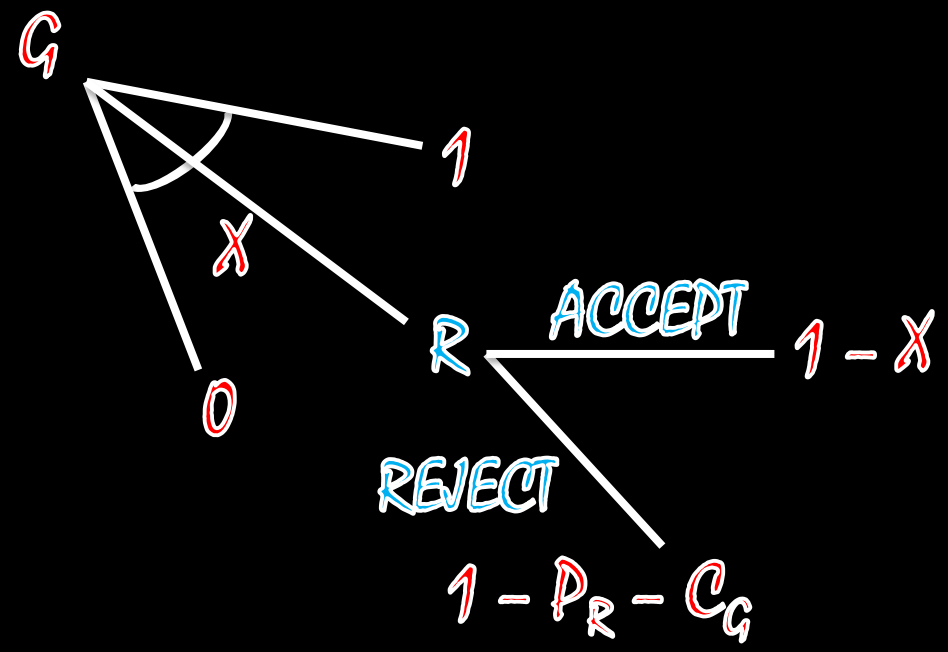

G WINS
1 - P_R
WAR
1 - C_G, -C_R
R WINS
P_R
-C_G, 1 - C_R


G
1
X
0
R
ACCEPT
1 - X, X
REJECT
1 - P_R - C_G, P_R - C_R



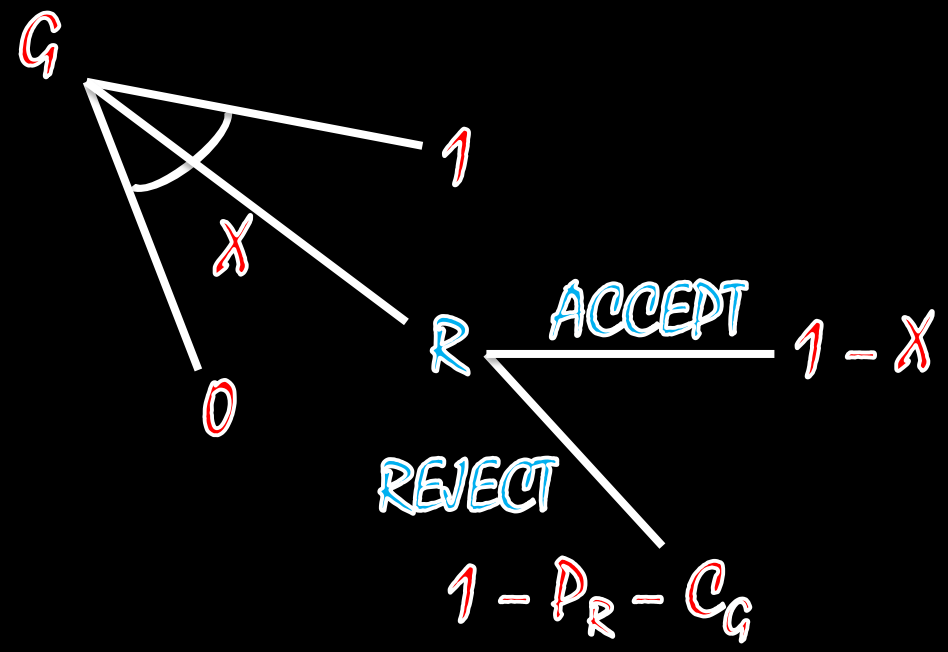
ACCEPT IF $X \geq P_R - C_R$

REJECT IF $X < P_R - C_R$



PAYOFF FOR OFFERING
$X \geq P_R - C_R$? $1 - X$

ACCEPT IF $X \geq P_R - C_R$
REJECT IF $X < P_R - C_R$



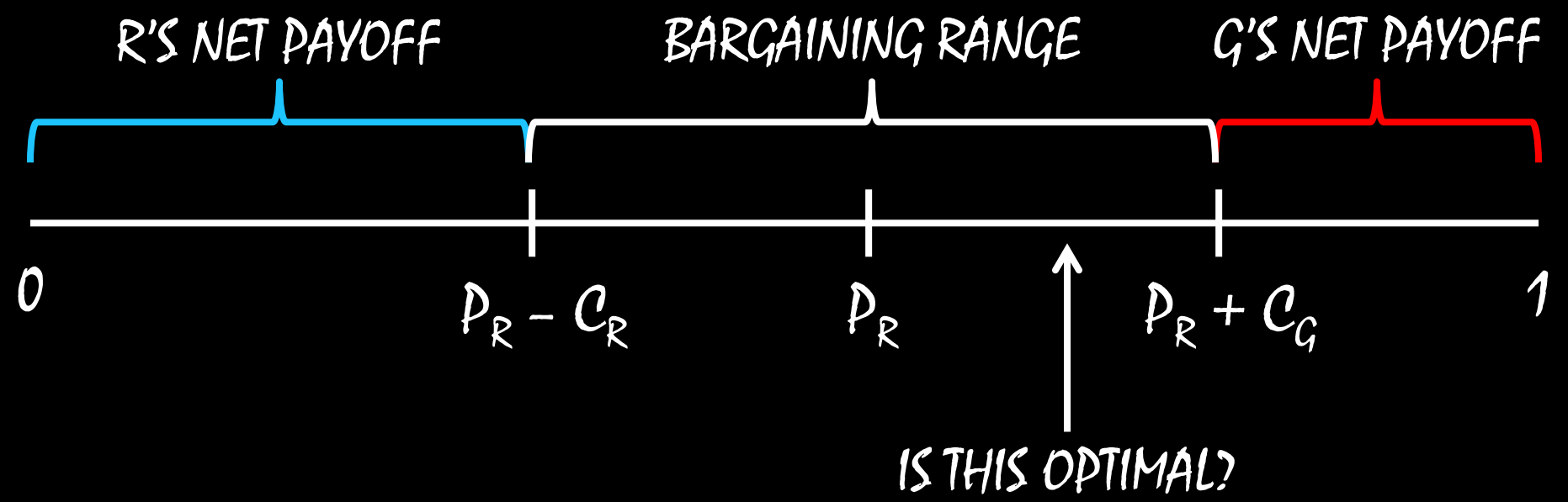
PAYOFF FOR OFFERING

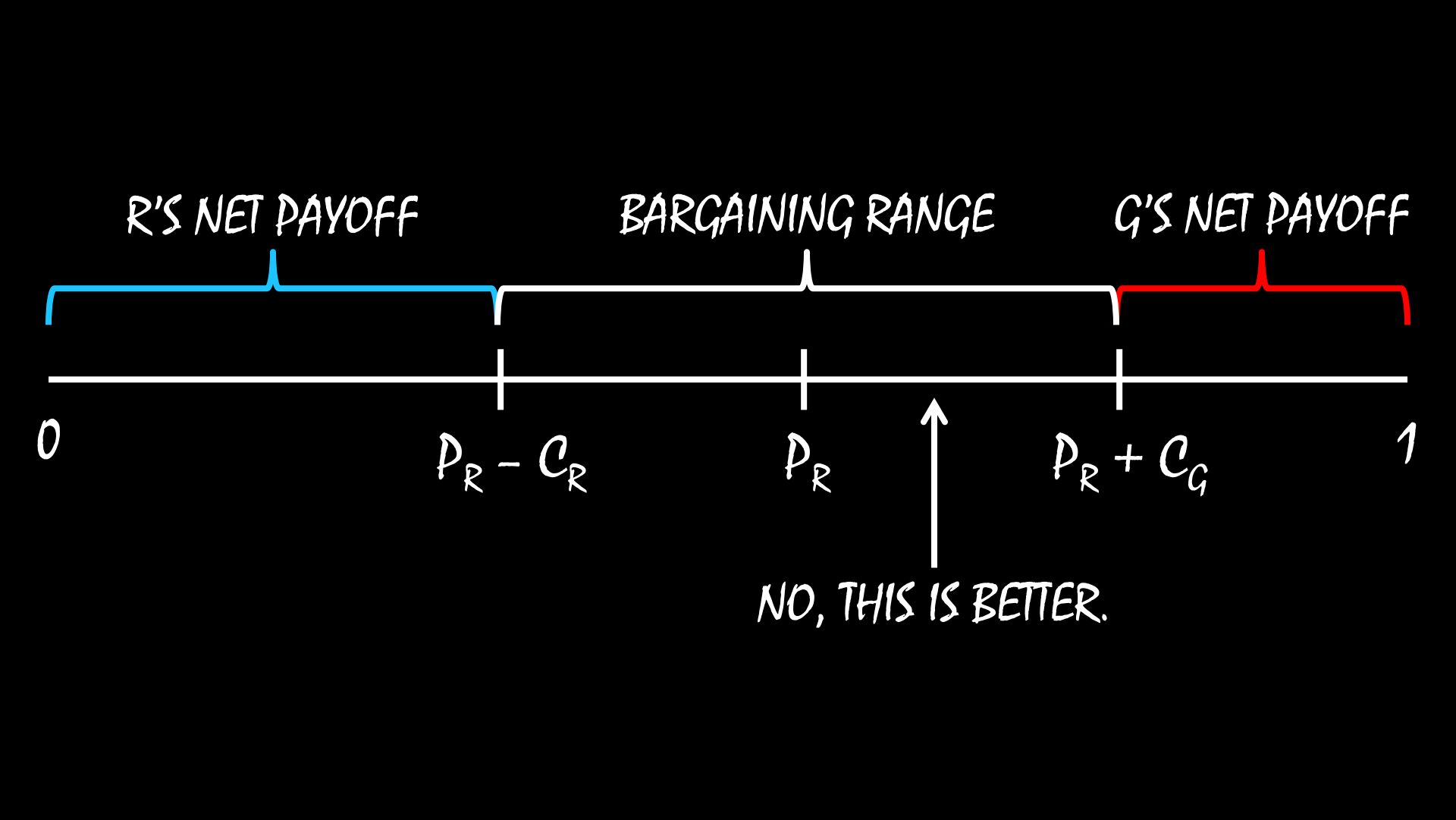
$X \geq P_R - C_R$? $1 - X$

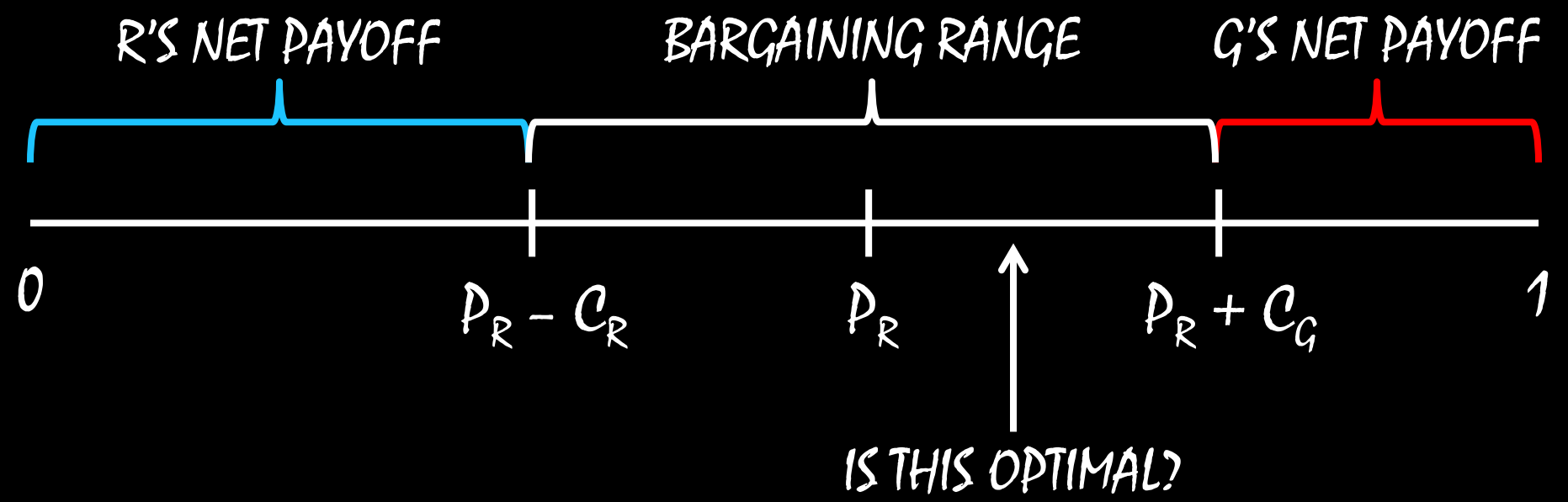
G'S BEST ACCEPTABLE OFFER: $X = P_R - C_R$

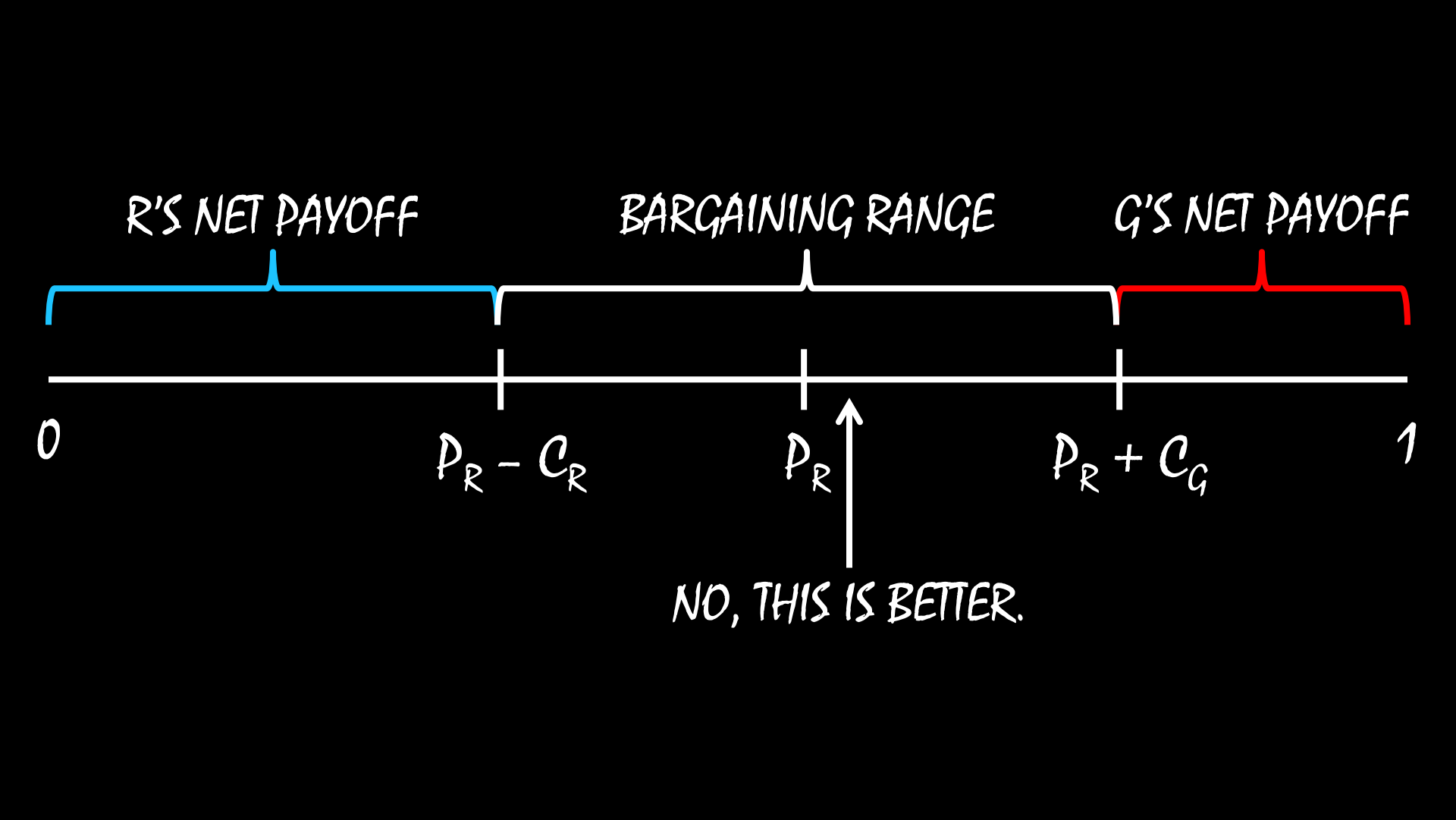
ACCEPT IF $X \geq P_R - C_R$

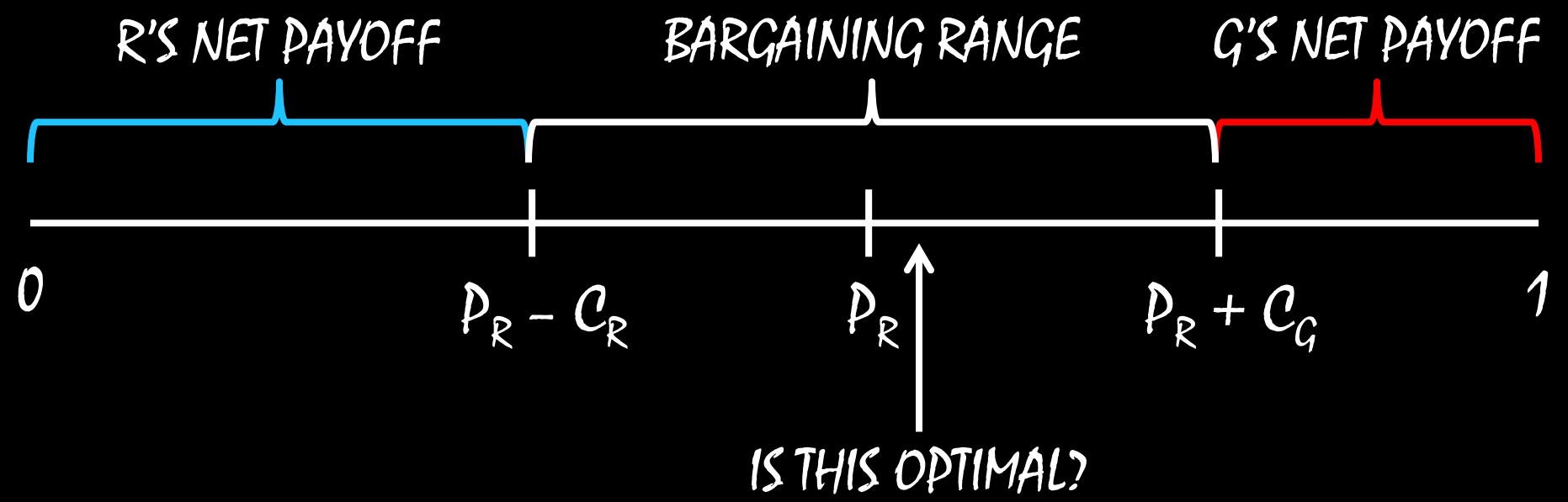
REJECT IF $X < P_R - C_R$

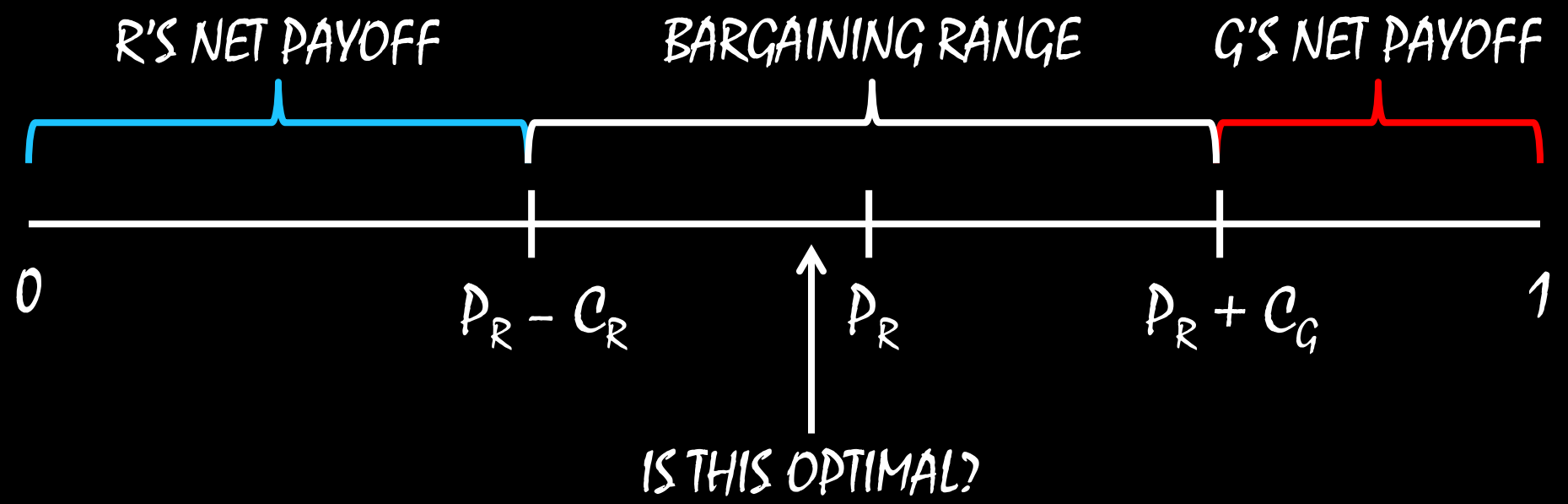

R'S NET PAYOFF
BARGAINING RANGE
G'S NET PAYOFF
0
$P_R - C_R$
P_R
$P_R + C_G$
1
IS THIS OPTIMAL?

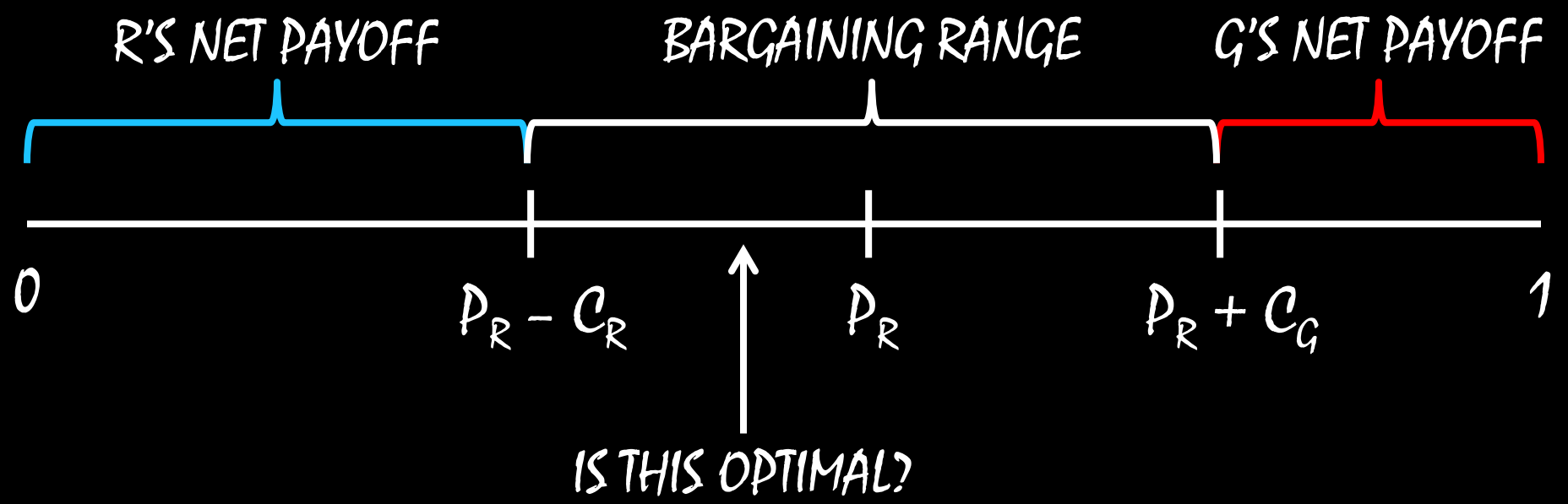

R'S NET PAYOFF
BARGAINING RANGE
G'S NET PAYOFF
0
$P_R - C_R$
P_R
$P_R + C_G$
1
NO, THIS IS BETTER.

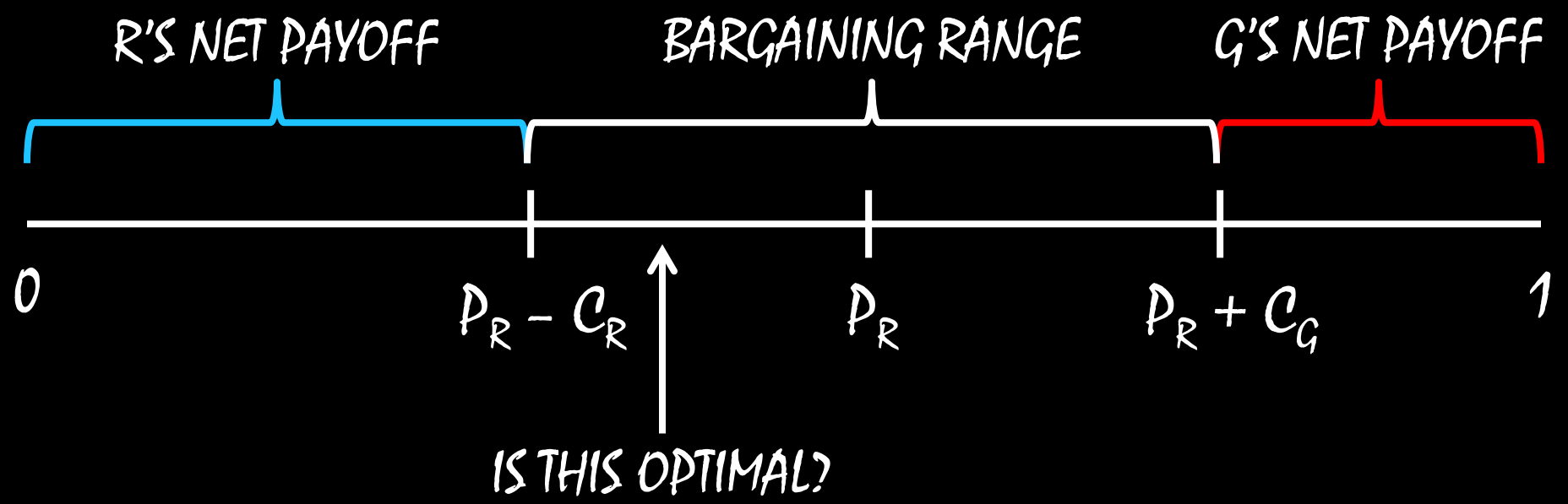

R'S NET PAYOFF
BARGAINING RANGE
G'S NET PAYOFF
0
$P_R - C_R$
P_R
$P_R + C_G$
1
IS THIS OPTIMAL?

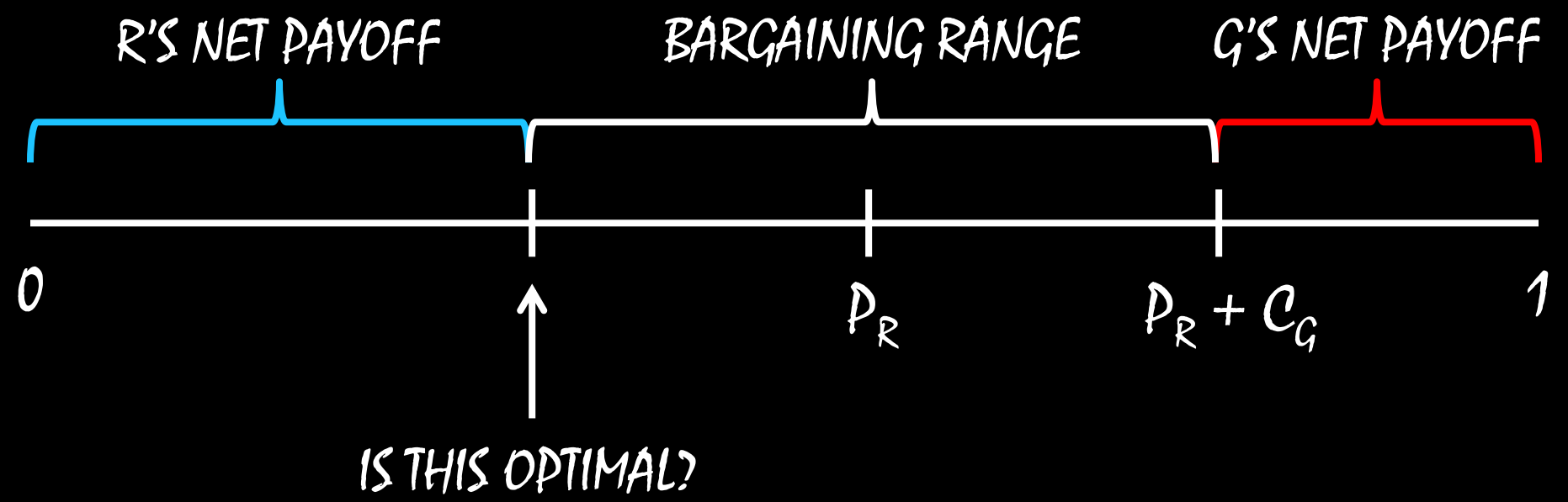

R'S NET PAYOFF
BARGAINING RANGE
G'S NET PAYOFF
0
$P_R - C_R$
P_R
$P_R + C_G$
1
NO, THIS IS BETTER.

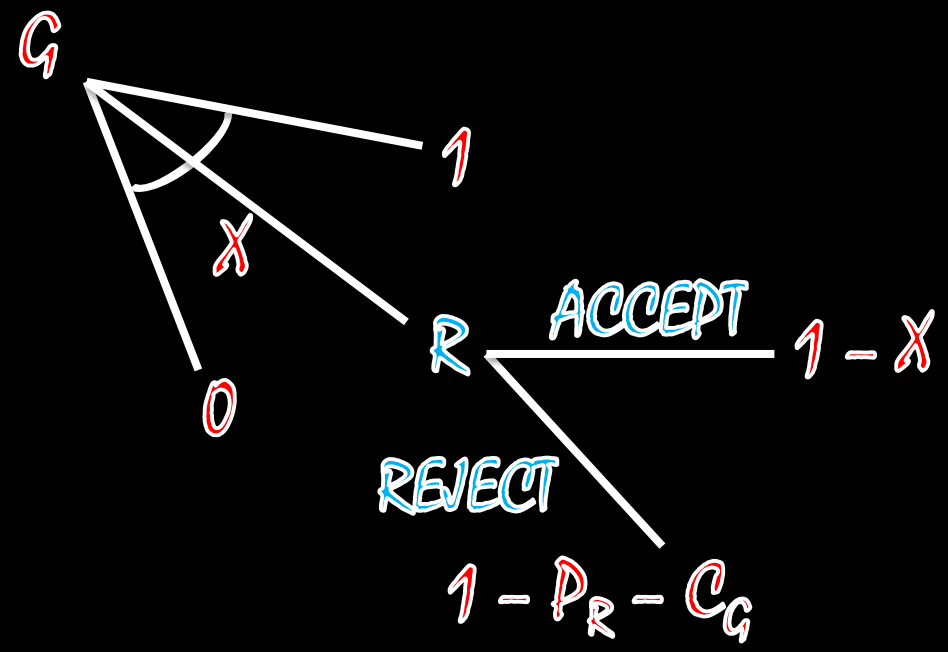

R'S NET PAYOFF
BARGAINING RANGE
G'S NET PAYOFF
0
$P_R - C_R$
P_R
$P_R + C_G$
1
IS THIS OPTIMAL?


R'S NET PAYOFF
BARGAINING RANGE
G'S NET PAYOFF
0
$P_R - C_R$
P_R
$P_R + C_G$
1
IS THIS OPTIMAL?


R'S NET PAYOFF
BARGAINING RANGE
G'S NET PAYOFF
0
$P_R - C_R$
P_R
$P_R + C_G$
1
IS THIS OPTIMAL?


R'S NET PAYOFF
BARGAINING RANGE
G'S NET PAYOFF
0
$P_R - C_R$
P_R
$P_R + C_G$
1
IS THIS OPTIMAL?


R'S NET PAYOFF
BARGAINING RANGE
G'S NET PAYOFF
0
P_R
$P_R + C_G$
1
IS THIS OPTIMAL?

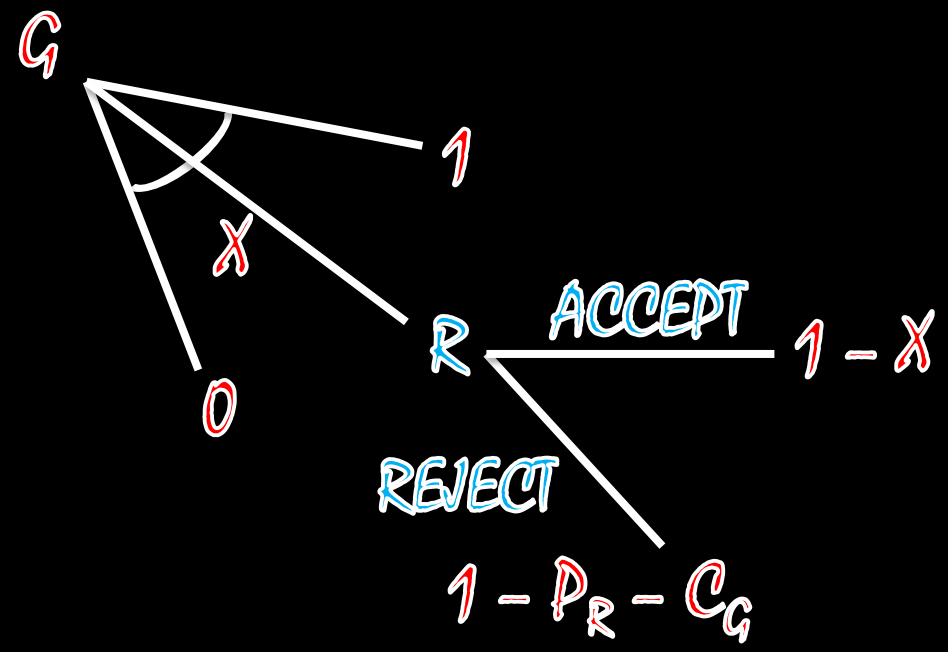


PAYOFF FOR OFFERING

$X = P_R - C_R \Rightarrow 1 - P_R + C_R$

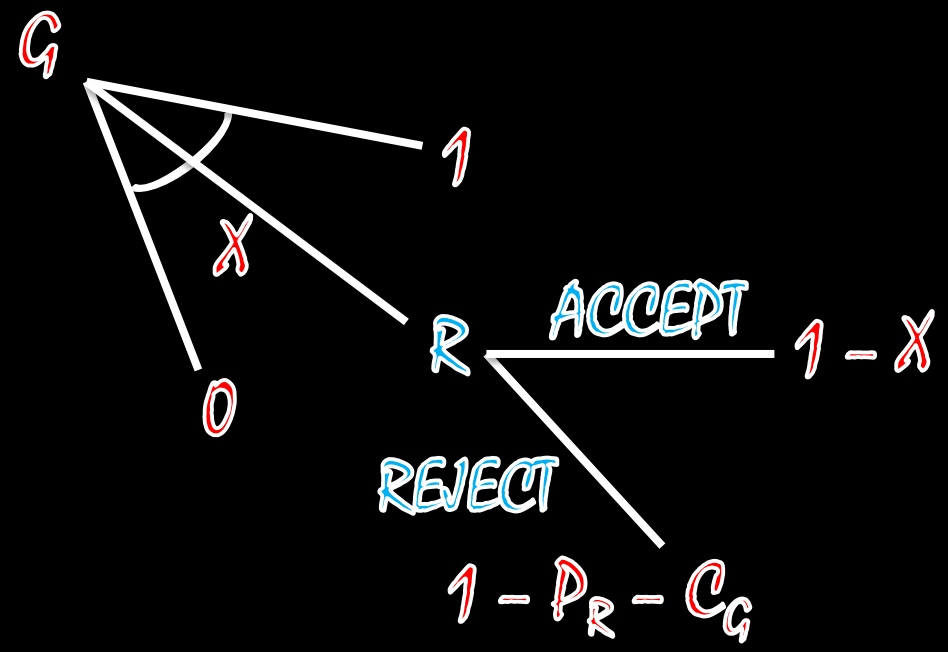
ACCEPT IF $X \geq P_R - C_R$

REJECT IF $X < P_R - C_R$



PAYOFF FOR OFFERING
$X < P_R - C_R$?

ACCEPT IF $X \geq P_R - C_R$
REJECT IF $X < P_R - C_R$

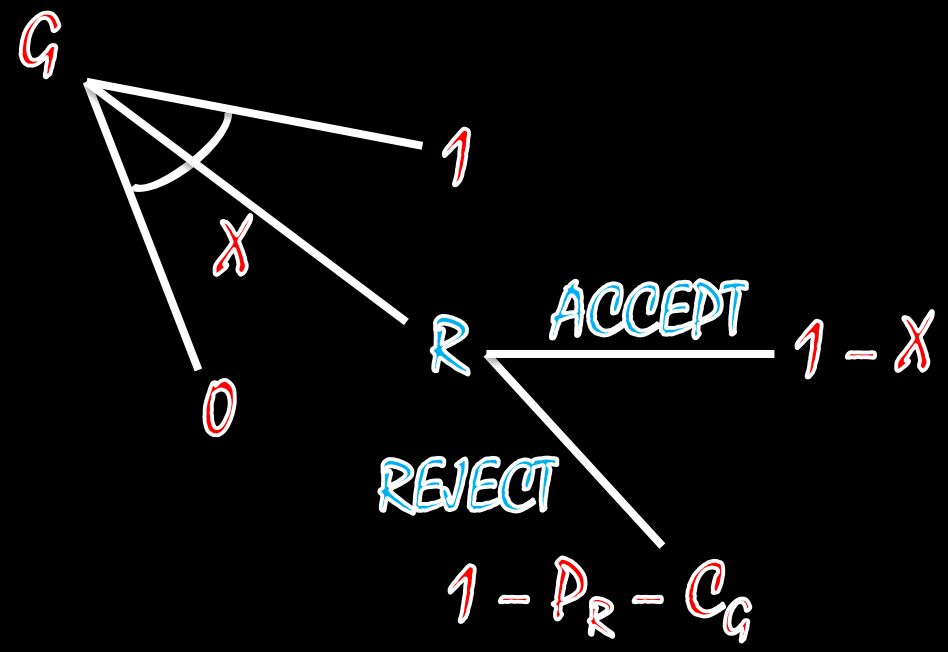


PAYOFF FOR OFFERING

$X < P_R - C_R \Rightarrow 1 - P_R - C_G$

ACCEPT IF $X \geq P_R - C_R$

REJECT IF $X < P_R - C_R$



PAYOFF FOR OFFERING

$X < P_R - C_R \Rightarrow 1 - P_R - C_G$

$X = P_R - C_R \Rightarrow 1 - P_R + C_R$

ACCEPT IF $X \geq P_R - C_R$

REJECT IF $X < P_R - C_R$