Conflicts that Leave Something to Chance

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March 31, 2025

The Puzzle: Understanding Nuclear Risks and Deterrence

- How did 10,000 NATO troops deter the USSR from invading Berlin?

East and West Germany, 1949-1989

The Puzzle: Understanding Nuclear Risks and Deterrence

- The advent of nuclear weapons redefined deterrence.
- States can't credibly threaten strategic nuclear use against capable opponents.
  - West couldn't say "If you seize Berlin, we'll nuke Moscow" (MAD).
- States can engage in conventional conflict, raising nuclear risks.
  - West could say "We have troops in West Berlin, they will fight back, and things may get out of hand."

East and West Germany, 1949-1989

The Puzzle: Understanding Nuclear Risks and Deterrence

- *"One does not have to be able to win a local military engagement to make the threat of it effective. Being able to lose a local war in a dangerous and provocative manner may make the risk—not the sure consequence, but the possibility of this act—outweigh the apparent gains to the other side."*
  -Thomas Schelling on Berlin, 1966.

- Nuclear risks supported deterrence in Berlin.

Nuclear detonation, Mururoa Atoll, 1971

The Puzzle: Understanding Nuclear Risks and Deterrence

- Nuclear risks supported deterrence in Berlin; why not use them in Vietnam?
- In South Vietnam, the US could have:
  - Repositioned nuclear weapons.
  - Issued nuclear threats.
  - Used tactical nuclear weapons.
- None were seriously attempted by US to re-establish deterrence in Vietnam.
- Why were nuclear escalation risks avoided in the Vietnam War?

South Vietnam, 1965

The Puzzle: Understanding Nuclear Risks and Deterrence

- Nuclear risks supported deterrence in Berlin; why not use them for "gray zone conflict" (GZC)?
- GZC: low-level conflict or competition aimed at reshaping global status quo.
  - Chinese patrols off Senkaku Islands.
- Most common policy prescription is to engage at lowest possible levels.[a]
  - Essentially, to establish deterrence, use less force.
- Why are nuclear escalation risks avoided in deterring modern threats?

Senkaku/Diaoyu Islands

[a] Mazarr, 2015; Echevarria, 2016; O'Hanlon, 2019; Belo, 2020; Cooper, 2024; Herlevi & Waidelich, 2024.

Answering the Puzzle

- **Nuclear risks affect both my opponent and me.**
- Deterrence requires both:
  - (a) A Defender who is willing to fight.
  - (b) A Challenger who is unwilling to fight.
- Sometimes, Defender's resolve is not in question.
  - W. Berlin: NATO would fight if invaded.
  - Nuclear risks raised costs on USSR, complementing defender's force posture & aiding deterrence.
- Sometimes, Defender's resolve is in question.
  - Vietnam: Nuclear risks would make US less willing to fight an unpopular war, undermining deterrence.
  - Senkaku Islands: defender is most willing to engage when nuclear escalation risks are minimized.

This Paper's Contribution

Key Question:

When do nuclear escalation risks support deterrence?

Answer:

If both Challenger & Defender place a...

- High value on the asset, then nuclear risks support deterrence.
- Low value on the asset, then nuclear risks undermine deterrence.

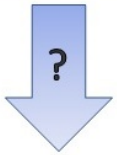
- What's new? A new perspective on resolve & nuclear risks.
  - Moving beyond "more resolved actors want to leverage nuclear risks."
  - The interactions of each side's resolve shapes whether nuclear risks aid or undermine conventional forces in a crisis.
  - Ex. Nuclear risks worked against Soviet Union for West Berlin.
- What's also new? Towards a unified theory of nuclear deterrence.
  - Do nuclear risks aid or undermine deterrence (Schelling v. Snyder)?
  - This theory can integrate & rationalize both outcomes.

Theoretical Framing

?

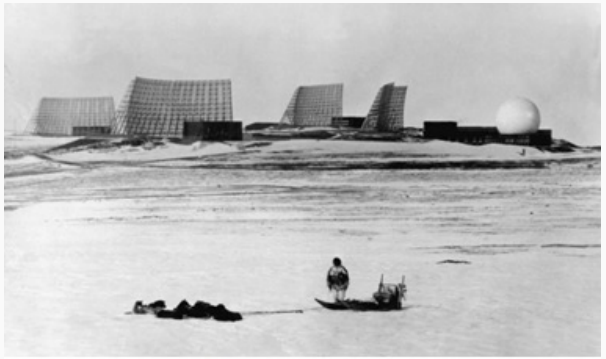
When do Conflicts that Leave Something to Chance Occur?

- **Crises occur between nuclear-armed states.**
  - Both sides must have second-strike capabilities.
  - Not Quemoy Crisis (1958).
- **Crises over non-existential issues.**
  - No incentives to launch a strategic first strike.
  - Not US forces about to seize Pyongyang.
- **Conflicts carry a background risk of catastrophic nuclear escalation.**
  - Conflicts end conventionally, or w/ nuclear exchange.
- **Examples:** Vietnam War, Sino-Soviet border conflict, Soviets in Afghanistan, Kargil War, War in Ukraine, & wars that could have occurred (W. Berlin).



How do Conflicts Leave Something to Chance?

- Conventional conflicts have nuclear risks.[a]
  - Accidental launch.
  - Inadvertent escalation.
- Even well-engineered systems are fallible.
  - 1960 Thule Air Base, Greenland Incident.
  - 1961 Goldsboro, NC B-52 Incident.
  - 1983 Soviet false alarm.
- Conflict $\rightarrow$ stresses a complex system & procedural removal of safeguards.

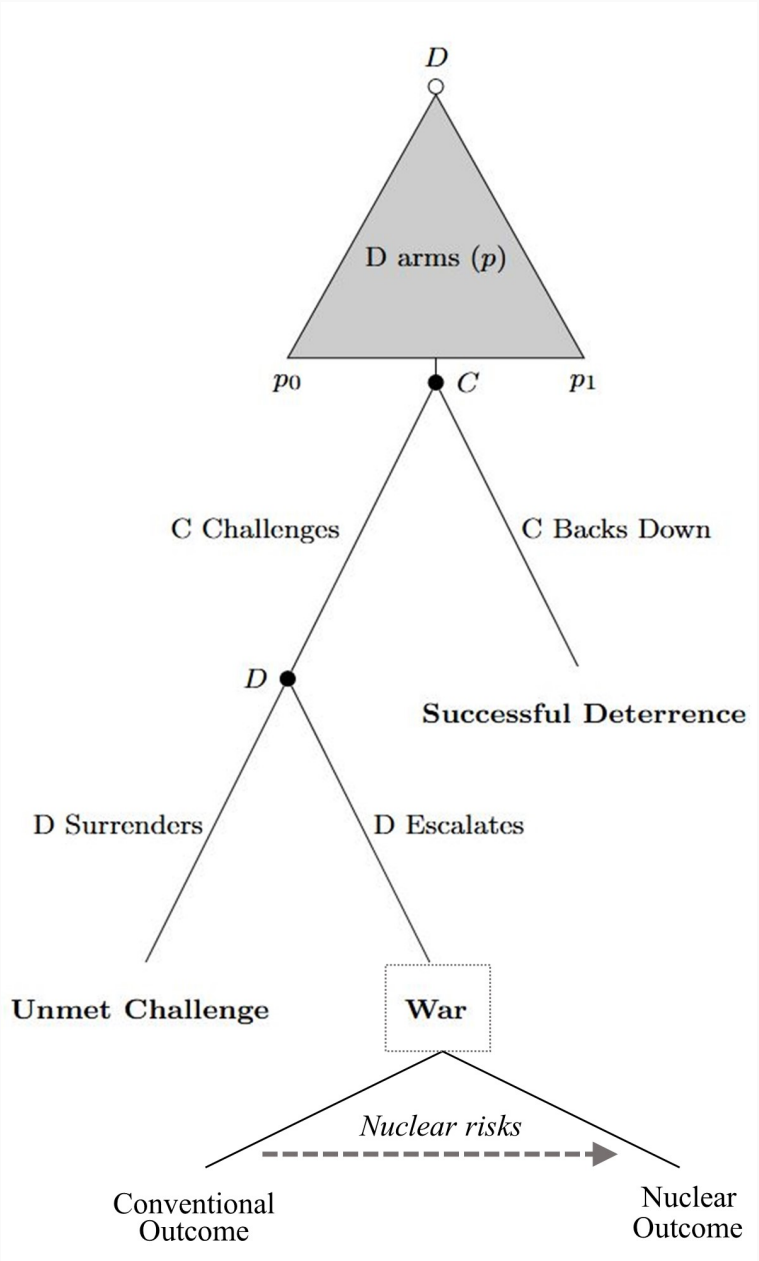


NORAD Base, Greenland;
Goldsboro, NC; Stanislav Petrov

[a] Sagan, 1985, 1994; Perrow, 2011; Posen, 2014

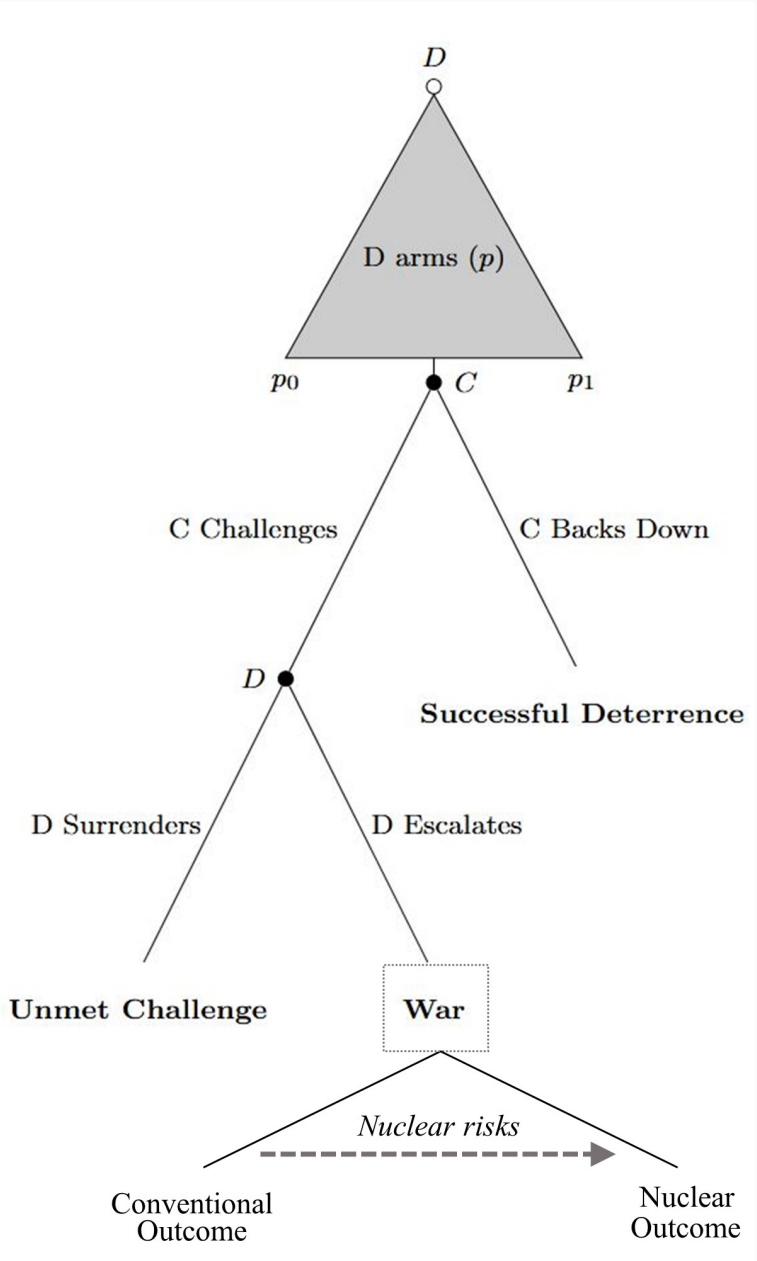
Theoretical Framework: Strategic Interactions

- Two actors:
  Challenger (C) & Defender (D).
  - Both value the asset but are unwilling to launch first strike.
- Classic deterrence game form:
  - D selects force posture (p),
  - C challenges or not,
  - D escalates or not.
- *War* is a "conflict that leaves something to chance."
  - Ends conventionally, or with strategic nuclear exchange.
  - Arbitrated by nuclear risks (exogenous or endogenous).

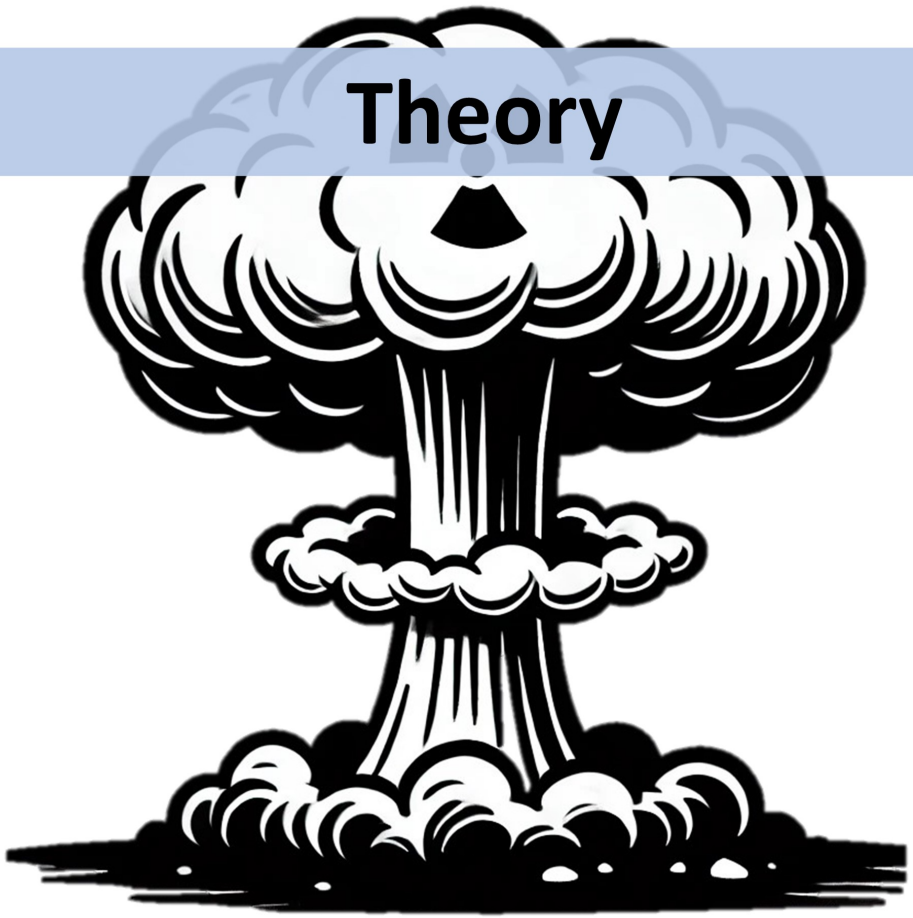


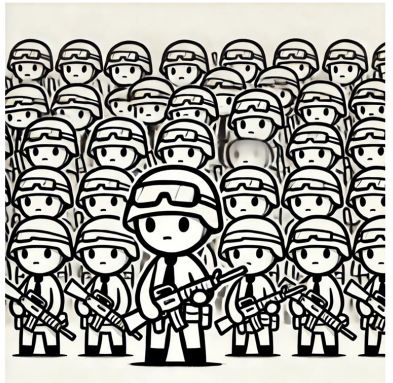
Theoretical Framework: Strategic Interactions

- An *Unmet Challenge* is the Defender giving up.
- "Deterrence" is discouraging an adversary from undertaking an undesirable action.
- For a *Successful Deterrence* outcome, two things must happen:
  - Defender is willing to fight.
  - Challenger is unwilling to fight.
- What factors influence deterrence?
  - D's higher conventional force posture strengthens deterrence.
  - Nuclear risks affect both C & D.



Theory





Before Proceeding...

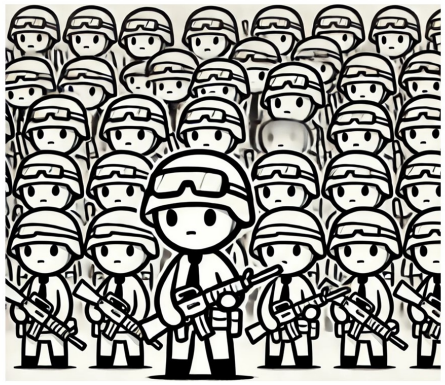
Key Question:

When do nuclear escalation risks support deterrence?

- Let's discuss deterrence first, nuclear risks second.
- For now, treat nuclear risks as fixed & in the background.

Defender's Conventional Force Posture

Defender's Conventional Force Posture



Low
(p_0)

High
(p_1)

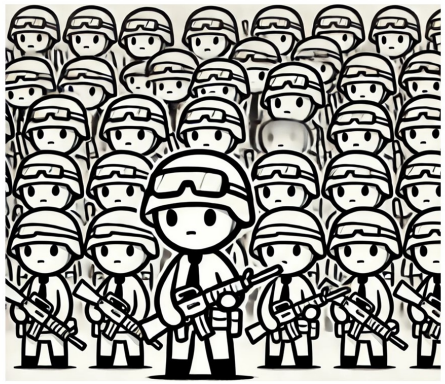
→ **Defender's conventional force posture (p) increases** →

Defender's Conventional Force Posture

→ Defender more likely to win a conventional conflict →

→ Challenger less likely to win a conventional conflict →

→ Defender incurs greater costs to sustain force posture →



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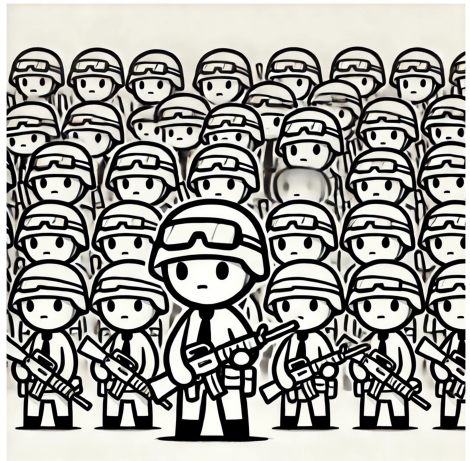
What's Needed for Deterrence?

- Recall deterrence holds when both:
  - (a) Defender (D) willing to fight &
  - (b) Challenger (C) unwilling to fight.
- When is (a) satisfied?
  - If D arms enough, then D is likely enough to win.
  - Call this p^D: D's willingness to fight threshold.
- When is (b) satisfied?
  - If D arms enough, then C is unlikely enough to win.
  - Call this p^C: C's unwillingness to fight threshold.
- These thresholds may be different.
  - Each side has its own cost-benefit analysis.
  - Both are required to deter, but one will be "critical."



Defender's force posture decision

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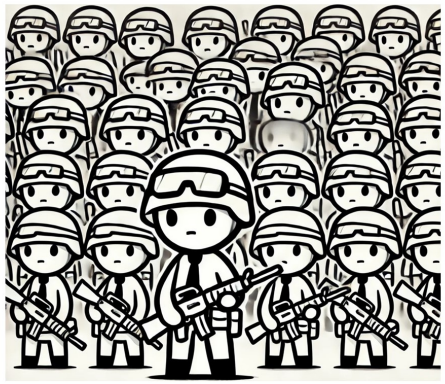

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Deterrence Thresholds

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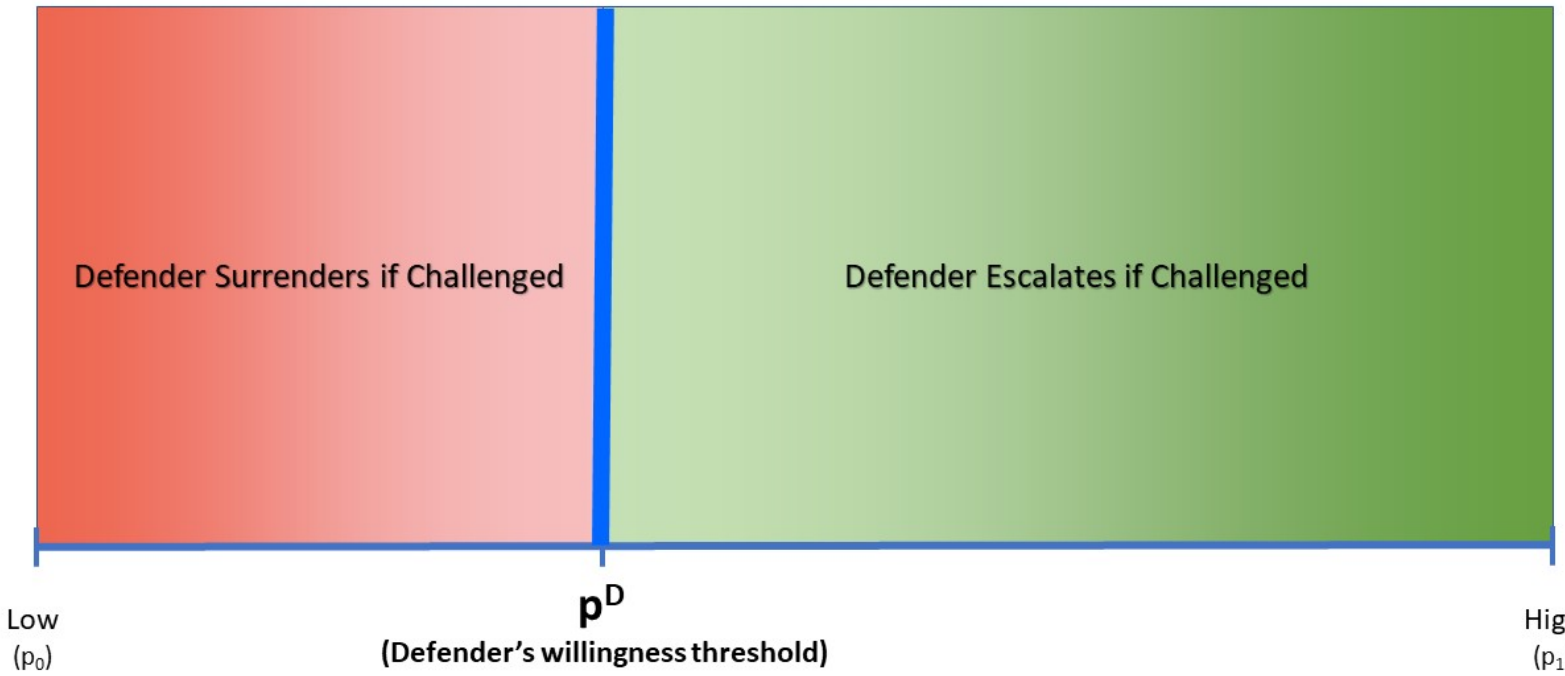
Deterrence Thresholds



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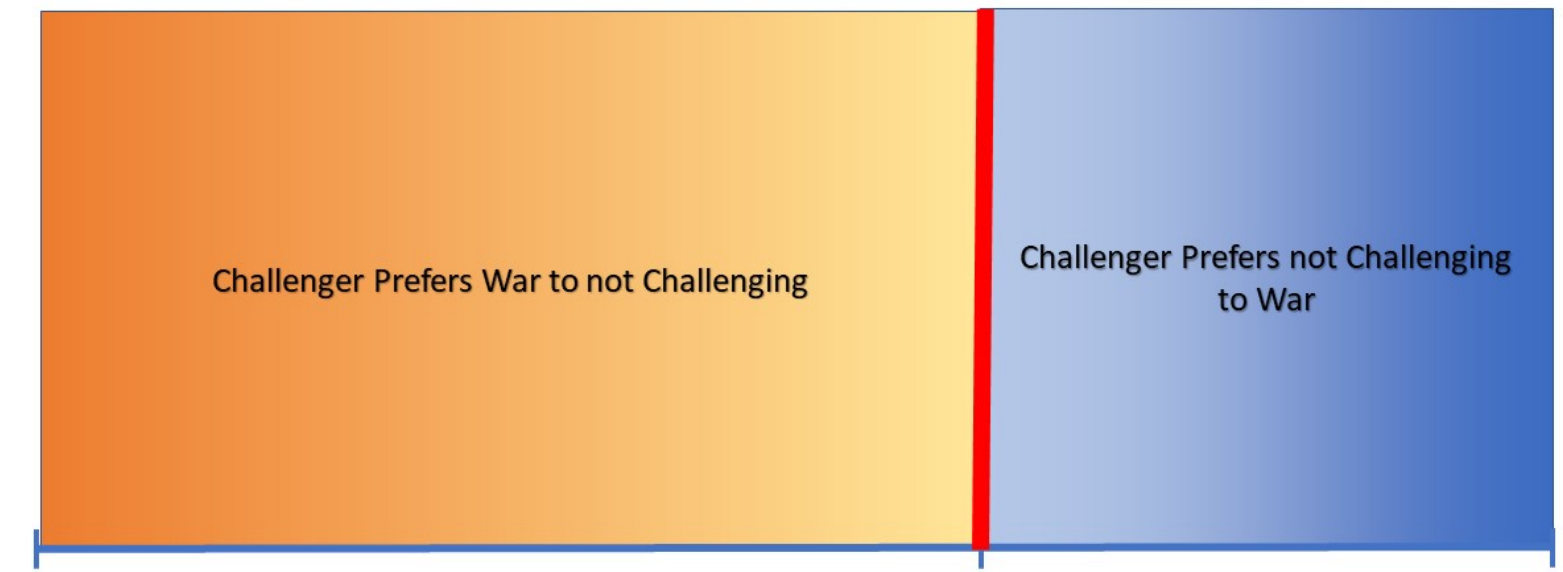

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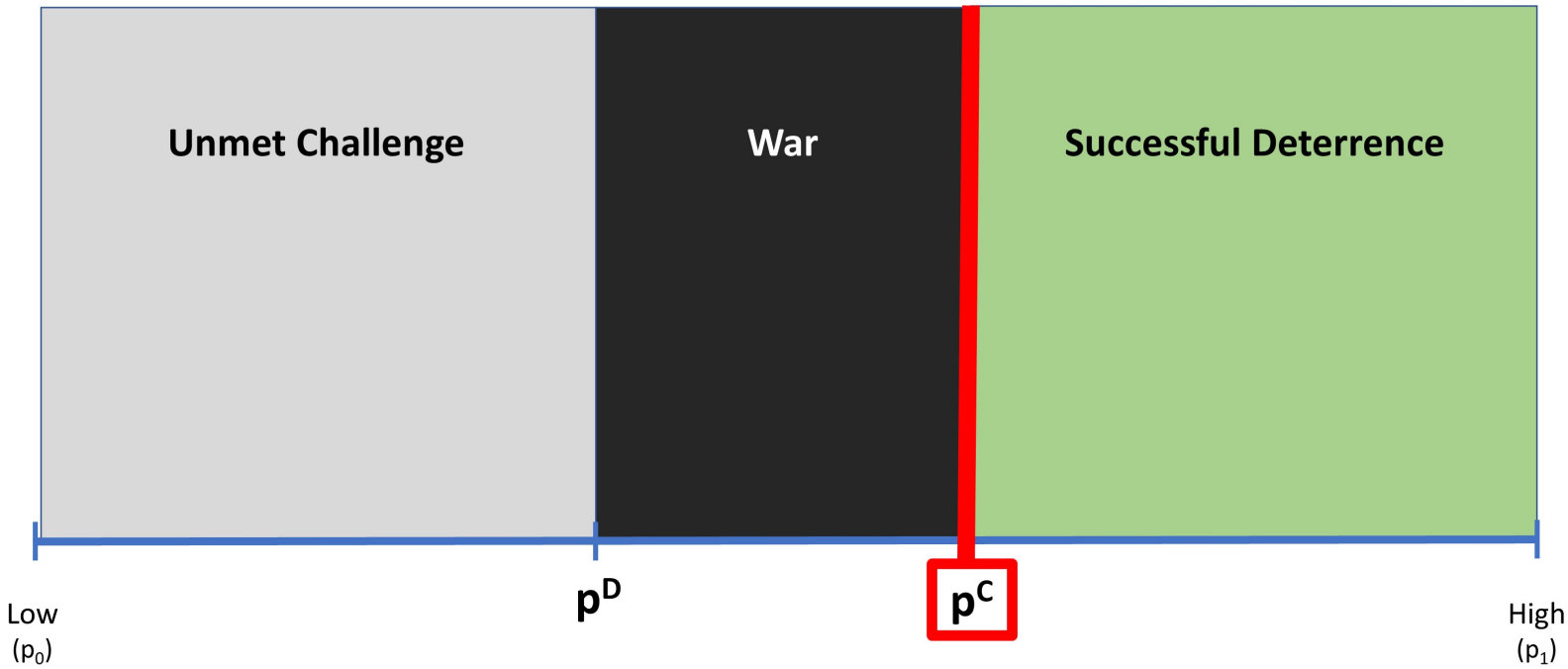
Deterrence Thresholds

Case 1: For Deterrence, Challenger's Unwillingness to Fight Critical



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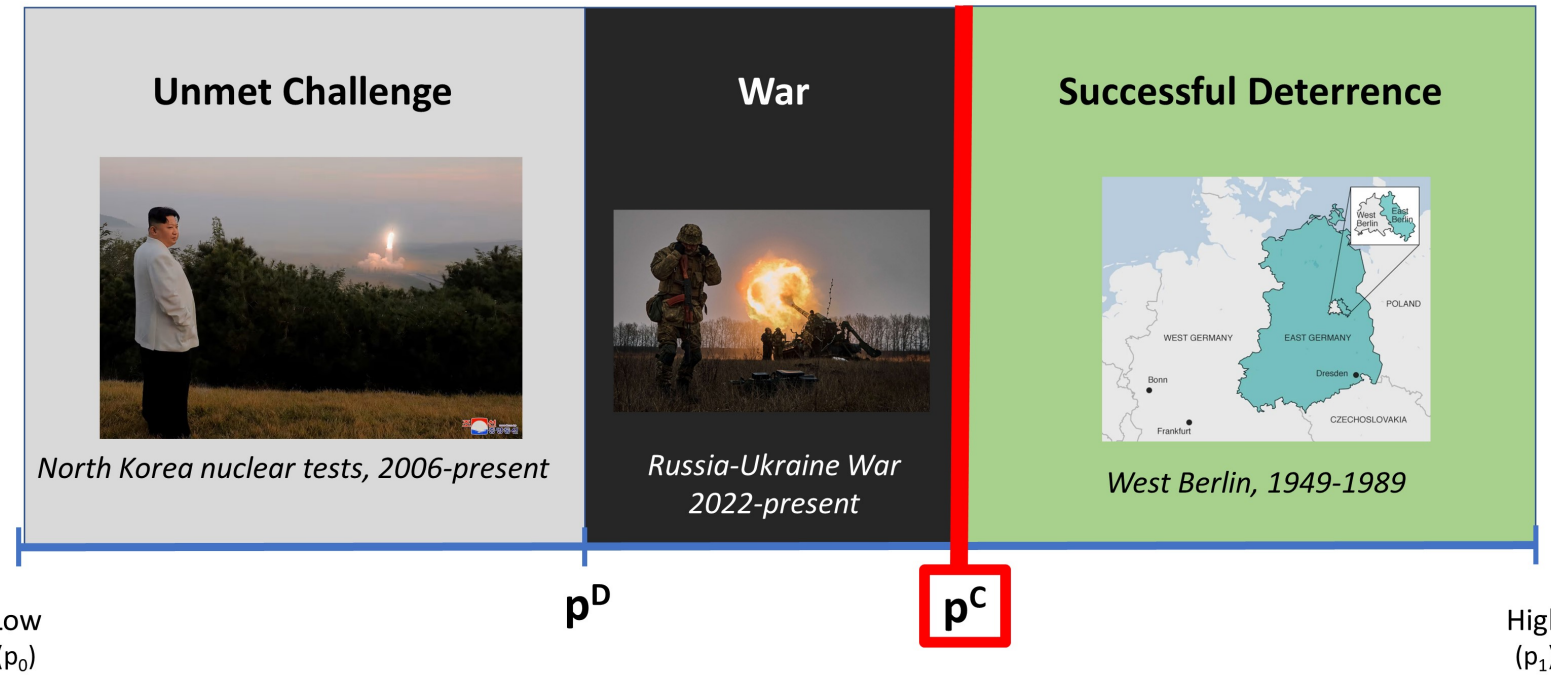

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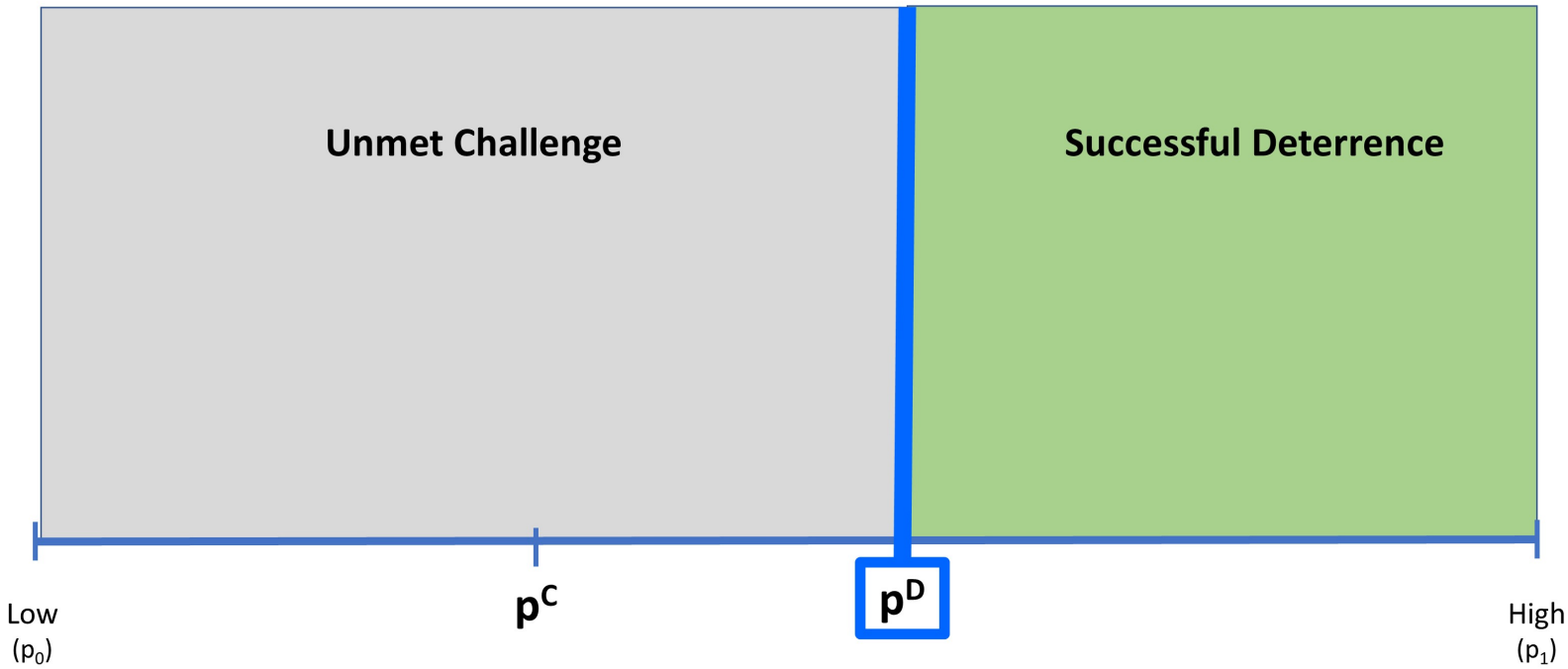
Deterrence Thresholds

Case 2: For Deterrence, Defender's Willingness to Fight Critical



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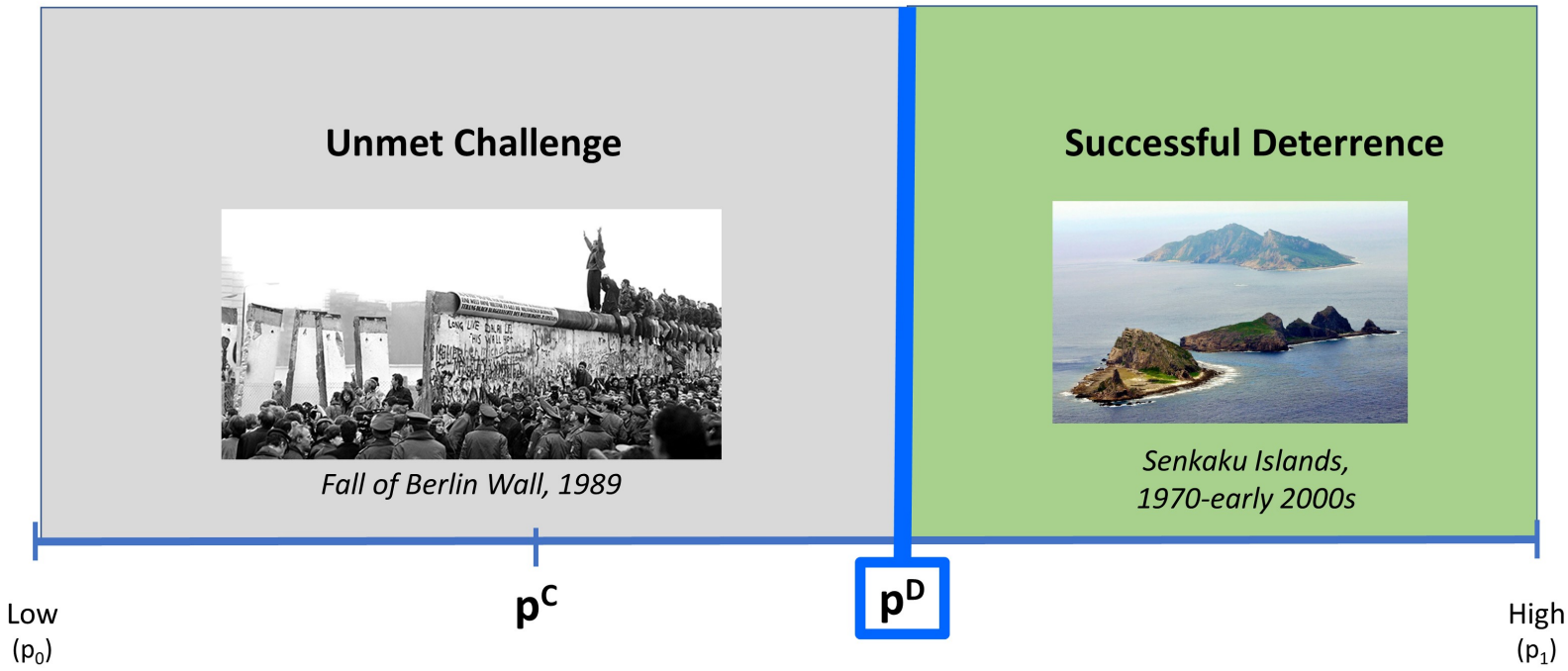

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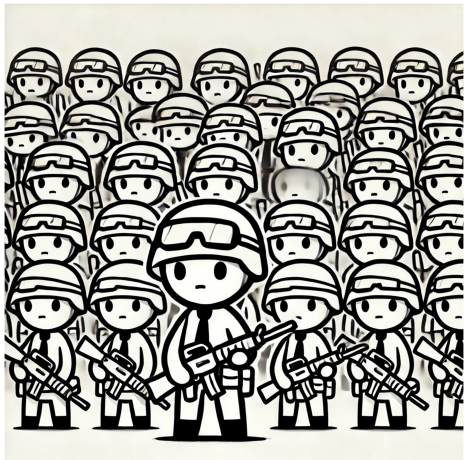
What Affects a State's Willingness to Fight?

- Deterrence holds when both:
  - (a) Defender willing to fight &
  - (b) Challenger unwilling to fight.
- One component: how important is the asset?
- Suppose both C & D place *high* value on the asset:
  - Both sides will fight at a disadvantage.
    - Defender can arm less for (a).
    - Defender must arm more for (b).
  - Here Challenger's unwillingness to fight is critical.
- But, if both C & D place *low* value on the asset:
  - Both sides must do well to be willing to fight.
  - Here Defender's willingness to fight is critical.



Defender's force posture decision

Examples of High or Low Value Assets

- **West Berlin (1949-89):** a highly valued asset.
  - Defender: NATO; Challenger: Warsaw Pact.
  - Symbol of US commitment to Western Europe.
  - Soviet control of Berlin viewed as critical step to unifying Germany.
- **Senkaku Islands (1970-2000s):** a lower value asset.
  - Defender: US & Japan; Challenger: China
  - Uninhabited small islands close to Taiwan.
  - Administered by Japan (1971-Present), with US defense commitments.
  - Offshore waters have fish, gas, trade routes.
  - Retired Vice Admiral Yoji Koda: "[they are] just junk rocks. No strategic value." (Hall, 2019).

West Berlin;
Senkaku Islands

Which Threshold is Critical?

When Challenger and Defender Place High Value on Asset…

→ *Defender's conventional force posture (p) increases* →
→ *Defender more likely to win a conventional conflict* →
→ *Defender incurs greater costs* →

Which Threshold is Critical?

When Challenger and Defender Place High Value on Asset…

Defender will fight at disadvantage

Challenger will fight at disadvantage

Low (p_0) High (p_1)

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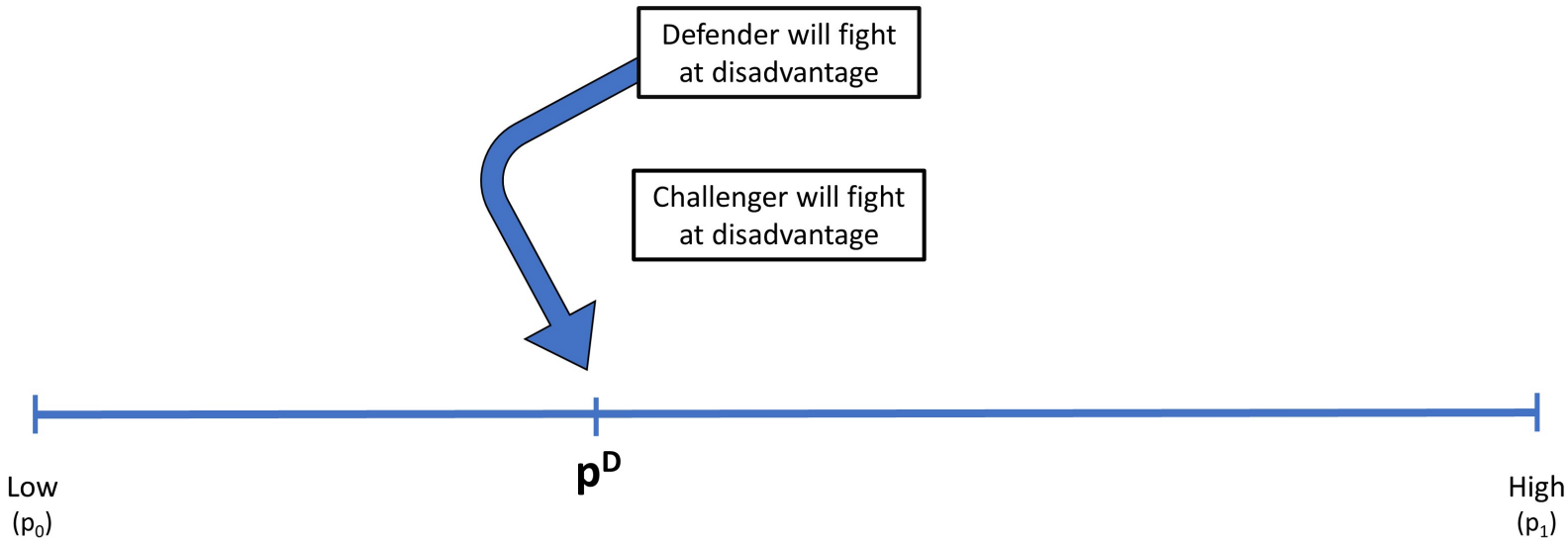

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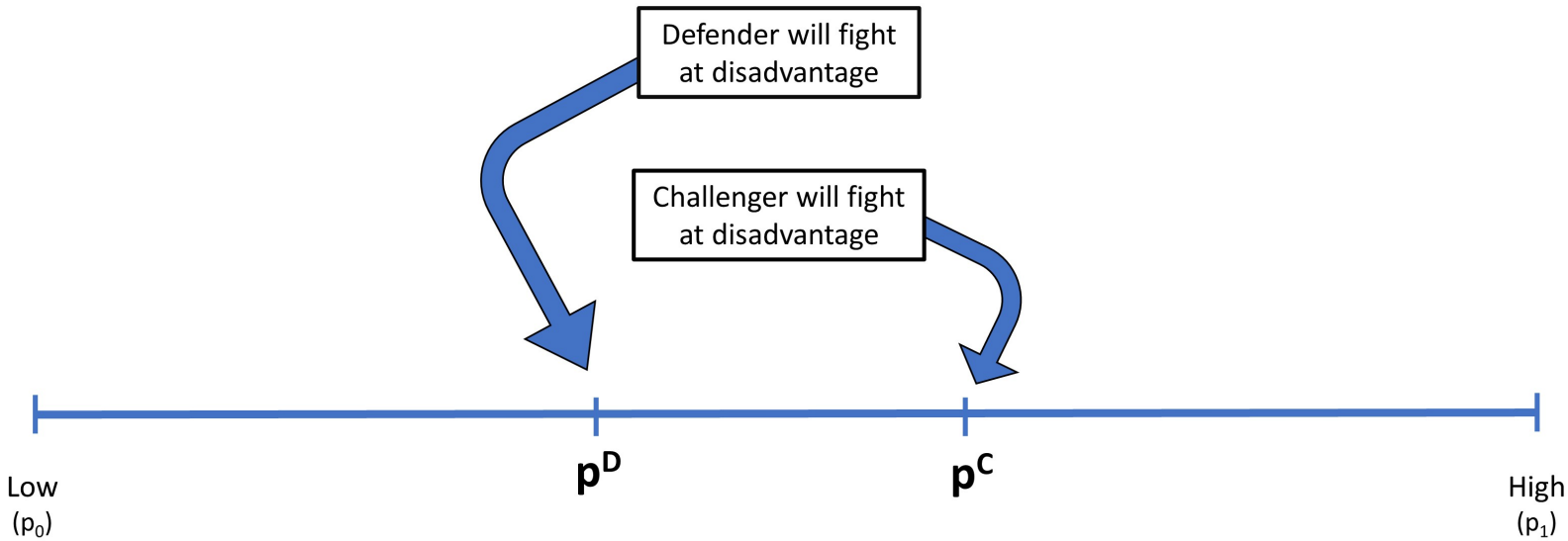

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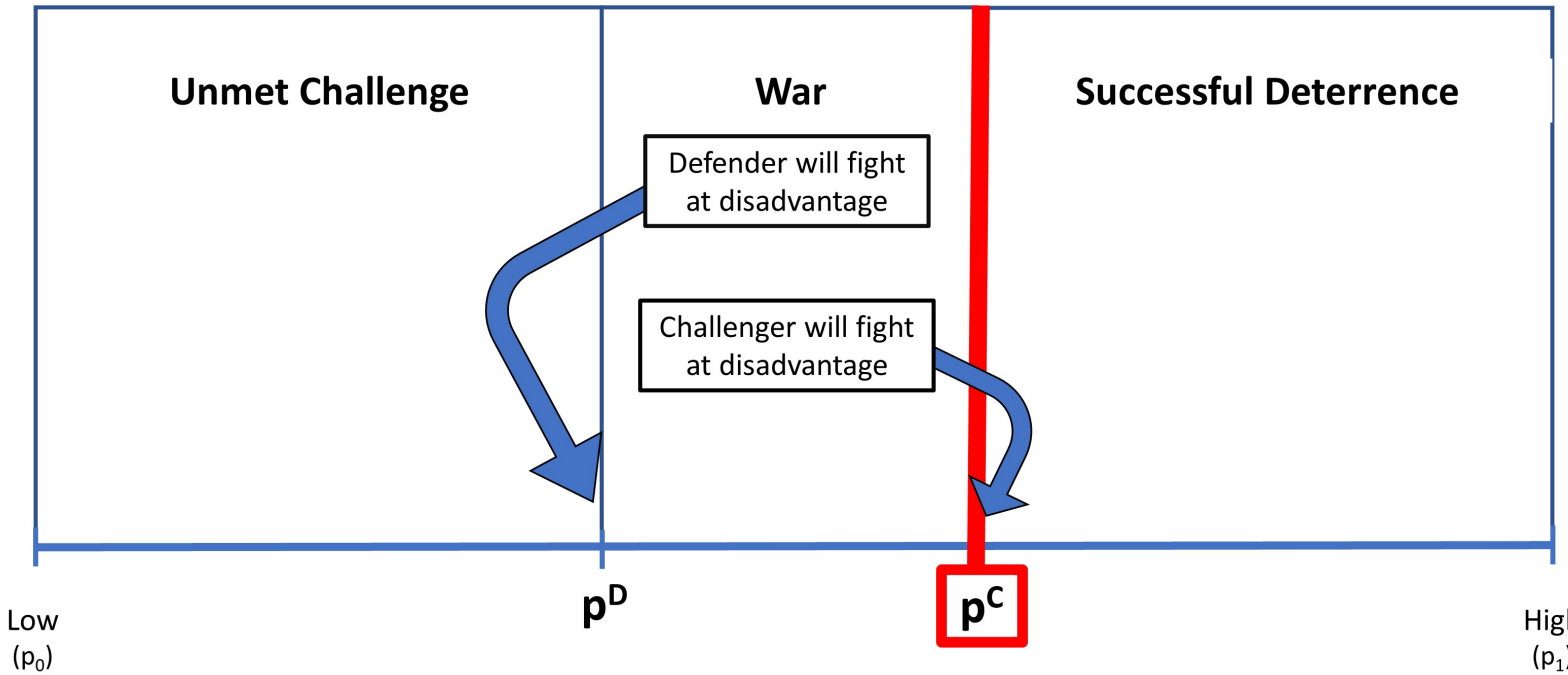
Then for Deterrence, Challenger's Unwillingness to Fight Critical



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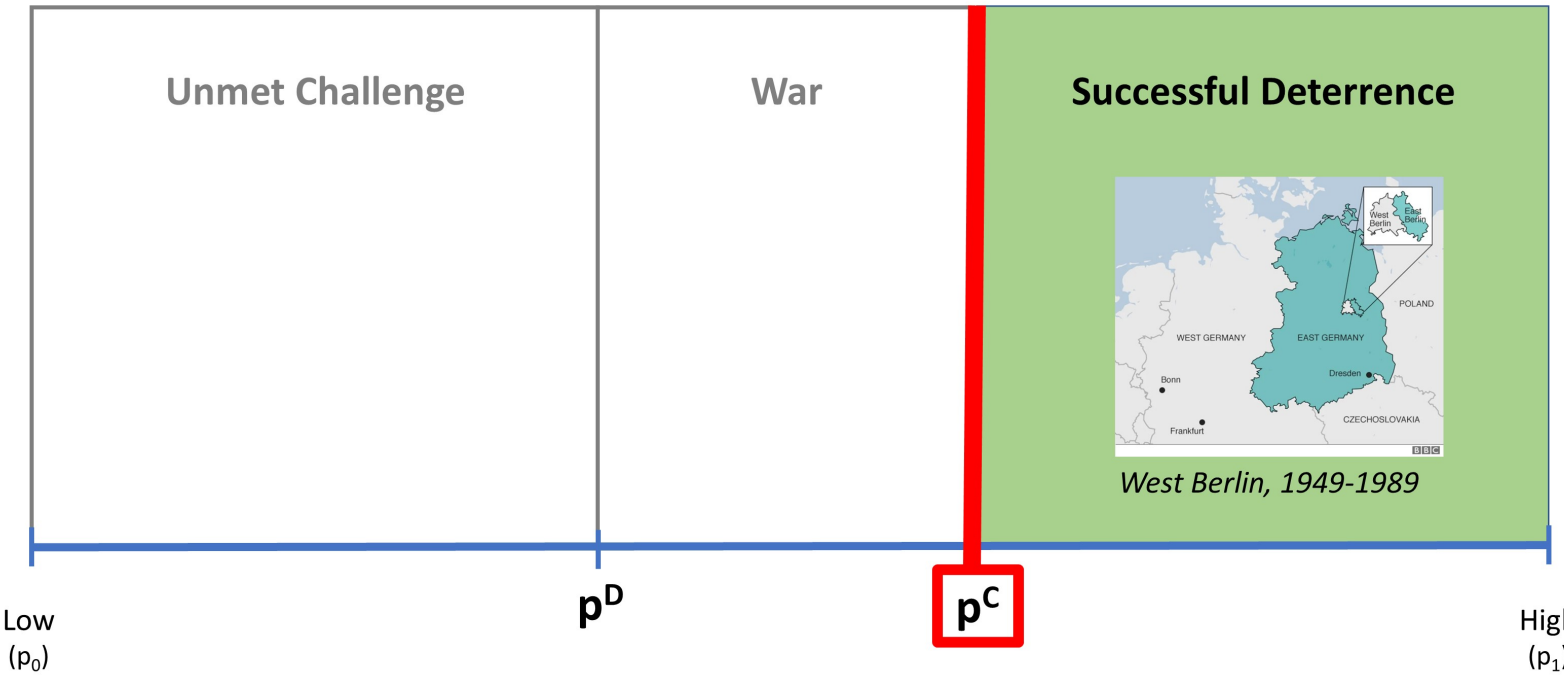

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When Challenger and Defender Place Low Value on Asset…

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Which Threshold is Critical?

When Challenger and Defender Place Low Value on Asset…

Defender must do well to be willing to fight

Challenger must do well to be willing to fight

Low (p_0)

High (p_1)

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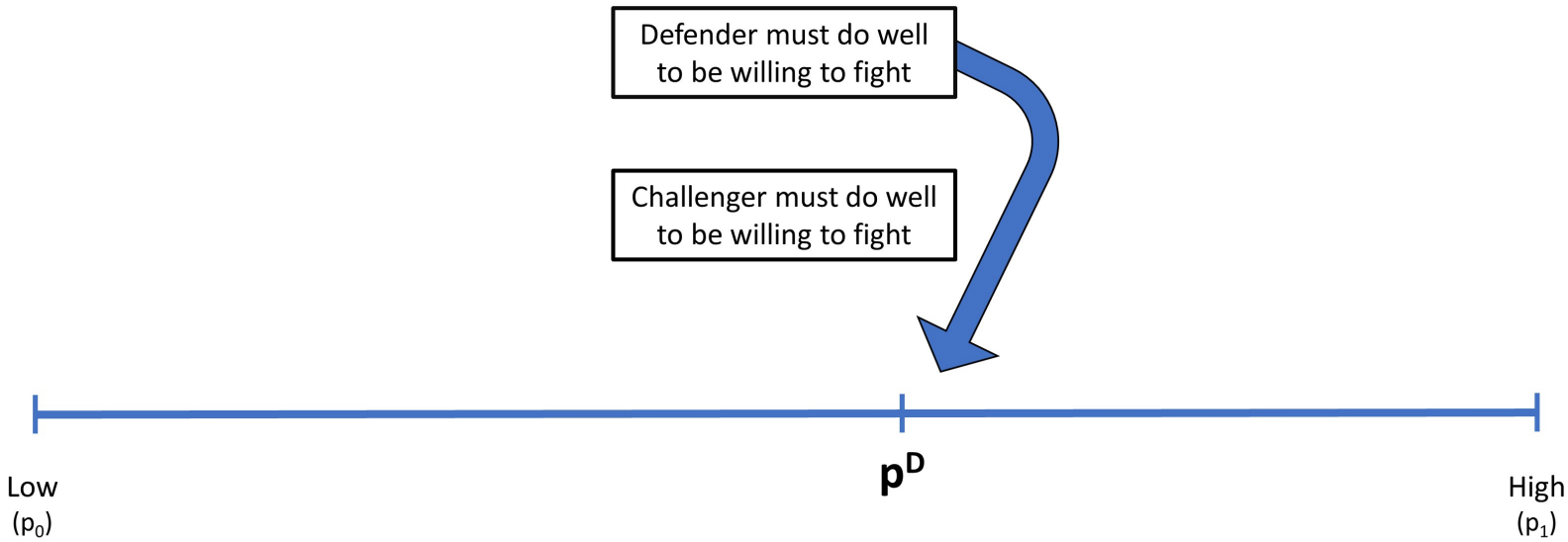

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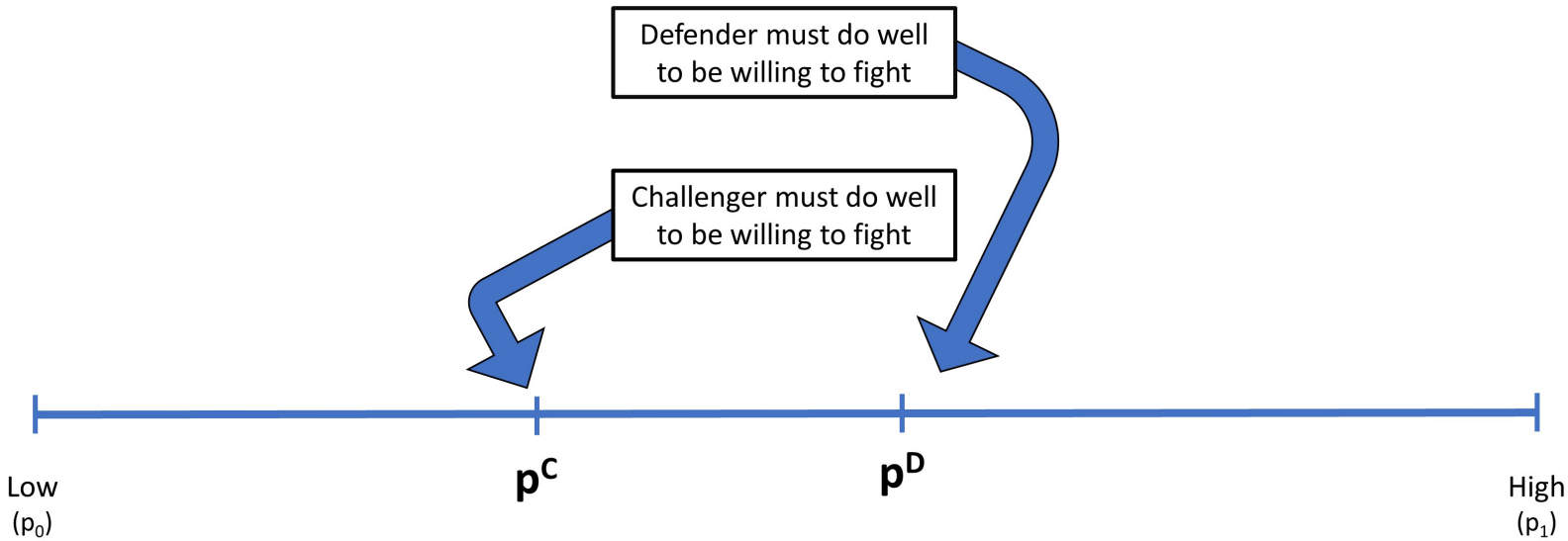

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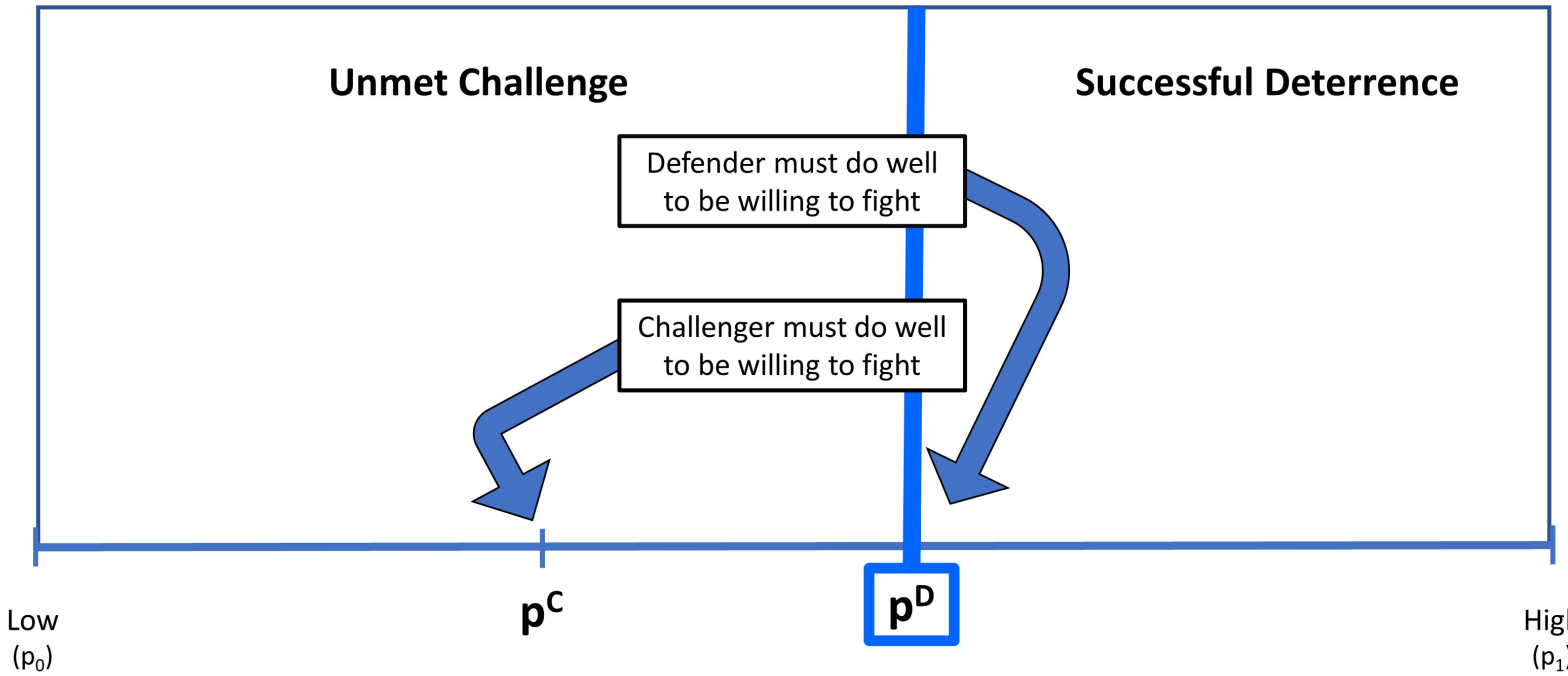

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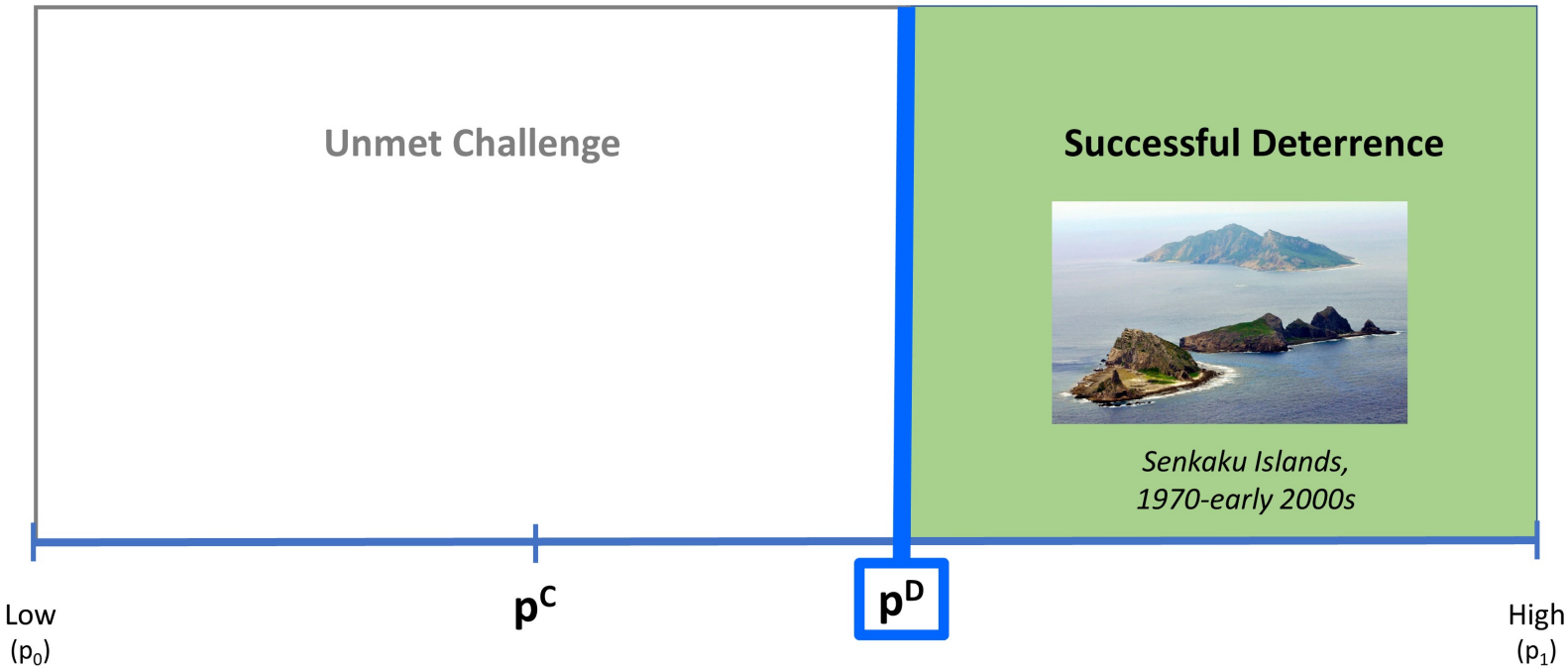

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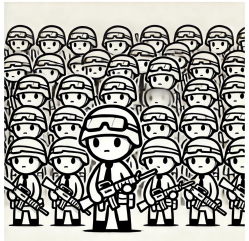
What Affects a State's Willingness to Fight?

- **Deterrence holds when both:**
  - (a) Defender willing to fight &
  - (b) Challenger unwilling to fight.
- Consider *conflicts that leave something to chance*.
  - Now considering variable nuclear escalation risks.
- Conventional outcomes still matter.
  - High asset value make actors more willing to fight.
  - Similar effects for low conventional conflict costs.
- Nuclear escalation risks also matter.
  - ↑ Nuclear risks makes both actors less willing to fight.

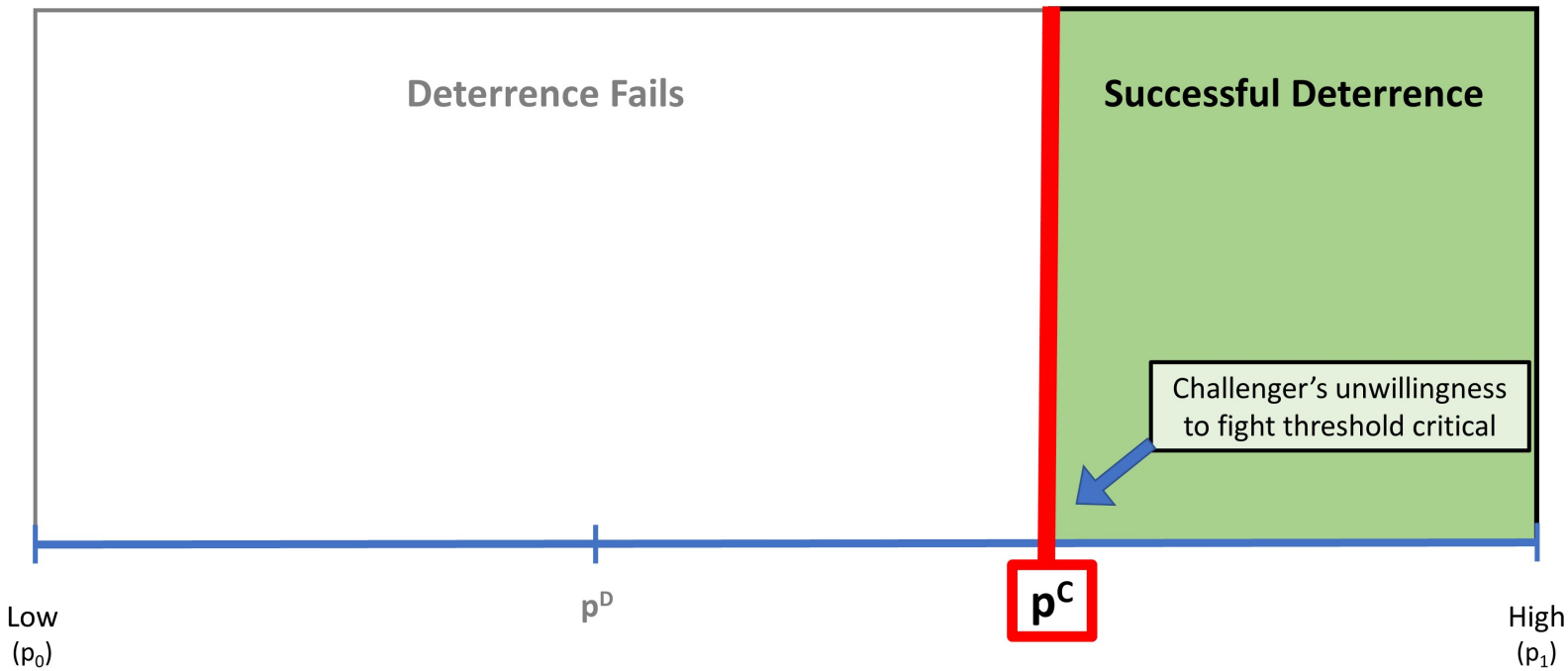


Defender's force posture decision

Effects of Nuclear Escalation Risks

Suppose Challenger and Defender Place High Value on Asset…

Would Greater Nuclear Risks Help With Deterrence?



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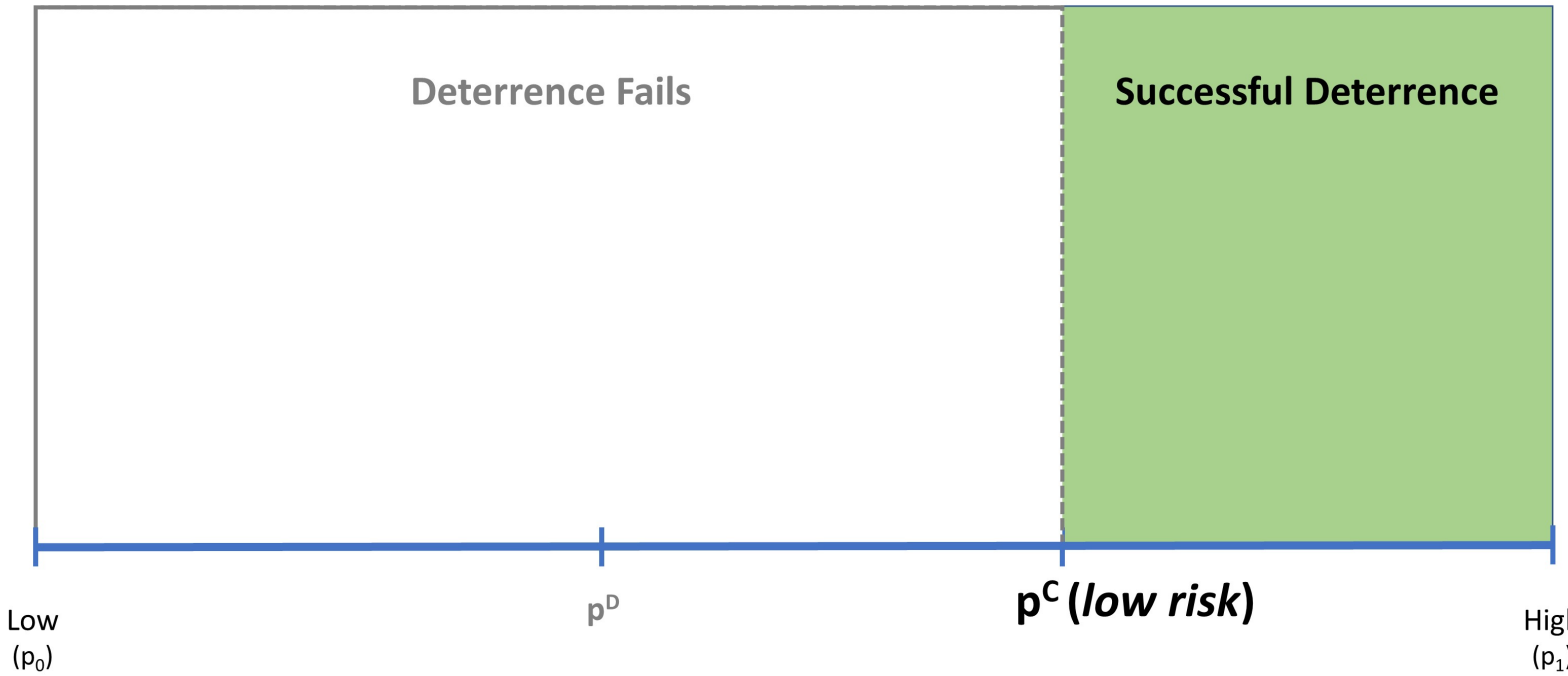

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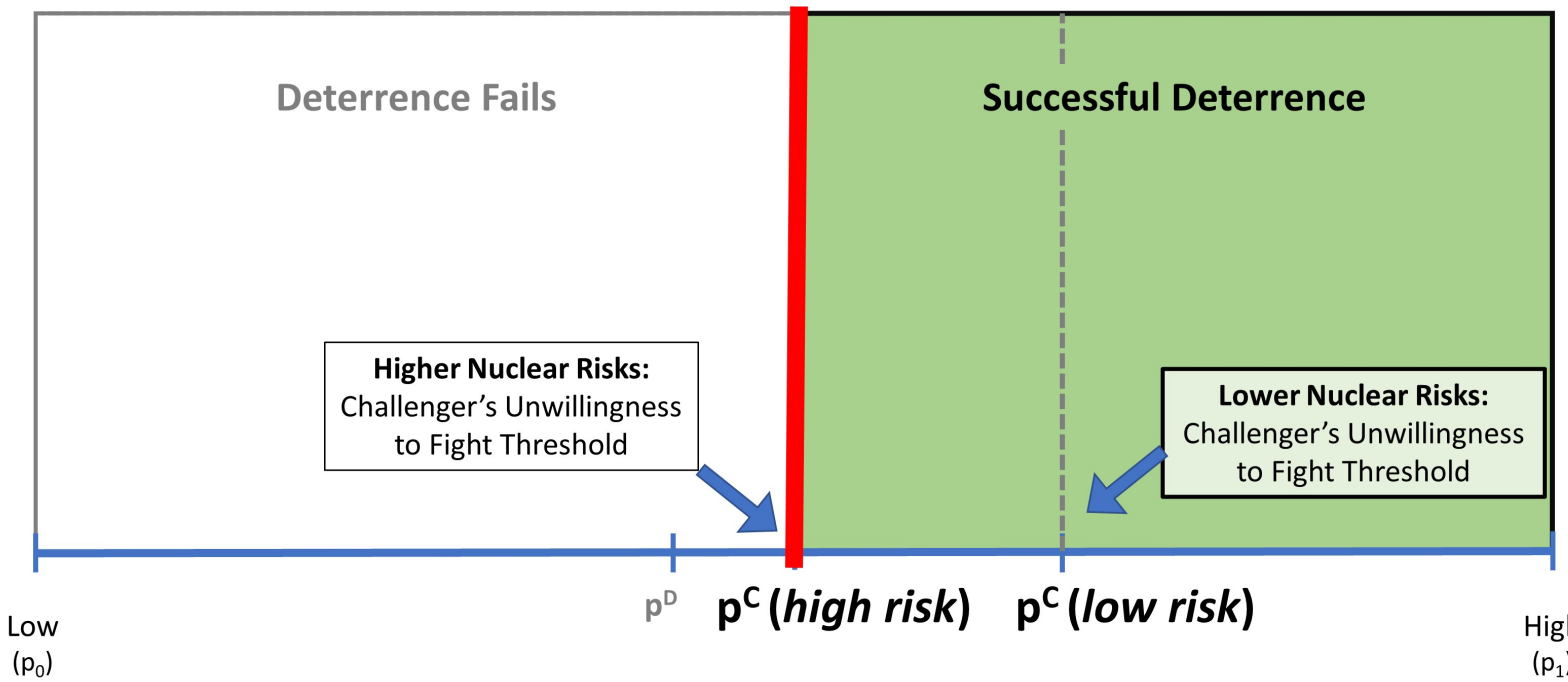

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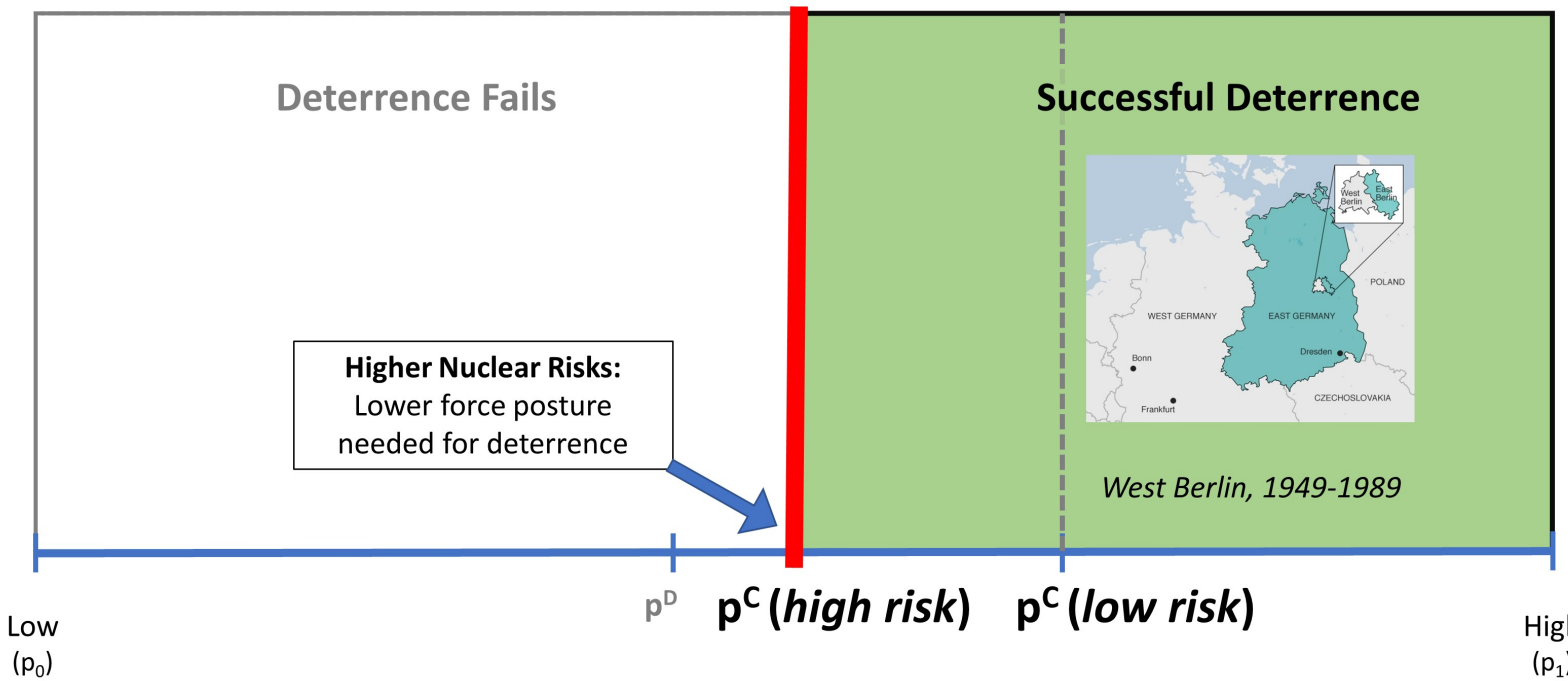
Effects of Nuclear Escalation Risks

For Jointly High Value Assets…

Nuclear Risks Support Deterrence



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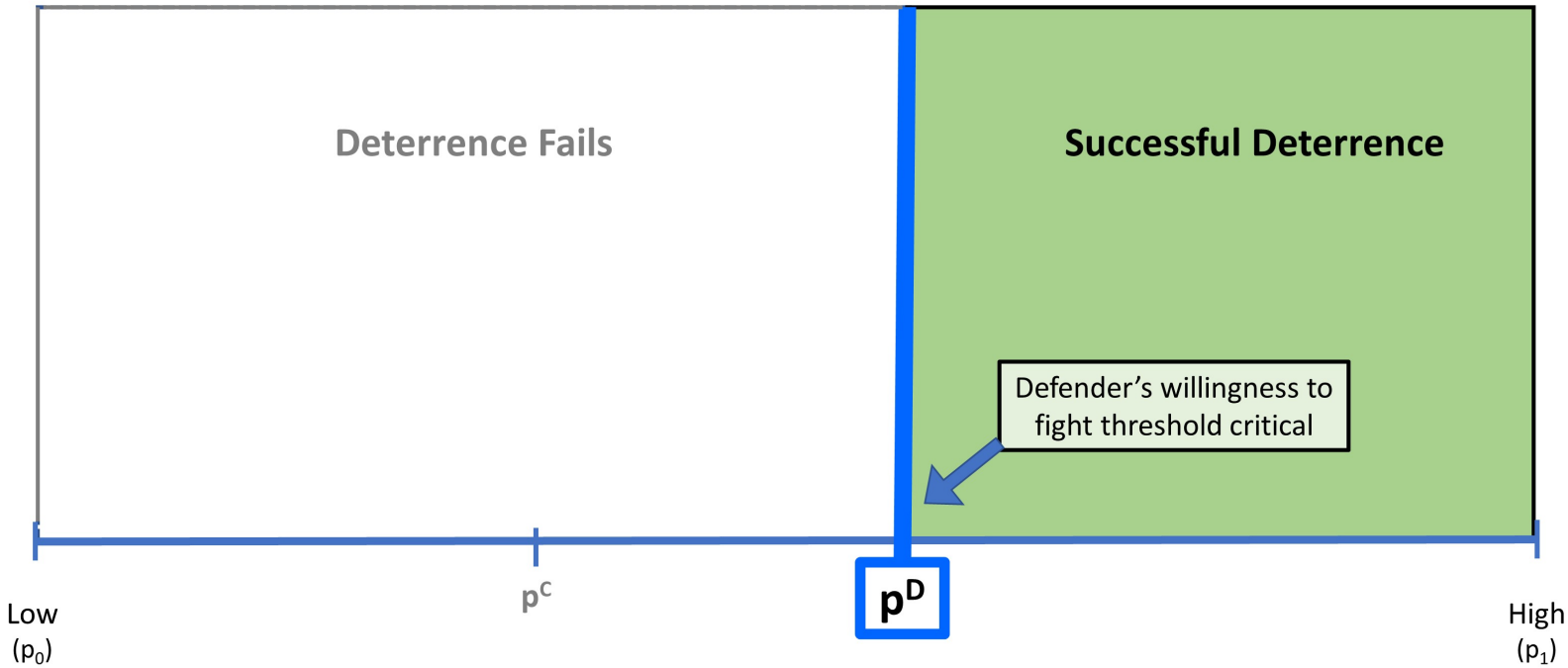

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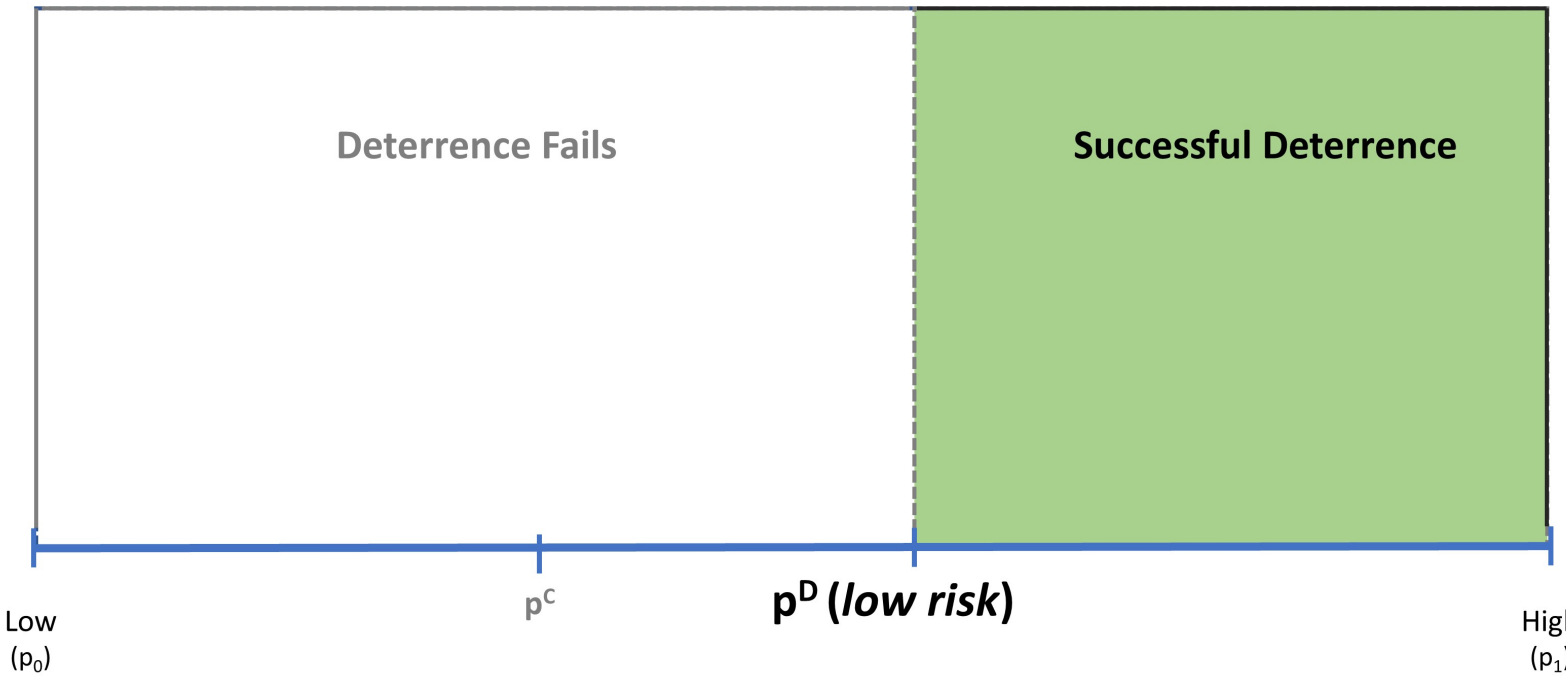
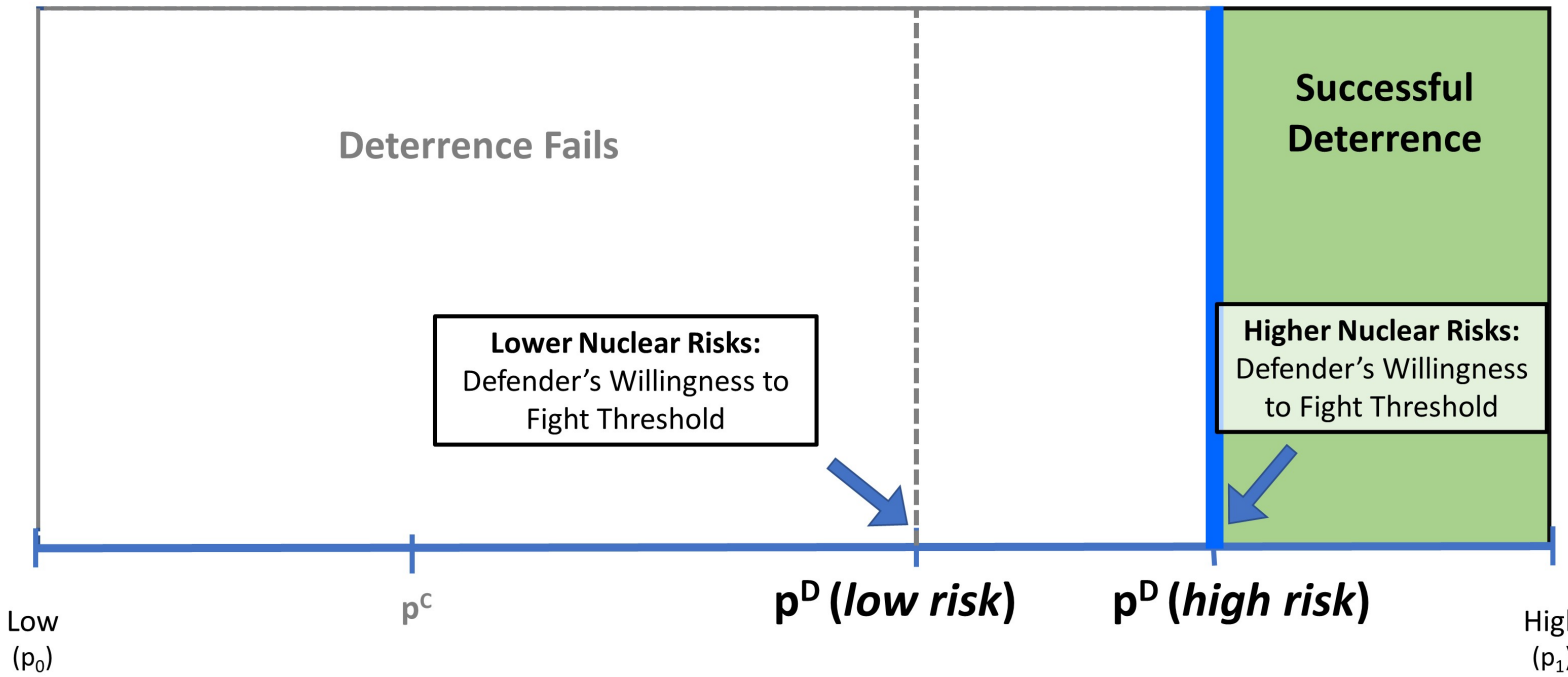


→ *Defender's conventional force posture (p) increases* →

Effects of Nuclear Escalation Risks

Suppose Challenger and Defender Place Low Value on Asset…

Would Greater Nuclear Risks Help With Deterrence?

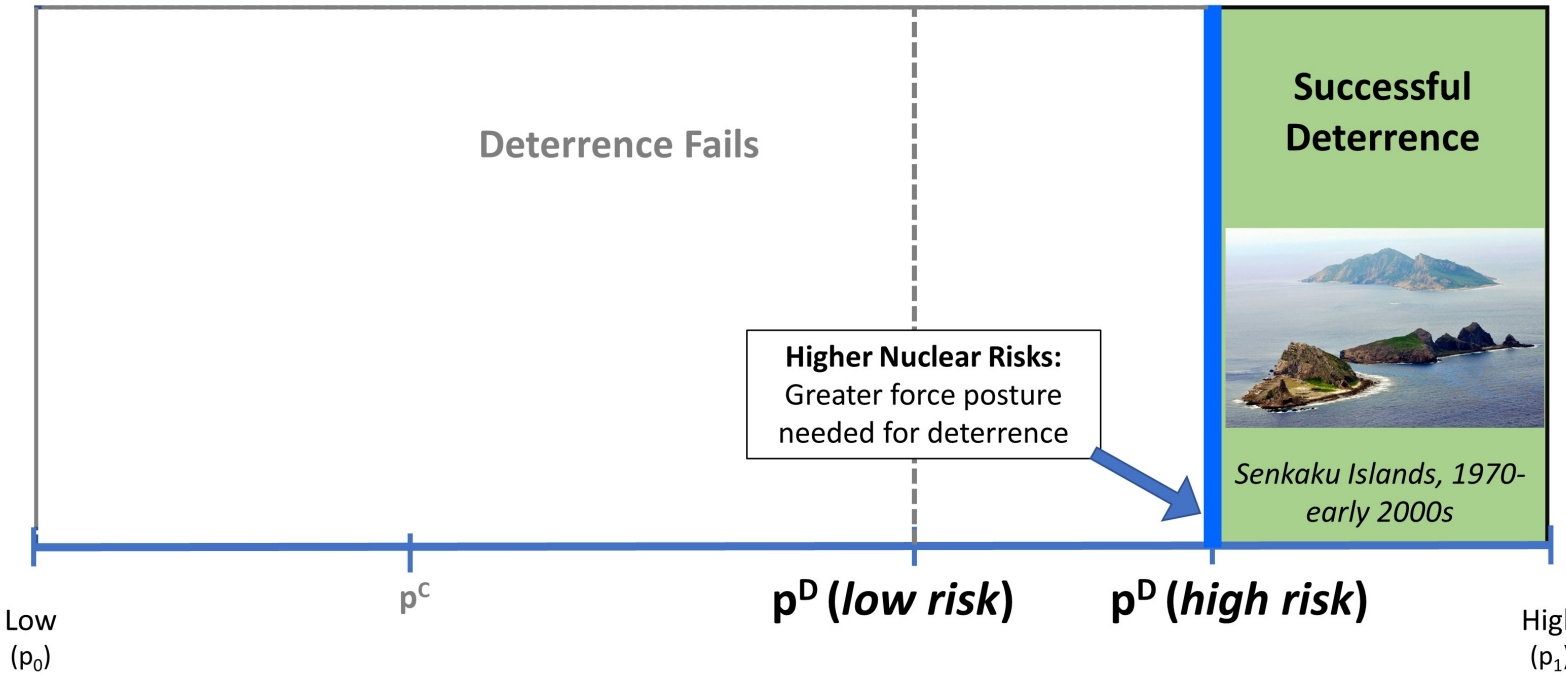


→ *Defender's conventional force posture (p) increases* →

Effects of Nuclear Escalation Risks

For Jointly Low Value Assets…

Nuclear Risks Undermine Deterrence



→ *Defender's conventional force posture (p) increases* →

Result: Nuclear Risks Can't Substitute for Conventional Forces

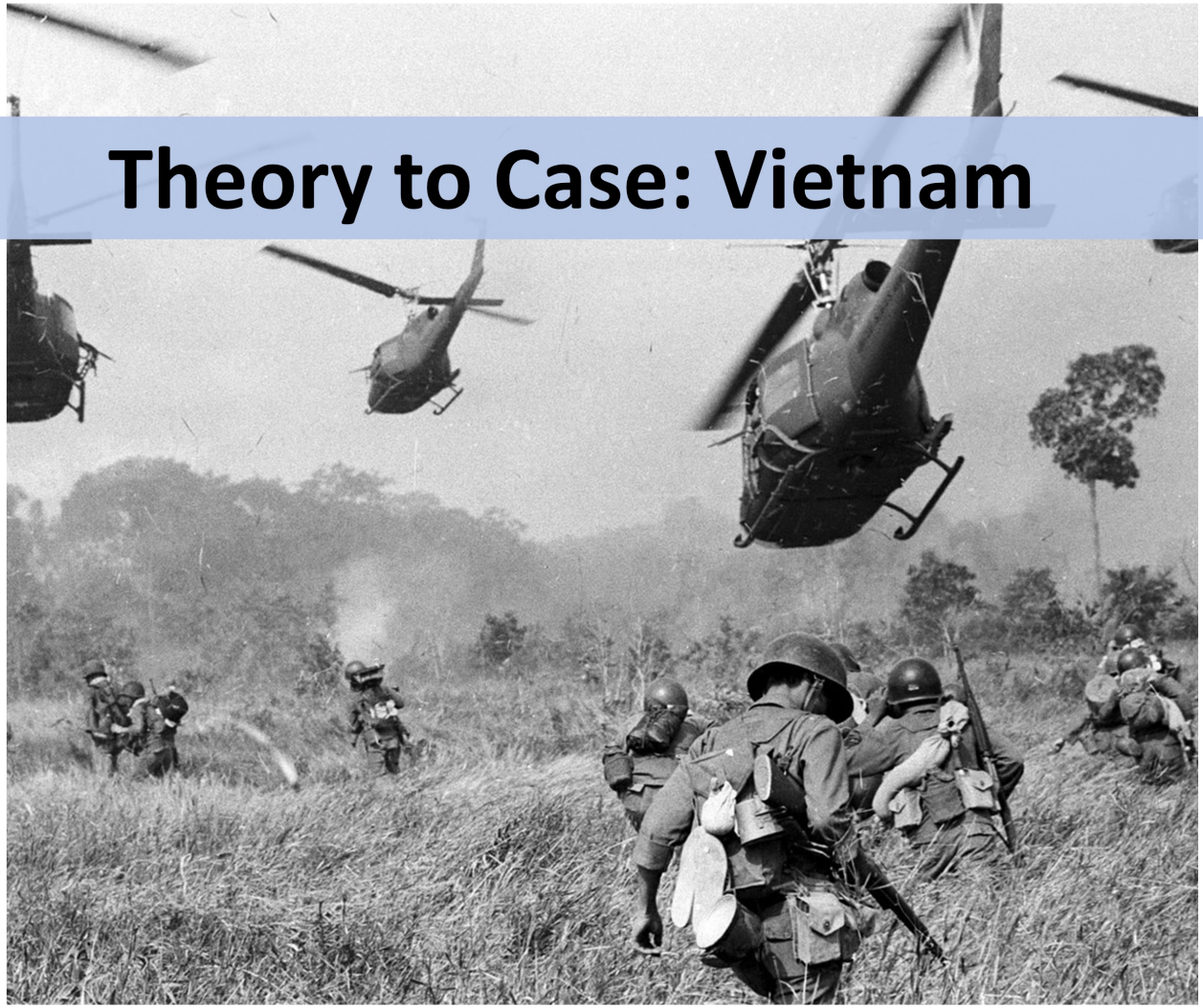
- **If Challenger & Defender place high value on the asset,...**
  - *Implies Challenger's unwillingness to fight is critical.*
  - *Nuclear risks make Challenger less willing to fight.*
  - **...then nuclear escalation risks support deterrence.**

- **If Challenger & Defender place low value on the asset,...**
  - *Implies Defender's willingness to fight is critical.*
  - *Nuclear risk makes Defender less willing to fight.*
  - **...then nuclear escalation risks undermine deterrence.**

- For high value assets (W. Berlin), nuclear risks aided deterrence.

- For low value assets (Senkaku Islands), nuclear risks hurt deterrence.
  - Advent of nuclear weapons enabled gray zone conflict.
  - Gray zone deterrence: engage at least-risky level possible.
  - Mazarr, 2016; Echevarria, 2016; O'Hanlon, 2019; Belo, 2020; Cooper, 2024.

Theory to Case: Vietnam



Theory to Cases: Vietnam War

- Nuclear risks supported deterrence in Berlin; why not use them in Vietnam?
- How did each side value the asset?
- Defender: US & S. Vietnam
  - US: moderate-low asset value (not Berlin).
- Challenger: N. Vietnam with China & USSR
  - For backers: moderate-low value asset (not critical to their security).
- Theory predictions: increasing nuclear risks...
  - Makes defender less willing to fight.
  - Requires more costly arming for deterrence.

Theory to Cases: Vietnam War

- US made no serious effort to endogenously introduce nuclear risks to Vietnam.
  - No nuclear threats, moving nuclear weapons, using tactical nuclear weapons.

- I rely on assessments of the counterfactual: the value of using the tactical nukes:
  - 1964 Memo from George Ball (Undersecretary of State).
  - 1966 Memorandum from Board of National Estimates (CIA).

- Primary reasons for not using included:
  - Potential for catastrophic escalation, &
  - Depleted public support.

Ball Memo (1964): Domestic Discouragement and Disquiet

"Moreover, we would feel the effects deeply at home. The first firing of a nuclear weapon (whether tactical or strategic, it makes no difference) would revive a real but latent guilt sense in many Americans. It would create discouragement and a profound sense of disquiet."

CIA Report (1966): Fear, Anger, & Endangering the World

"Their [nuclear weapons] use in Vietnam, regardless of the circumstances, would send a wave of fear and anger through most of the informed world. [...] Behind all this would lie a fear that the use of nuclear weapons might lead to a general nuclear war endangering the world at large."

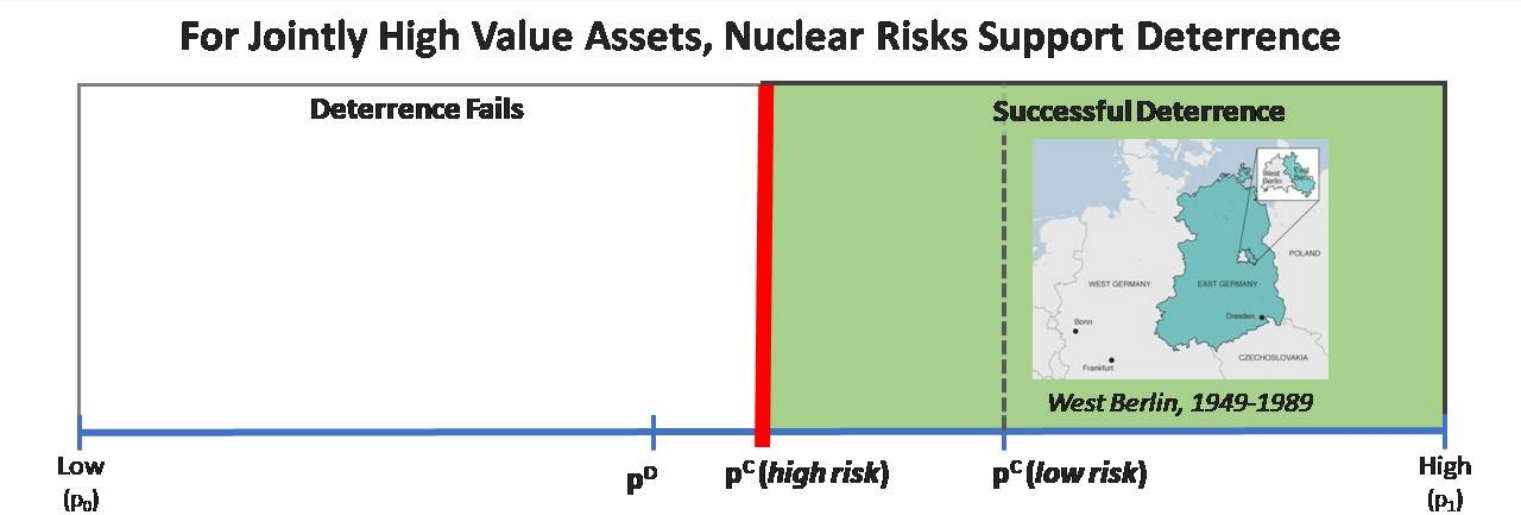
Theory to Cases: Vietnam War

- Theory predictions: increasing nuclear risks...
  - Makes defender less willing to fight.
  - Requires more costly arming for deterrence.
- Memos: using tactical nukes in Vietnam...
  - Would hurt public support for the war.
    - Constraints on executive.
  - If nuclear risks concluded war, value in use.
    - But would make a long war untenable.
    - Could impose new force posture challenges (undermining alliances).
- Tannenwald (2007): *"Ultimately, while nuclear weapons might have been militarily useful in the war, it was clear that, by the time the war was fought, they were politically unusable, and for some officials, even morally unacceptable."*

Other Results

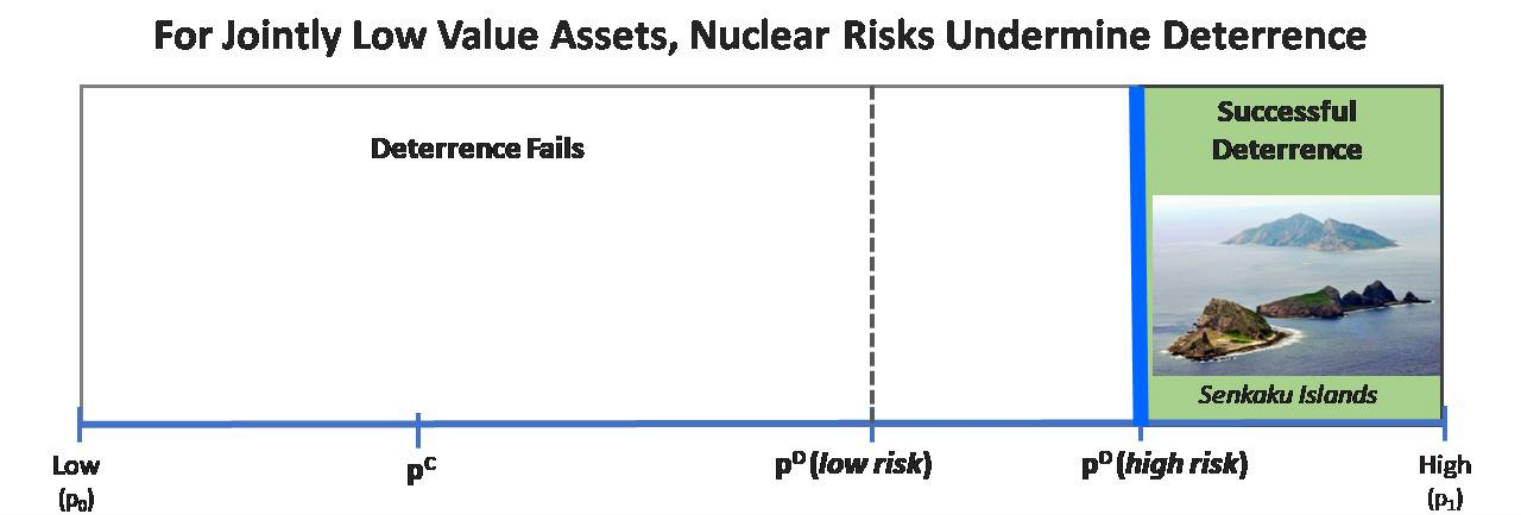
Reconsidering Resolve in Nuclear Deterrence Theory

- **Question: Do nuclear risks benefit resolved actors?**
- **Answer: No; interplay of resolve is critical.**
  - Treat how actors' value the asset as resolve.
  - High resolve challengers can do worse (W. Berlin).
  - Low resolve challengers can do better (gray zone conflict).
  - Not just challengers; high resolve defenders can also do worse.
    - (Chinese destroyer in Australia's exclusive economic zone)



Towards a Unified Theory of Nuclear Deterrence

- **Question: Do nuclear risks support deterrence?**
  - Schelling's discussion of Berlin: yes.
  - Snyder's stability-instability paradox (1965): no.
- **Answer: Depends on underlying condition...**
  - Jointly high value assets are consistent with Schelling.
  - Jointly low value asset are consistent with Snyder.
  - Why? Nuclear risks shift arming levels needed for deterrence.



Other Results

- **Other theory from the paper:**
  - Nuclear risks disincentivise conflict.
  - Nuclear risks lead to more decisive conflicts (not just restraint).
    - Hungarian Revolution (1956); Kashmir (2019).
  - Peaceful signaling of resolve.
    - Breaks with Powell, 2015.
  - Flexible v asymmetrical response.
  - Additions to Waltz-Sagan debates.

- **Theory not in paper (what's next):**
  - More on deterrence in the gray zone.
  - War in Ukraine: Western military aid & Russian nuclear threats.
  - China's expanding nuclear arsenal.

Budapest after Operation Whirlwind

Conclusion

Research: The Political Economics of How States Use Conflict

Managing Violent Politics

- (1) Managing Insurgency* *(**JCR**, 2019)*
- (2) Self-Managing Terror* *(**GEB**, 2021)*
- (3) Terrorism Works, for Its Supporters
  *(**JCR**, w/ Coe & Yoo, 2024)*

War, Peace, and Hassling

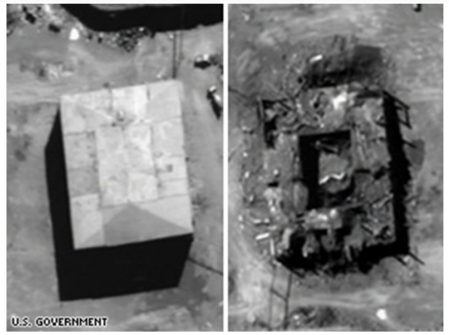
- (4) Hassling* *(**AJPS**, 2021)*
- (5) When Capabilities Backfire* *(**JOP**, 2022)*
- (6) Shadow of Deterrence
  *(**JCR**, w/ Gannon, Gartzke, & Lindsay, 2024)*
- (7) Uncertainty…w/ Multiple Policy Options
  (***AJPS**, w/ Kenkel, 2024*)
- (a) Putting Yourself Out There
  (*working paper, w/ Yoder,*)

Nuclear Deterrence Beyond MAD

- (8) Conflicts that Leave* (***IO**, forthcoming*)
- (b) Resolve and Brinkmanship
  (*working paper, w/ Kenkel*)

* Denotes solo-authored work

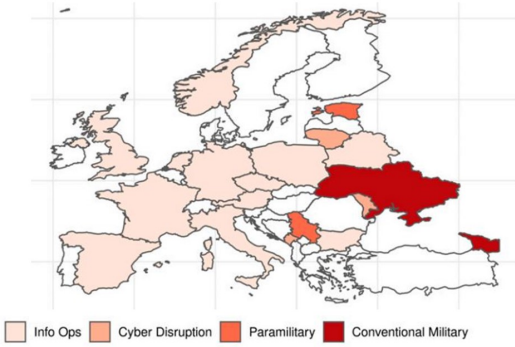
Haqqani Network Cell (~2007)



Operation Outside the Box, 2007

"Little Green Men," Crimea, 2014

Stuxnet (2005-2010)



Russian Interventions, 1994-2018

China's WTO Accession, Doha, 2001

Conclusion: Conflicts that Leave Something to Chance

Puzzle: What is the Logic of Nuclear Deterrence Below MAD?

Requires an integrated theory that spans both Snyder & Schelling.

Answer: Nuclear & Conventional Forces Interact in Distinct Ways

If both Challenger & Defender place a...

- High value on the asset, then nuclear risks support deterrence,
- Low value on the asset, then nuclear risks undermine deterrence.

Contribution: A Unified, Testable Theory for Nuclear Deterrence

With this new theoretical framework, this project...

- Offers strategic logic for nuclear deterrence below MAD,
- IDs critical, measurable & novel factors that shape deterrence.

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