The Impact of War on Trade (and vice versa)

Katherine Barbieri: Sleeping with the enemy

Structure of the study

- Introduction: a sketch of the theoretical background with the goal to raise a (theoretical) problem
- Research design / methods
- (Results of the) Empirical Analysis
- Consequences/ Summary
- References

Theoretical background

- Two different theories (463-464)

- (i) liberalism

  Proposition: trade promotes peace

  Rationale: trade generates economic benefits for the trading parties (→ (liberal) theories on trade), conflict will disrupt trade → loss or reduction of the gains from trade → political leaders refrain from conflict against key trading partners

  (Doyle, 1997; Oneal & Russett, 1997; Polachek, 1980)

- (ii) realism

  Propositions: trade has an negligible impact on conflict, (asymmetric) trade increases conflict

Theoretical background

- Common position:

  “they appear to agree on the effects of conflict on trade. Both imply that trade … will cease or be drastically reduced once states are engaged in serious conflicts with each other.” (464)

Conceptual basis

The relationship

(i) Conflict or peace → trade

Is different from the relationship

(ii) Trade → conflict or peace

Liberals and realists disagree on (ii), but seem to agree on (i).

Comment

- The theoretical problem consists in the differences between liberals and realists. But there is another problem, the difference between these theories and the empirical reality.

Anecdotal evidence (historical examples)

- Eighty Years' War of the Netherlands with Spain (1565? – 1658)
  → Howard, 1976:44
- Anglo-Dutch Wars (1652-1654; 1665-1667; 1672-1674; 1780-1784)
  → Pares, 1963
- The Seven Years' War (1756-1763)
- The War of 1812 (-1815)
- The Crimean War (1853-1856)
  → Levy, 1998a

Role of anecdotal evidence

- Scientific research cannot rest on anecdotal evidence.
- What we need is systematic evidence.

The clue

“systematic evidence that states trade with the enemy would undercut” a central argument of both theories (465)

Special problems

- What happened when the conflict is terminated is less well specified in those theories. Trade should remain depressed – at least for a while (arguments on pp. 465-466).

- What kind of conflict? A verbal (diplomatic) dispute? Militarized interstate dispute? Or a (big) war? The effect should be most visible with wars. (466)

Goal of the paper

- Barbieri does not intend to falsify any of the theories. The claim is: as the theories “are now formulated in the literature, [they] do not adequately deal with this phenomenon.” (466)
- Comment: theories are dependent on their formulations and they are refuted with their formulations. Another formulation is another version of the liberal or realist understanding of the effects of the relationship between war and trade.
- Barbieri’s proposal is to modify or to complement the theories “by incorporating the political power and interests of key societal groups” [into the liberal theory], or “by incorporating third parties into their conceptualization of relative gains” into the realists’ theory. (466)

Problem with the literature

- there are only few systematic empirical studies (467), restricted to a very narrow temporal domain (468).

A methodological problem

- to “disentangle the effects of conflict on trade an the effect of trade on conflict” (467)

- → Granger causality analysis (Freeman, 1983) is one possibility to solve the problem

Method: Interrupted time-series analysis

$$\text{Trade}_t = \beta_0 + \beta_1 \text{Trend}_t + \beta_2 \text{ War Level}_t + \beta_3 \text{ War Rate}_t + \varepsilon_t$$

Legend:

Trade_t = „the annual observation of dyadic trade flows in USD millions“

Trend_t = “is a counter for each year of the series”

War Level_t = “a dichotomous variable, 0 before the outbreak of war and 1 for each year after the outbreak of war”

War Rate_t = “a counter of years scored 0 before the outbreak of war and 1, 2, 3 … once the war occurs.” (470)

β_0 = overall level of the time series

β_1 = the trend before the war broke out

$\beta_0 + \beta_2$ = the level after the outbreak of war

$\beta_1 + \beta_3$ = the trend after the outbreak of war

Interrupted time-series analysis

"This technique permits us to examine the level and trend in trade conducted before and following the outbreak of war. If war has a significant effect on trading relationships, we would expect to witness a decline in trade between adversaries that engage in war. Interrupted time-series analysis also permits us to examine both the long- and short-term impact of war. In addition, it permits us to assess whether or not the anticipation of war leads to a reduction in trade." (468)

Data problems

As usual, there are missing data, for different reasons, one of them is this: “many states do not provide complete reports of their trading activities during periods surrounding wars.” (468) See also page 469. → “…it is often hard to determine whether war seriously disrupts trade flows or simply the reporting of these flows.” (469)

Solution: combining the information provided by both trading partners → dyadic trade

Dyadic trade

- Key-indicator of (dyadic) trade between two states, i and j, is = Imports ji + Imports ij
- Imports ji = the flow from i to j
- Imports ij = the flow from j to i.
- If one of the import figures of one trading partner is unknown, it is replaced by the export figure of the other trading partner.

Data base

- Barbieri 1995, CoW-project (wars)

- Temporal-spatial domain (in general)
  1870-1992, warring states

Temporal domain

- The time series should span “at least ten years before and ten years after the outbreak of war”, but there is one exception (UK-Egypt) with eight years before the war only. “

- The temporal domains for our time-series range from 17 years to 122 years.” (469)

- Comment:

  Why is the pre-war period not distinguished from the war period and the post war period?

Problem of proximity

- Many wars that are temporally very proximate (469). It is not quite clear what was done about these cases. According to the example (China and Japan) and compared to the incorporated cases, they are excluded, unfortunately.

A problem with generalization

“From our selection process, we are left with only seven dyads…” “We recognize that our limited number of cases restricts our ability to generalized beyond our findings to other cases.” (470)

Intervening variables?

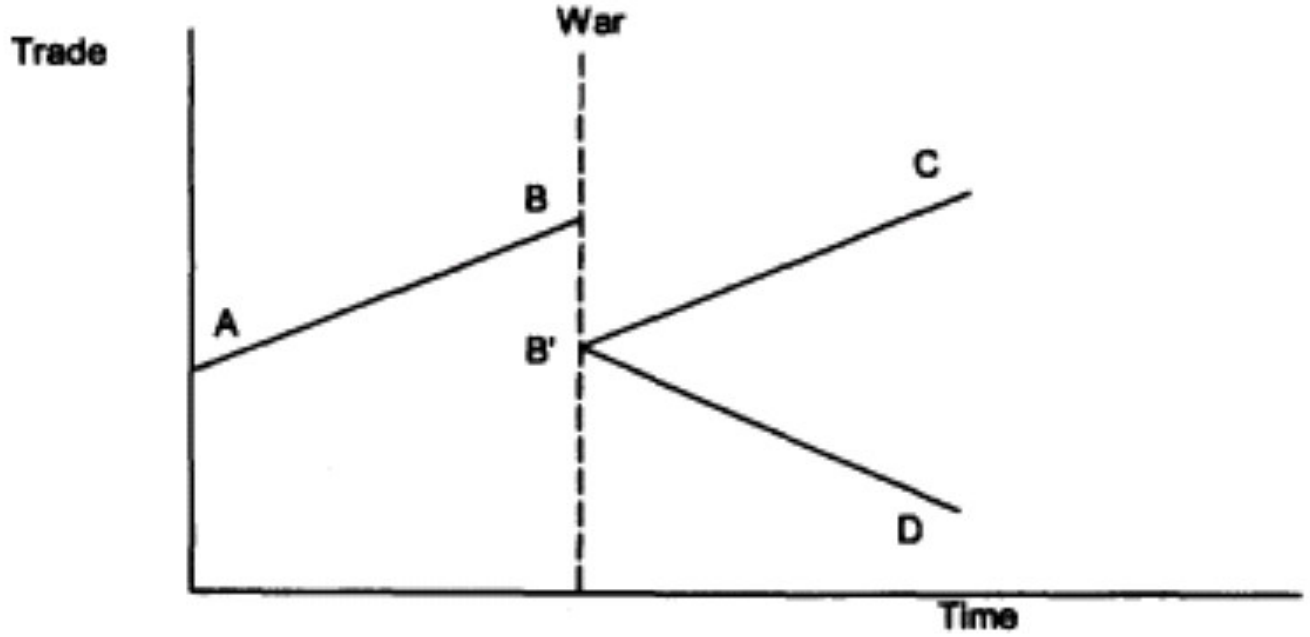
- There could be a mediating effect of long wars on GNP and of GNP on bilateral trade. They are interested in the direct impact of war on trade only and therefore prefer short wars. (470)

The (theoretical) expectations

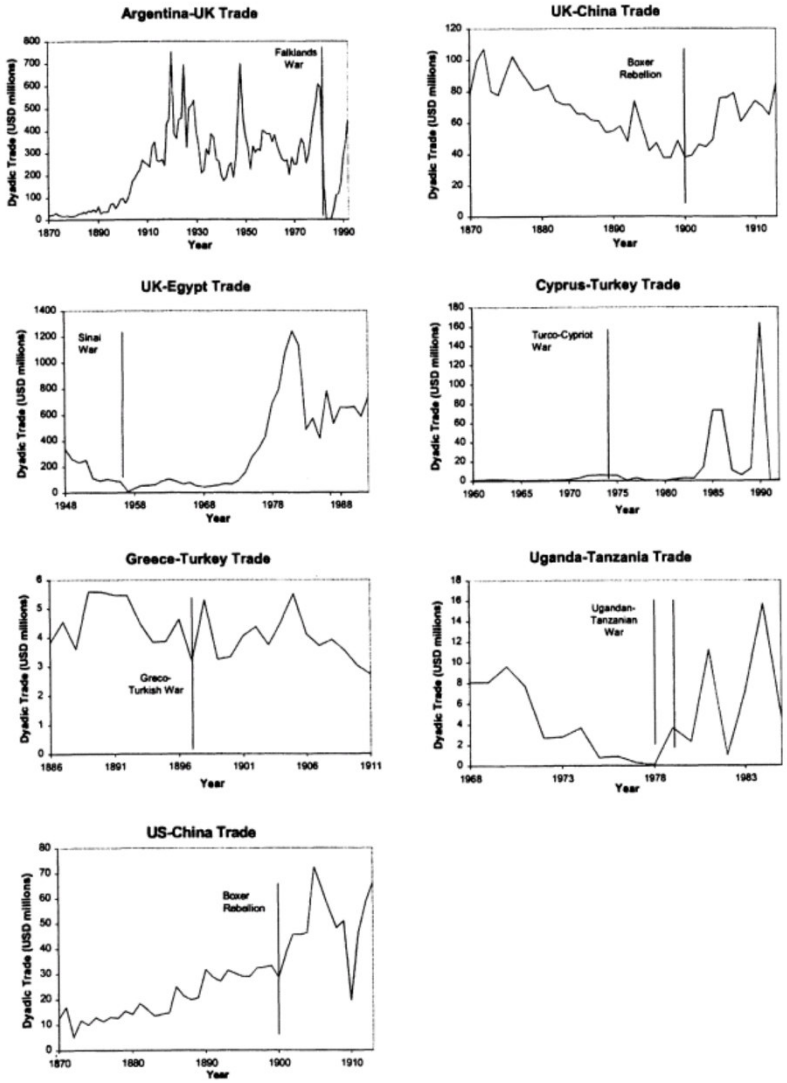
- (i) A decline of the level (effect one) could be accompanied by (i,a) a change of the slope from positive to negative (if the effect is permanent), (i,b) no change of the slope (if the effect is temporary.
- (ii) a continuous trend in the trade, regardless of the outbreak of war.
- (iii) the anticipation of war could have the effect of a negative slope in trade prior to the outbreak of war.

Figure 1

Figure 1. Hypothetical Impact of War on Trade Flows



Data inspection



Regression results

Table 1. The Impact of War on Dyadic Trade

Variables	*Argentina–UK 1870–1992 Falklands (1982)*	*UK–China 1870–1913 Boxer Rebellion (1900)*	*UK–Egypt 1948–92 Sinai (1956)*	*Cyprus–Turkey 1960–92 Turco–Cypriot (1974)*	*Greece–Turkey 1886–1911 Greco–Turkish (1897)*	*Uganda–Tanzania 1968–85 Ugandan–Tanzanian (1978)*	*USA–China 1870–1913 Boxer Rebellion (1900)*
Constant	49.607	103.449***	137.963	−0.665	4.801***	11.129**	5.860
	(67.717)	(4.462)	(153.760)	(20.135)	(0.668)	(2.979)	(3.361)
$Trend_t$	3.577***	−2.091***	−20.528**	0.322	−0.012	−1.179*	0.908***
	(0.990)	(0.242)	(9.053)	(2.280)	(0.093)	(0.456)	(0.186)
$War\ Level_t$	−462.398***	−2.254	−50.178	−11.343	−0.520	1.204	7.896
	(90.619)	(6.782)	(150.310)	(21.807)	(0.717)	(3.511)	(5.604)
$War\ Rate_t$	30.299*	5.252***	43.641**	2.409	−0.026	2.330**	0.149
	(15.561)	(0.736)	(13.459)	(2.619)	(0.118)	(0.712)	(0.584)
AR 1	0.755***	0.225**	0.763***	0.000	0.256	−0.002	0.011
	(0.062)	(0.079)	(0.101)	(0.001)	(0.199)	(0.004)	(0.013)
R^2	0.78	0.81	0.83	0.21	0.28	0.50	0.79
Adjusted R^2	0.77	0.79	0.81	0.09	0.15	0.34	0.76

Standard errors appear in parentheses. *p ≤ 0.05; **p ≤ .01; ***p ≤ .001.

Results

- Question 1: Decline of the trade level after the outbreak of war? The Falkland war only.

- Question 2:
- How to explain the increase of the trade level in the cases Uganda-Tanzania and USA-China (Boxer-Rebellion)?

  - an increase of the prices because of the war (471-472)

  - to open up a market

Results

- Question 3: Is there a permanent effect of war on trade?

  - in 4 cases, a significant positive one

  - conclusion: “the effect of war on trade is generally temporary” (474)

- Question 4: Is there a deterioration of trade when war is anticipated?

  - there is no unique sign of the trend in the period before the war.

Results

- If liberal and/or realistic theories predict a slow recovery of trade after a war, this is falsified. (475)

Mögliche Klausurfragen

Inhaltlich:

- Nennen Sie drei ökonomische Handelstheorien und beschreiben Sie eine davon ausführlich (Erklärungsziel, Hauptthesen, Voraussetzungen, wirtschaftspolitische Konsequenzen)!

- Welche Implikationen haben die traditionellen (klassischen, liberalen) Handelstheorien für den Zusammenhang zwischen zwischenstaatlichem Krieg und Handel? Differenzieren Sie dabei (a) nach den beiden möglichen Kausalzusammenhängen und (b) nach theoretischen Schulen!

- Welche empirischen Befunde über den Zusammenhang zwischen Kriegen und Handel kennen Sie? Beschränken Sie sich dabei entweder auf zwischenstaatliche oder auf Bürger-Kriege!

Methodisch:

- Erläutern Sie die Methode „Interupted time series analysis“. Wozu dient sie? Was leistet sie? Welche Voraussetzungen müssen erfüllt sein? Notieren Sie die entsprechende Regressionsgleichung und erläutern Sie die Variablen und Parameter.