The Effectiveness of International Trade Boycotts

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1 Motivation and Research Question

The main goal of this project is to analyze the mechanisms of trade boycotts and their effectiveness in disrupting international trade flows. International boycotts are a special form of non-violent conflict between countries and are often sparked by nationalist or religious feelings. Similar to violent forms of conflict like war, they are costly and ex-post inefficient as they destroy rents in the form of gains from trade, thus they are hard to be explained rationally (Fearon 1995).

Trade boycotts are not a new phenomenon and they have been used throughout history to punish or coerce a specific behavior of trading partners (early examples include the repeated boycotts of Japanese goods by China throughout the 1930s in response to the Japanese invasion, see Lauterpacht 1933). Modern boycotts like the American boycott of French goods over France’s opposition to an invasion of Iraq in 2003, the boycott of Denmark by Muslim countries in reaction to the Muhammad Comic crisis in 2006, or the recent boycott of Japan by Chinese consumers in response to the Senkaku/Diaoyu Island crisis seem to be simply continuations of this phenomenon.

Yet the nature of trade has changed and with it the nature of trade boycotts. While trade in the 19th and for most of the 20th century was primarily an exchange of final goods, today’s trade has evolved into a system of international integration of production, where the production of final goods can take place in a chain of intermediate production stages in different countries, often within a single firm. The share of such intrafirm trade alone is estimated to about one third of total trade (Zeile 1997) and thus a disruption of intermediate goods trade might have unexpected consequences for the local economy. Boycotts then pose a more severe risk to welfare than they did in pre-globalization times.
This poses the question of how effective boycotts are and whether countries are willing to carry out these costly threats. I evaluate the effectiveness of international boycotts by testing some key propositions. At first, even though boycotts are costly to both conflicting parties, we nevertheless observe them in reality as they generate high media coverage, yet we do not know how long they last. If boycotts end quickly, the overall effect might be minor. In addition, if imports catch up at a higher rate thereafter, a boycott might not be harmful at all. Lastly, the details of who boycotts which products are not well understood. Besides the government, who can impose official sanctions, there are at least two private actors involved. Firstly, consumers can boycott foreign consumer products and thus can become a non-state actor in international relations. Secondly, producers could stop importing foreign intermediate goods. The latter might be extremely costly if it disturbs domestic production and we might expect that intermediate good imports are not affected.

The goal of my paper is to answer these two questions by examining two less-studied instances of international boycotts: the boycott of Denmark by Muslim countries in 2006 and the boycott of Japanese products by China in 2012. I claim that these boycotts are exogenous to unobserved shocks, as they were triggered by religious and nationalistic tensions unrelated to previous trade levels and can thus be used to identify the effect on trade. This research idea links the IGCC topics of Regional and Major Power Relations and Nonconventional Threats to Well-being by studying both religiously-motivated economic conflict and the emergence of consumers as non-state actors in international relations.

2 Literature Review and Contribution

Boycotts are not only studied in economics, but also in psychology and political science. One important branch of this literature is concerned with the motivations of participating in consumer boycotts, see Friedman (1999). John and Klein (2003) study consumer boycotts as instances of collective action that are inherently faced with the small-agent problem, i.e. the success depends on a mass of participants, but every individual’s impact and motivation to participate is low.
Boycotts have recently received more attention by economists, yet thorough quantitative studies of international boycotts against an entire country have to my best knowledge been restricted to a single instance, the US-American boycott of French products in 2003. Pandya and Venkatesan (2013), using supermarket scanner data, find that brands that are perceived as being French lose market shares in weeks with high media attention of the boycott. For the same period, Clerides et al. (2012) find a significant but short-lived drop in sales of US-American soft drinks in the Middle East, but cannot find a similar effect on other goods. In contrast, Davis and Meunier (2011) study the trade relationships between the US and France as well as between China and Japan for the years 1990-2006. They do not find any significant link between negative events involving these countries and the level of goods exchanged, but find that trade and foreign direct investment continued to grow sharply in the period studied. Studying strategic trade policy, Fuchs and Klann (2013) examine China’s trade with countries that officially receive the Dalai Lama. They find a significant negative effect on trade volumes and confirm that, even though the effect dies out quickly, China is willing to use trade as a tool to enforce its political will.

My paper tries to fill in a gap in the understanding of boycotts by examining both the time and cross-section dimension using new datasets that have not been used yet in studying boycotts. This data is provided by the Danish Statistics Bureau and complemented by the newly established Comtrade Monthly Database. While previous studies have been largely based on annual or quarterly industry-level data, my dataset consists of monthly, highly disaggregated data that allows me to study short-term and possibly heterogeneous effect of boycotts for different product groups.

3 Research design and methods

To identify the effect of a trade boycott it is necessary to construct counterfactual export levels that one can compare the actual export figures to. Simply comparing the trade levels of the boycott period to the pre-boycott months will not account for any idiosyncratic shocks to exports that would have been present even without the boycott. Then we might attribute shocks to the boycott which have nothing to do with it. Using a difference-in-difference approach to compare boycotting countries
to non-boycotting countries requires choosing an appropriate control group. In my dataset with few boycotting countries and a large pool of non-boycotting countries, this is not a trivial task.

My identification strategy is based on the synthetic control group method (Abadie & Gardeazabal, 2003, Abadie et al., 2007) that serves as a pragmatic, data-driven approach to choosing suitable control groups. This method compares the trade volume of a boycott country to a weighted average of non-boycott countries after the boycott started. The weights are chosen such that the synthetic control group resembles the actual boycott country in both the outcome variable as well as any explanatory characteristics in the pre-boycott period, in hope that this resemblance will carry over to the boycott period. Figure 1 plots as one example the realized Danish exports to Saudi Arabia and the exports implied by the synthetic control group during the Muhammad Comic crisis. Notable is the close fit between both graphs in the pre-boycott period and the subsequent divergence.

Figure 1: Danish Exports to Saudi Arabia

The impact of the boycott in each period can then be simply obtained by the difference between the actual exports and the exports implied by the synthetic control group. This will allow me to trace out the dynamic structure of the boycott. I will then repeat this method on the industry level to examine heterogeneous impacts.
on different product categories. I will classify each product group as consumer or intermediate good using definitions of Bureau of Economic Analysis. By calculating the share of consumer goods one can consistently measure the consumer closeness of each industry and regress this measure against the estimated boycott effect to analyze the different effect on consumer and intermediate goods.

The scholarship would enable me to spend more time on this project by freeing me from the need to obtain alternative funding through teaching. Furthermore, it would provide me with the opportunity to travel and present my research to other scholars outside UCSD to benefit from their comments.

4 Timeline

I collected the data in Winter 2013 and have started to run the very computer time-intensive estimations. Preliminary results show a heterogeneous impact of the boycott at both the country and industry level. I compiled a comprehensive concordance list classifying the consumer closeness of each product group. The next step is to quantify the consumer closeness of each country-industry observation and to correlate this measure with the estimated industry-level impact. Once the analysis for the Danish boycott is complete, I will collect more recent data for the Japanese-Chinese conflict and apply the same methodology. In the meantime, I plan to present the idea in UCSD-internal seminars and bring it into working paper form by Summer 2014 in order to eventually present it to outside researchers.

Word count: 1494
Appendix

Synthetic Control Group Approach

Suppose that there are \( J + 1 \) units in the dataset which consists of one treatment unit and \( J \) potential control units. Without loss of generality, we can define the first unit to be the treated unit and specify the units 2...\( J + 1 \) to be the control units. Denote as \( y_{it} \) the exports to country \( i \) and as \( x_{it} \) the vector of explanatory variables, with \( T_0 \) being the last period before the boycott starts. In this case \( x_{it} \) is given by gross domestic production of the destination country and the bilateral distance between the boycotting and the boycotted country. The synthetic control group approach constructs the counterfactual by a weighted average of non-boycott countries, so that the estimator for the impact of the boycott on country \( i \) at time \( t \) is given by

\[
\tilde{\alpha}_{it} = y_{it} - \sum_{j=2}^{J+1} w_j^{(i)} y_{jt} \quad \forall \ t > T_0 \tag{1}
\]

where the weights \( w_j^{(i)} \) are chosen so that the synthetic control group fits both the explanatory characteristics and the previous import levels of the boycott country in the pre-boycott period:

\[
\sum_{j=2}^{J+1} w_j^{(i)} y_{jt} = y_{it} \quad \forall \ t \leq T_0 \tag{2}
\]

In practice however, one will not be able to find weights such that these equations hold exactly. In this case the weights are chosen such that the equations hold approximately. Formally, define \( Z_i = (y_{i1}, y_{i2}, y_{iT_0}, x_{i1}', x_{i2}', ..., x_{iT_0}')' \) as the column vector that stacks all import values and characteristics of country \( i \) and similarly the matrix \( Z_C = [Z_2 \ Z_3 \ ... \ Z_{J+1}] \) that collects those terms for all the potential control countries.

The \((J \times 1)\) vector \( w \) is then the solution to the following minimization problem for a given weighting matrix \( V \):

\[
W = \arg \min_W \|Z_1 - Z_C W\| = \arg \min_W \sqrt{(Z_1 - Z_C W)' V (Z_1 - Z_C W)} \tag{3}
\]
Implementation

On September 30, 2005 a Danish newspaper published cartoons of the Muslim prophet Muhammad, eventually causing a boycott of Danish goods by the Muslim world.\(^1\) I construct the synthetic control group for every country with a share of Muslim population larger than 75% and use all countries with a share smaller than 20% in the pool of controls. Adding up the implied effect of the boycott for all countries in each period I can plot the overall trade loss over time.

![Figure 2: Cumulative Trade Loss](image)

Using the average prediction error in the pre-boycott period we can then give statistical bounds on the cumulative trade loss. The results imply that within six months after the comics were published, Danish exports to the Muslim world had declined by more than 1 billion DKK (18.1% of total trade to these countries). The boycott loses momentum after about 14 months when the differences to the counterfactual values implied by the synthetic control become statistically insignificant.

![Table 1: Total Cumulative Trade Loss](image)

\(^1\)The boycott was not officially announced before January 2006. For a detailed account of the events, see Jensen (2008).
References


Lauterpacht, Hersch (1933): Boycott in International Relations, British Yearbook of International Law 14, 125-140.
