Power Transition Theory and an Empirical Analysis of Power and Conflict

POSC 3610 – International Conflict

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Goal for Today

Discuss power transition theory and the empirical relationship between power and conflict at the dyadic level.

MIC of the Day: Battle of Ciudad Juárez (MIC#2185)

Power Transition Theory

Power transition theory (PTT) has a curious origin.

- Grand theories and research paradigms are typically introduced in articles or scholarly books.
- PTT was introduced in a 1958 introductory textbook by AFK Organski, titled *World Politics*.

Anarchy and Hierarchy

The basic premise of PTT is that the international system is *hierarchic*.

- Anarchy is an unexceptional observation according to Organski.

A power pyramid is a better understanding of the international system.

- Hegemon
- Great powers
- Middle powers
- Minor powers

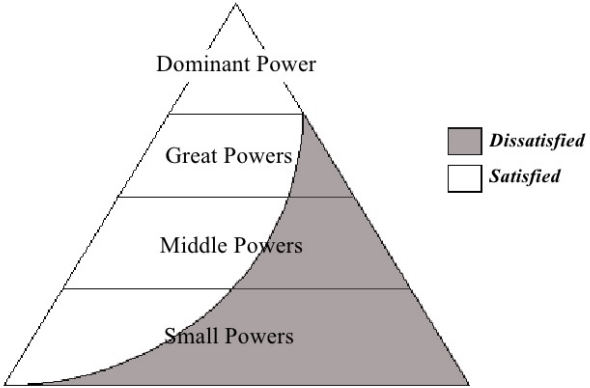


Figure 1.3. Hierarchy and Distribution of Satisfaction

Figure 1: A hypothetical power pyramid

Status Quo and Revisionist States

States are either status quo states or revisionist states.

- Status quo states are those that are satisfied with the current conduct of international politics.
  - The hegemon is by definition a status quo state.
- Revisionist states are dissatisfied with the current order.

This leads to an important divergence with neorealism.

- States in PTT are policy-motivated, not strictly survival-oriented.

A Critique of Power Transition Theory

We should raise several critical questions about this approach.

1. How do we know status quo/revisionist ex ante?
2. Why didn't the U.S. and Soviet Union fight?
3. Why does the power transition war happen?

Status Quo and Revisionist States

PTT's hypothesis is an implied boolean proposition.

- Revisionist AND great power AND power transition –> war.
- PTT distinguishes itself from neorealism with this assumption of policy motivations.

So how do we know a state is "revisionist?"

- We typically think of Imperial/Nazi Germany as the classic case of this.

Notice the inferential problem?

The Measurement Problem

We need an ex ante indicator of a revisionist state. Attempts include:

- National size and development (Houweling and Siccama, 1988)
- Gross national income (Organski and Kugler, 1980)
- Demographics/birth rates (e.g. Kugler, 2006)
- UN roll call votes (Reed et al. 2008; Sample, 2017)
- Territorial claims/disputes (Sample, 2017)

The Measurement Problem

Each of these proposals have significant problems.

- GNI and size proxy “power” and not revisionism.
  - i.e. they measure why bargaining breaks down and not the contested policy benefit.
- Similar statement can be made for demographics/birth rates, but those predict poorly.
- UN votes impose global measure when most conflict is dyadic/local.

Territorial claims better get at this, but it’s not clear it’s helping PTT’s case.

- Disputed territory is a different problem altogether.

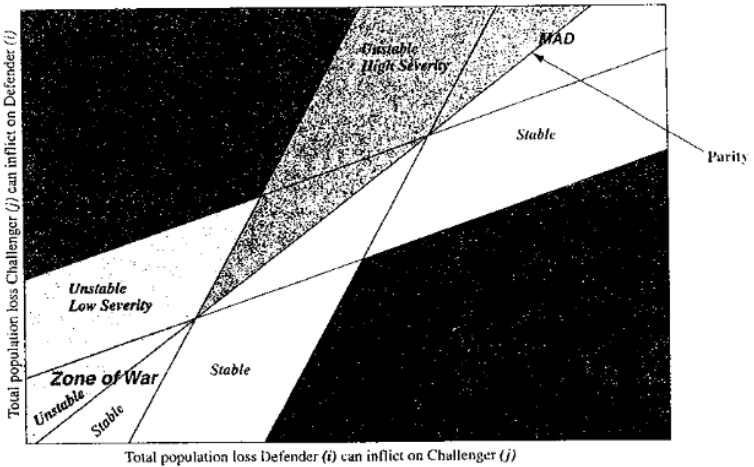
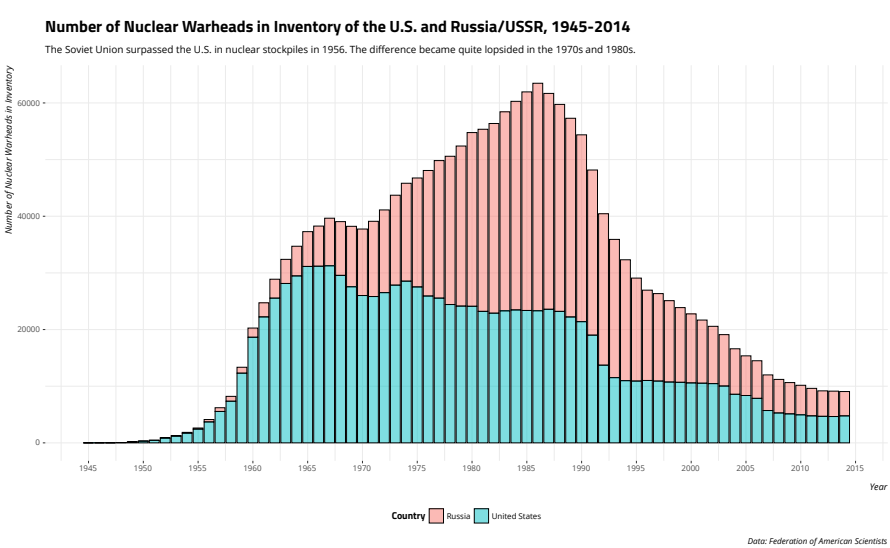
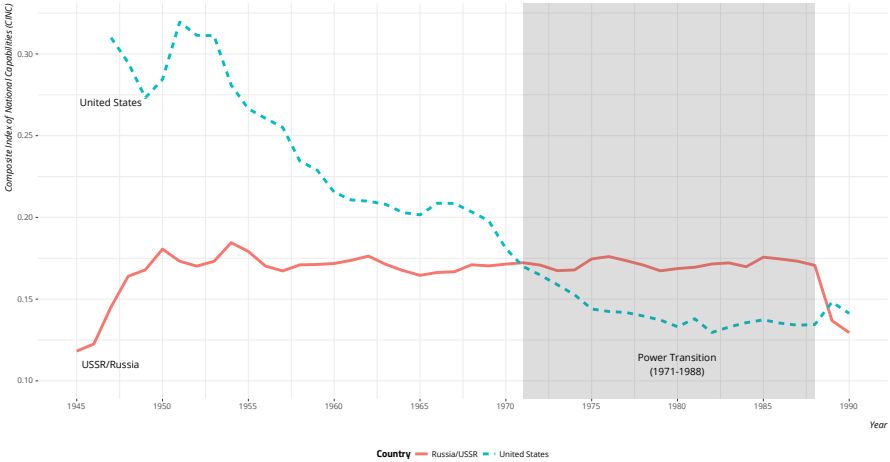


FIGURE 2. Power transistion perspective


Number of Nuclear Warheads in Inventory of the U.S. and Russia/USSR, 1945-2014
The Soviet Union surpassed the U.S. in nuclear stockpiles in 1956. The difference became quite lopsided in the 1970s and 1980s.
Number of Nuclear Warheads in Inventory
60000
40000
20000
0
1945
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
2015
Year
Country
Russia
United States
Data: Federation of American Scientists

Why Didn't the Cold War Get Hot?

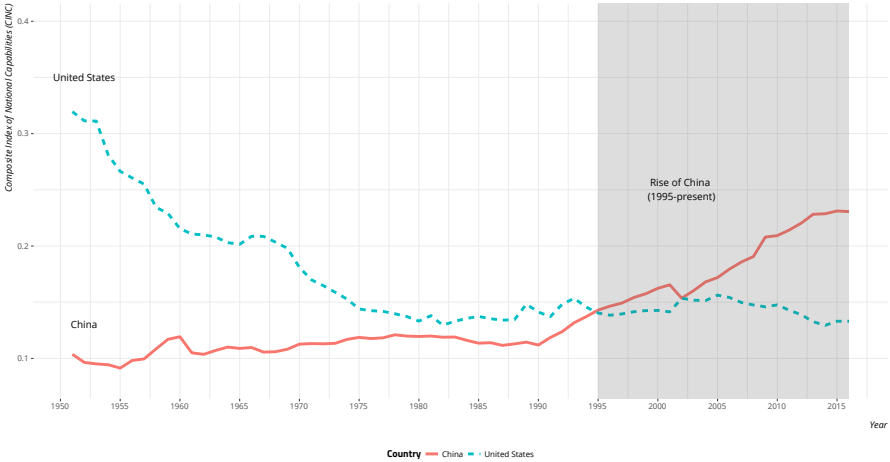
We observe a power transition incidentally around the time of a détente between both Cold War rivals.



Data: Correlates of War National Military Capabilities Data (v. 6.0)

Has China Already Risen?

Using available data, we should've already expected the power transition war to happen.



Data: Correlates of War National Military Capabilities Data (v. 6.0)

Why Fight a Power Transition War?

It's not yet evident why the power transition war is fought.

- For declining hegemon: *act now*.
- For rising great power: wait.

Put in other words, the power transition war happens when it makes the least sense to fight it.

What Does This Look Like Dyadically?

Unit of analysis: non-directed dyad-year

- *dyad*: a pairing of any two states (e.g. USA-Canada, India-Pakistan)
- *year*: should be intuitive
- *non-directed*: USA-Canada and Canada-USA are observationally the same.
  - Useful for explaining simple onsets.
  - Operationally: keep the dyad where `ccode2` > `ccode1`.

Table 1: A Simple Table of Ten Dyad Years for the U.S. (2) and Canada (20)

ccode1	ccode2	year
2	20	1920
2	20	1921
2	20	1922
2	20	1923
2	20	1924
2	20	1925
2	20	1926
2	20	1927
2	20	1928
2	20	1929

Dependent Variables

Dependent Variables: (i.e. the thing(s) we want to explain)

- *confrontation onset*: binary, indicates a unique confrontation onset in dyad-year
- *sum of minimum fatalities*: total (minimum) estimated fatalities in dyad-year
- *sum of maximum fatalities*: total (maximum) estimated fatalities in dyad-year
- *dyadic war*: whether a confrontation escalated to over 1,000 dyadic (minimum) fatalities

Table 2: A Simple Table of Ten Dyad Years for India (750) and Pakistan (770)

ccode1	ccode2	year	confonset	confongoing	sumfatalmin	sumfatalmax	confs
750	770	1947	1	1	1559	3660	1077; 1238
750	770	1948	0	1	620	2000	1077; 1238
750	770	1949	1	1	0	0	2625
750	770	1950	1	1	2	50	1308
750	770	1951	1	1	6	6	1079
750	770	1952	1	1	0	0	2626
750	770	1953	0	0			
750	770	1954	0	0			
750	770	1955	1	1	6	6	1300
750	770	1956	1	1	22	22	1301; 2627; 2850

Main Independent Variable

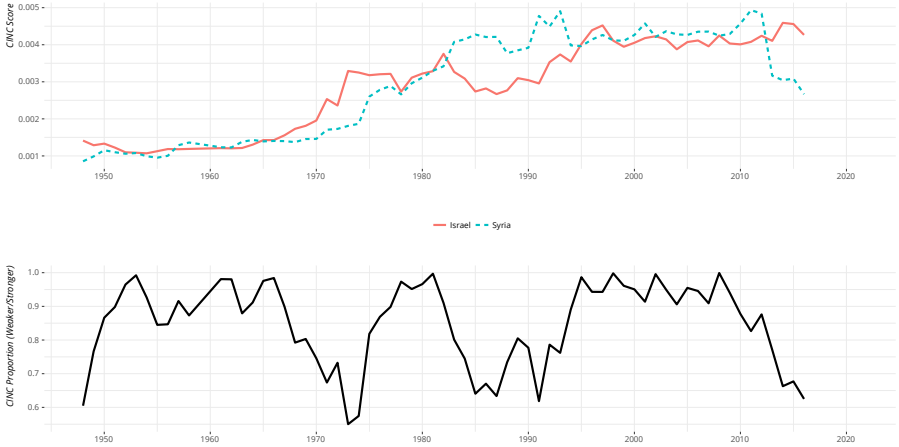
Main Independent Variable: CINC proportion (weaker/stronger)

- *Intuition:* higher values = more equal dyadic pairings.
- *Neorealism*: more equal pairings should be less conflict-prone.
- *PTT*: more equal pairings should be more conflict-prone (assuming other things).

This is what we are interested in primarily as a “cause” of the “effect.”

CINC Scores and Proportions (Weaker/Stronger) of Israel and Syria, 1948-2016

Both sides were historically evenly matched, even as Israel gets the better of most confrontations.



Data: Correlates of War National Material Capabilities (6.0)

Control Variables

Control Variables: (i.e. things we believe may confound this relationship)

- land contiguity, major powers in the dyad, defense pact, joint democracy, advanced economies
- This is very much a “Dangerous Dyads” type of analysis (Bremer, 1992).

Other notes: (i.e. things that academics care a lot about)

- Confrontation data: Gibler and Miller (forthcoming)
- Sample: politically relevant dyads (i.e. neighbors and/or dyads with a major power)
- Onset estimated using logistic regression.
- Fatalities estimated with Heckman sample correction, selecting on ongoing confrontations.
  - Otherwise: basic OLS (“linear regression”).
- War model is probit with Heckman sample correction.

Table 3: A Dangerous Dyad-ish Analysis of Inter-state Conflict

	Conf. Onset	Min. Fatalities	Max. Fatalities	Dyadic War
CINC Proportion	0.787***	0.050	-0.093	-0.150
	(0.089)	(0.217)	(0.238)	(0.173)
Land Contiguity	1.130***	0.111	0.083	0.009
	(0.059)	(0.166)	(0.182)	(0.120)
Both Major Powers	0.965***	0.976***	0.888***	0.878***
	(0.085)	(0.215)	(0.236)	(0.146)
Major-Minor	0.044	0.509***	0.506**	0.495***
	(0.064)	(0.147)	(0.161)	(0.111)
Defense Pact	-0.075	-0.338*	-0.411**	-0.420**
	(0.059)	(0.137)	(0.151)	(0.132)
Joint Democracy	-0.859***	-0.289	-0.340	-4.230
	(0.086)	(0.209)	(0.229)	(70.457)
Min. GDP per Capita in Dyad	0.114***	-0.233***	-0.286***	-0.084***
	(0.017)	(0.037)	(0.041)	(0.025)
Num.Obs.	107798	2358	2358	2358

Note:

I'm aware that there's a separation problem in Model 5 for joint democracy. Stay out of my mentions.

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

How to Interpret a Regression Table Like This

1. Find the variable(s) of interest.
2. Look for direction (positive/negative)
3. Look for “stars” (to determine statistical significance)

Table 4: The Important Results of Our Analysis (Omitting the Control Variables)

	Conf. Onset	Min. Fatalities	Max. Fatalities	Dyadic War
CINC Proportion	0.787***	0.050	-0.093	-0.150
	(0.089)	(0.217)	(0.238)	(0.173)
Num.Obs.	107798	2358	2358	2358

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5: The Important Results of Our Analysis (Omitting the Control Variables and Color Coded)

	Conf. Onset	Min. Fatalities	Max. Fatalities	Dyadic War
CINC Proportion	0.787***	0.050	-0.093	-0.150
	(0.089)	(0.217)	(0.238)	(0.173)
Num.Obs.	107798	2358	2358	2358

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 6: The Important Results of Our Analysis (Omitting the Control Variables, Color Coded, Identifying Significance)

	Conf. Onset	Min. Fatalities	Max. Fatalities	Dyadic War
CINC Proportion	**0.787*** **	0.050	-0.093	-0.150
	(0.089)	(0.217)	(0.238)	(0.173)
Num.Obs.	**107798**	2358	2358	2358

+ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The Takeaways

- The more equal the dyad, the greater the likelihood of a confrontation onset (positive and significant).
- No discernible effect of dyadic power parity on minimum/maximum fatalities (notice: no “stars”)
- No discernible effect of dyadic power parity on escalation to dyadic war.

Conclusion

PTT offers a different structural perspective for systemic insecurity/war.

- Hierarchy and not anarchy, peace through preponderance and not parity, policy-oriented behavior vs. security-oriented behavior.
- What is “revisionist” still plagues this program.

Dyadically:

- Power parity is positively associated with confrontation onset.
- No relationship with severity of the confrontation.

All told:

- Think of power as a means and not an end.
- Power is our more ubiquitous concept in IR, if not (perhaps) our most important.

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