THE STRATEGIC LOGIC OF NUCLEAR PROLIFERATION

By: Nuno P. Monteiro and Alexandre Debs

Presentation by: Kaitlin Cassidy

RESEARCH QUESTIONS:

- What causes nuclear proliferation?
- What role do security threats play in driving states to acquire nuclear weapons?

METHOD:

- “We account for the spread of nuclear weapons by determining the overall effect of the security environment on the likelihood of nuclear acquisition. We depart from existing security explanations for the spread of nuclear weapons by shifting and broadening the focus of analysis. Instead of looking at the consequences of nuclear acquisition for the subsequent security of the state, we focus on the security environment a state faces while developing nuclear weapons. Furthermore, instead of looking only at the security incentives of the proliferator, we include those of all of the key strategic actors.” (11)

KEY TERMS:

- **Nuclear Development**: The period during which the state is either exploring or pursuing nuclear weapons.
- **Nuclear Exploration**: The "political authorization to explore the [nuclear] option," or, "linking research to defense agencies that would oversee any potential weapons development."
- **Nuclear Pursuit**: Involves, "[a] political decision by cabinet level officials, movement toward weaponization, or development of single use technology."

INDEPENDENT VARIABLES

- The "level of security threat," is the likelihood of future conflict between a country and its adversaries, as evaluated by a country's decision- makers. (12)
- The proliferator's "relative power" reflects the balance of military power vis-à-vis its adversaries . (12)
- The "cost of a nuclear program" corresponds to the value of the material resources necessary to develop nuclear weapons. (12)
- The "level of an ally's commitment to the state's defense" first measures whether a powerful state is allied to the potential proliferator (either formally or informally) and, if such an alliance exists, tries to capture the reliability of its commitment to the defense of the proliferator. (13)

DEPENDENT VARIABLE:

- A country's "nuclear status," which can go from nonnuclear to nuclear with the conduct of a nuclear test. (13)

- The causal mechanism connecting our independent variables to a state's nuclear status runs through two intervening variables.
  - the "security benefit of proliferation," which refers to the magnitude of the shift in the distribution of capabilities that nuclear acquisition would produce vis-à-vis the state's adversaries, (13)
  - The "cost of preventive war," corresponds to the value of the total resources destroyed by both sides in a preventive war. (13)

ADVERSARIES AND THE STRATEGIC LOGIC OF PROLIFERATION:

- “If the ex ante balance of power favors the adversaries of the potential proliferator, the security benefit of proliferation is high. Nuclear weapons would vastly improve the security outlook of the potential proliferator and worsen that of its adversaries.” (16)
- “The potential proliferator’s ex ante relative weakness makes preventive war relatively less costly overall. “ (16)
- “Consequently, preventive war is more likely to be a rational option against a relatively weak potential proliferator. This, in turn, boosts the credibility of preventive threats, making relatively weak states unprotected by a nuclear ally unlikely to nuclearize.” (16)

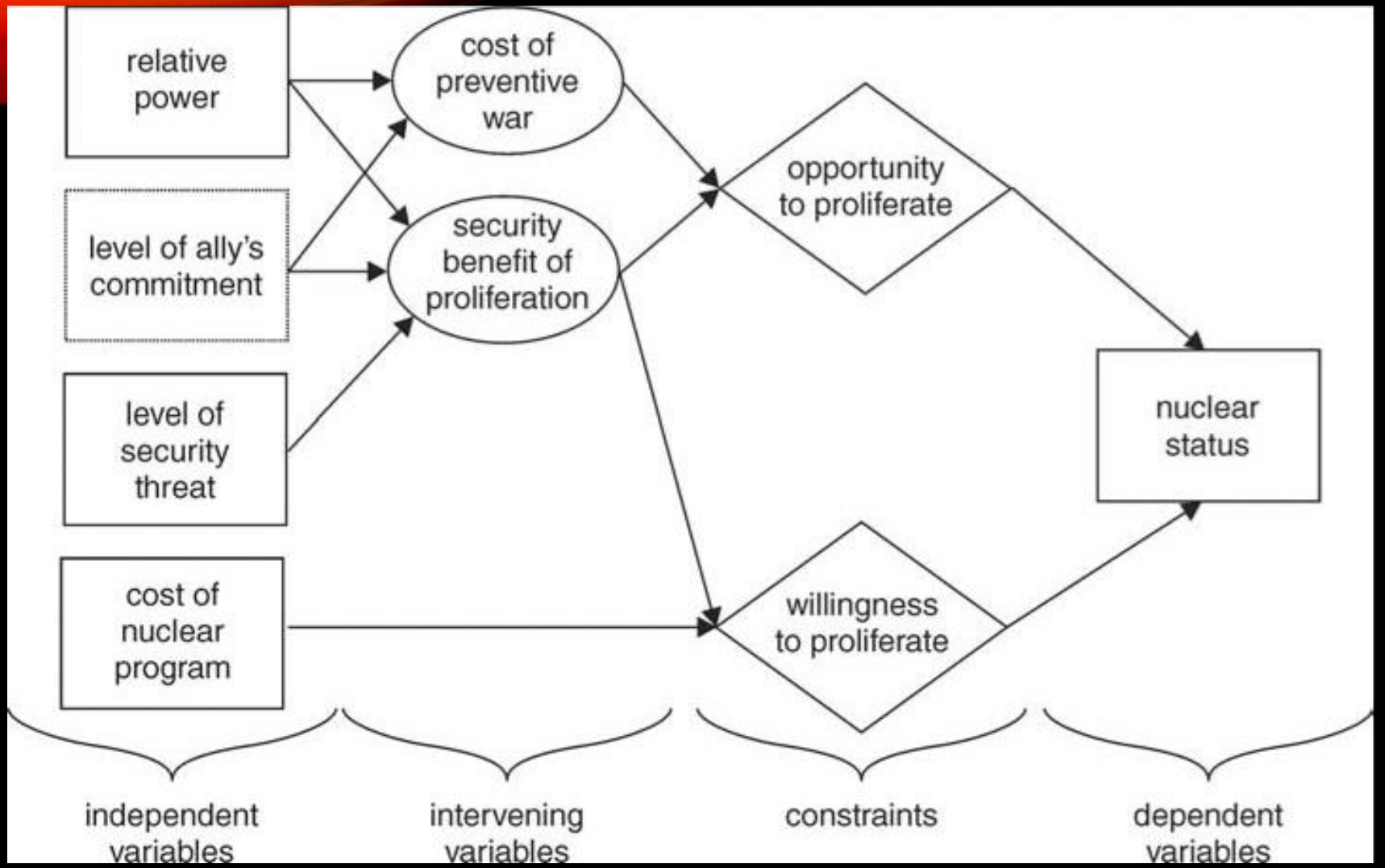
THE EFFECTIVENESS OF DIFFERENT NONPROLIFERATION POLICY TOOLS

- “We expect the effectiveness of sticks-based nonproliferation efforts to increase as the relative power of the protegé vis-à-vis its adversaries decreases.” (19)
- “Conversely, we expect the likelihood of success of carrots-based non-proliferation policies to increase as the relative power of the protégé vis-à-vis its adversaries increases and its security interests narrow. “ (19)
- “Broader security interests increase the magnitude of the security commitments that a powerful ally has to extend to remove the protégé’s willingness to nuclearize. Higher relative power decreases the magnitude of these security commitments, while also decreasing the ability of the powerful ally to resort to threats of abandonment in an attempt to remove the protégé’s opportunity to nuclearize.” (19)

ALLIES AND THE STRATEGIC LOGIC OF PROLIFERATION

- "If the powerful ally's commitment to the potential proliferator's security credibly covers all of the protégé́'s aims, the latter will have no willingness to nuclearize. Therefore, proliferation will not occur." (17)
- "Proliferation by the protégé́ of a powerful state requires an imperfect overlap between the security interests of the two alliance partners." (17)
- But, "States with broader security goals may possess the willingness to nuclearize even when their powerful allies reliably protect their homeland."(18)

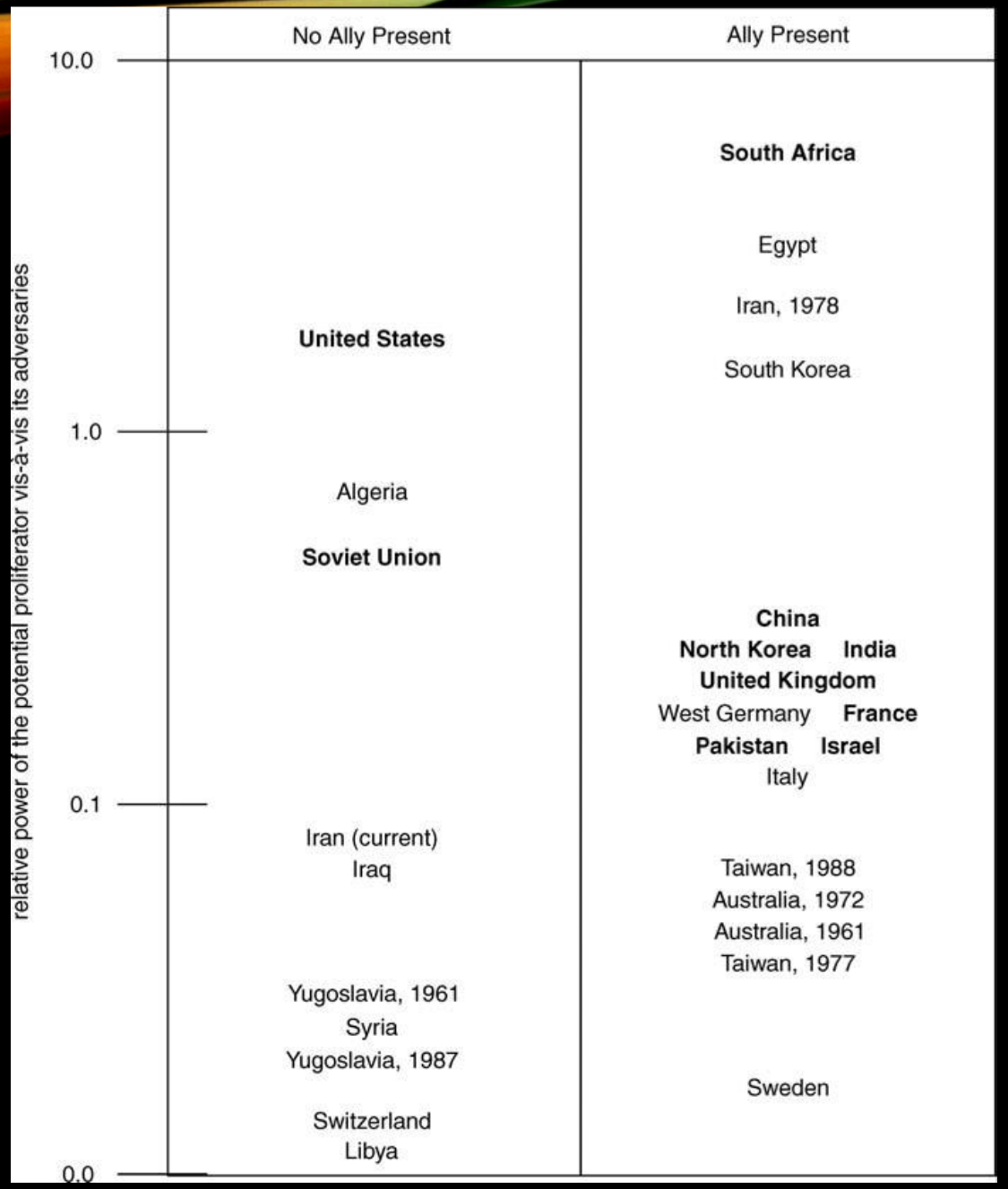
FIGURE 1


relative power
level of ally's commitment
level of security threat
cost of nuclear program
cost of preventive war
security benefit of proliferation
opportunity to proliferate
willingness to proliferate
nuclear status
independent variables
intervening variables
constraints
dependent variables

FOUR EMPIRICAL CLAIMS

- First- No state has acquired nuclear weapons without perceiving its security environment as highly threatening.
- Second- Among states without a nuclear ally, there is a strong relationship between power and successful nuclearization
- Third- Among states that enjoy the protection of an ally that ensures all of their security interests, none acquired nuclear weapons.
- Fourth- A powerful a ally is more successful in ensuring the nonnuclear status of its protégés by extending additional security assurances (carrots) to strong states and using coercive threats of abandonment (sticks) vis-à-vis weak states.

FIGURE 2. POWER, ALLIANCES, AND NUCLEAR PROLIFERATION



HISTORICAL CASES: SOVIET UNION

- The threat to the to Soviet survival posed by competition with a nuclear-armed United States induced Moscow's willingness to nuclearize.
- The Soviet Union's opportunity to acquire nuclear weapons derived from the extremely high cost of a U.S. preventative attack, which led Washington to countenance Moscow's nuclear ambition.

HISTORICAL CASES: IRAQ

- As a weak state facing dire security threats without a nuclear ally, Iraq wanted to acquire nuclear weapons, a position that raised concerns among its enemies– Iran, Israel, and, eventually, the U.S.
- In seeking to develop a nuclear weapons program, Iraq made itself vulnerable to outside threats and eventual preventative strikes, ultimately dooming its nuclear ambitions.

HISTORICAL CASES: PAKISTAN

- Pakistan faced a conventionally superior enemy in India and enjoyed only loose support from the U.S.
- The Soviet invasion of Afghanistan led to increased U.S. support and ultimately helped Islamabad to acquire nuclear weapons.

HISTORICAL CASES: SOUTH KOREA

- South Korea's close alliance with the United states has been a key factor in keeping in check its willingness to acquire nuclear weapons.
- When this commitment appeared to weaken, Seoul considered the nuclear option, which it could certainly afford given its significant economic and technological capacities.
- Renewed and sustained commitments form Washington have contained Seoul's willingness to acquire nuclear weapons.

HISTORICAL CASES: WEST GERMANY

- West Germany was a close ally of the U.S. facing a powerful threat in the Soviet Union.
- Fearful of the risks of escalation associated with German nuclearization, Washington colluded with Moscow to create the nonproliferation regime and ensure West Germany's nonnuclear status.
- West Germany remained nonnuclear.

IMPLICATION FOR THE STUDY OF NUCLEAR PROLIFERATION:

- Supply-side theories cannot account for the slower pace of proliferation of the past two decades.
- Supply-side efforts may deter proliferation in two ways:
  - If the cost of developing a nuclear weapon without international supply is sufficiently high to overcome the security benefit of proliferation, The state will no longer possess the willingness to nuclearize. (This is a theoretical possibility, we found no historical case in which this calculation occurred.)
  - Supply-side restrictions have often been employed by a powerful country such as the United States in an attempt to coerce one of its allies to remain nonnuclear. The effectiveness of restrictions to the supply of nuclear materials and technology is largely underpinned by the consequences of threats of abandonment.

CONCLUSION:

- “Only two types of states acquire the bomb: powerful but highly threatened states; and weaker states whose territory is protected by an ally they deem unlikely to remain present in the long-term or unwilling to ensure its other core security goals.”(49)
- ”The empirical rarity of these strategic situations is responsible for the relatively low number of states—fewer than 5 percent—that have acquired the bomb during the first seven decades of the nuclear age.”(49)
- “In any case, our theory highlights an important cost that the United States often pays to ensure the nonnuclear status of its allies: offering security guarantees to a burgeoning number of states. Whether the United States will be able to continue to do so will have a great impact on the odds of future nuclear proliferation.”(50)