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Brothers in Arms, Brothers in Trade? Measuring the Effect of Violent Conflicts on Trade with Third-Party Countries*

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The question about the relationship between violent conflicts and international trade has a long tradition, and empirical research in the 1990s and early 2000s has established that violent interstate conflicts do harm international trade. While most of this literature dates back at least 10 to 20 years, the effect of interstate conflicts on trade with third-party countries has been neglected for most of the time in the literature. In this paper, I attempt to fill this gap. A period of 46 years is covered in the analysis, using more than 500 thousand dyad-year observations. The third-party country dimension is derived from a triadic data set, which covers all possible country-triad combinations for the studied period. I find that violent interstate conflicts reduce trade with third-party countries, and that they cause a shift in trade towards allied countries and away from the enemy's allies. Countries increase imports from members of the same security alliance by between 1 and 4 percent, and trade more with countries that have the same enemies by between 5 and 7 percent. They reduce trade with the formal allies of their enemies by between 9 and 14 percent. This negative trade shifting effect is further amplified by the size of the respective conflict country. This paper contributes to the literature on conflict and trade in two ways: First, by adding to the scarce literature introducing a third-country dimension into standard gravity models and into the literature on conflict and trade. And second, by showing the importance of a spatially dynamic perspective on interstate conflicts. (*JEL* F14, F51)

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1. Introduction

The idea that interstate conflict and trade influence each other dates back to the 18th century and has been extensively studied in the 1980s, 1990s, and the early 2000s. Some authors have found that bilateral trade decreases the likelihood of engaging in a violent conflict with each other (for example Polacheck, 1980; Mansfield and Peavehouse, 2000; Oneal et al., 2003). Others, such as Sayrs (1990), Barbieri (1996), or Martin et al. (2008), found that trade can both lead to cooperation or to conflict, depending on other political and economic factors.

Moreover, violent conflicts have been found to decrease bilateral trade flows between the conflict parties, even though the estimated magnitudes vary significantly. Keshk et al. (2010) find reductions in trade by between 4 and 10 percent, Li and Sacko (2002) by between 6 and 12 percent, and Long (2008) by more than 70 percent. Between 1968 and 2013 alone, there have been 380 violent interstate conflicts globally. Over the same period the share of trade in global GDP has risen from around 26 to 60 percent (World Bank, 2021). The estimated trade reductions, even at the lower bound, are thus economically significant, and have become much more so over time.

So far, only few papers have studied the economic effects of violent interstate conflicts on third-party countries. Feldman and Sadeh (2018) and Korovkin and Makarin (2021) are the only ones using econometric models to show how trade with third-party countries is affected by dyadic conflicts. My study attempts to contribute to this scarce literature by globally studying the effect of interstate violent conflicts on trade with third-party countries and by directly testing the influence of specific relationship characteristics between the countries of interest on the effect of interstate conflict on trade.

I develop an analytical framework combining insights from both economics and political science and derive five hypotheses to be tested. The relationship constellations that are tested in the different hypotheses and that are expected to determine how trade with third-party countries is affected by conflict, are geographic contiguity, formal security alliances, and common conflicts. Therefore, available political, geographical, and macroeconomic data is used to create a dyadic panel data set with information on third-party countries. The particularity of this paper is that it uses a dyadic data set which is tailored to test for very specific relationship constellations with countries outside of the respective dyad. Using available data on all sovereign countries over a period of 46 years, I generate a panel data set of more than 500,000 unique dyad-year observations. I use a gravity model of trade with dyad-specific fixed effects and a large number of country-specific and dyad-specific control variables. The fixed effects control for observed and unobserved time-invariant dyad-specific characteristics, while the country-specific and dyad-specific control variables minimize the risk of bias due to omitted variables.

The results show that violent interstate conflicts do affect trade with third-party countries, and that the different relationship constellations significantly matter for this relationship. I find robust evidence that violent interstate conflicts reduce trade with third-party countries by between 1 and 4 percent. Further, I find evidence that trade is used as an indirect measure to support allies and to harm enemies. If two countries have a violent conflict with the same third-party country, they increase their bilateral trade by between 5 and 7 percent. Furthermore, states decrease their bilateral trade with the formal allies of the countries they are in conflict with by between 9 and 14 percent. A slight increase in imports of between 1 and 4 percent is experienced from formal security allies. These effects are already net of the stand-alone negative effect of the conflict on an economy's trade level. Given the importance of international trade in GDP, these magnitudes are significant. Neighbors of countries that experience a conflict do not appear to significantly gain in terms of trade. Further results show that the size of the conflict countries amplifies the negative effects on trade with third-party countries, but it does not appear to increase the positive trade shifting effect to allies or countries with the same enemy.

The remainder of the paper is structured as follows. Section 2 gives a more detailed overview of the theoretical and empirical findings within the nexus of conflicts and trade. In Section 3, the conceptual setup and the different relationship constellations are introduced, and the corresponding hypotheses are derived. Section 4 describes the identification strategy and the data, before Section 5 then presents and discusses the results. Finally, Section 6 briefly summarizes the findings and explains their possible implications for future research.

2. The Political Economy of Conflict and Trade

As early as in the 18th century has the idea been discussed that interstate conflicts and trade influence each other. Scholars such as Adam Smith, Immanuel Kant, Vladimir Lenin, and Montesquieu have studied this nexus (Reuveny, 2000). But it is within the studies of international political economy (IPE), investigating the role of economic activities, interests, and politics in the international sphere of states, that the conflict-trade nexus has found its academic leanings. Three of the predominant IPE theories are Mercantilism, Marxism, and Liberalism.

Liberalism's stance on interstate conflict and trade is mainly based on classic economic trade theory and the concept of the comparative advantage. Liberals see international trade as a positive-sum game and focus on absolute rather than on relative gains from trade. Given that, entering an interstate conflict with a trade partner would be costly due to potential reductions in trade flows. Following an economic rationality, this would make states reluctant to enter a violent conflict with other states (Gilpin, 1987). Moreover, Liberals see economics and politics as two different fields. Political and economic decisions might be influenced by each other, but neither of them is ultimately superior to the other. Accordingly, war and imperialism are caused by political, rather than economic factors and decisions. Consistent with these ideas, Polachek (1980) and Gasiorowski and Polachek (1982) find a strong inverse relationship between trade and interstate conflict. Polachek (1980) develops an expected utility model, in which interstate conflict is seen as a source of costs and risks, especially in regard to trade, which would reduce profits and wealth. Therefore, conflictive behavior is irrational as it has a lower expected utility than cooperation. Other empirical studies confirm these results while setting different foci, for instance by focusing on democratic norms (Oneal et al., 1996 and Oneal and Russet, 1997), on preferential trade agreements (Mansfield and Pevehouse, 2000), on different goods (Oneal et al., 2003 and Dorussen, 2006), on trade symmetries (Hegre, 2004), or on military alliances (Jackson and Nei, 2015). Recent literature emphasized the role of third-party trade and trade networks, and found that third-party trade ties reduce the likelihood of conflict (Cranmer et al., 2015; Kinne, 2014; Lupu and Traag, 2013).

Mercantilists and Marxist both have a more pessimistic view on the role of trade for interstate conflict. In both theories, trade is seen as a zero-sum game and trade relations are always asymmetrical. That produces trade dependencies, rather than the potentially pacifying interdependencies.

Both theories predict that over these unequal trade relations, tensions and eventually conflicts would arise. Either among the developed and imperialistic countries over controversies about protectionist measures or access to markets (Mercantilist view), or between developing countries and those countries, they are dependent on (Marxist view). Mercantilism further builds on the idea that economics is subordinated to politics and economic relations are determined by political factors. Marxism, on the other hand, argues that economics drive politics (Gilpin, 1987). Both theories perceive trade as inherently conflictive and interstate conflict as a result of trade as inevitable (Sayrs, 1990). Some of these Mercantilist and Marxist arguments have been used in empirical studies to show that trade can promote interstate conflict (e.g. Hirschman, 1945, Uchitel, 1993, and Barbieri, 2002), even though the evidence is more limited. Other authors reject the view that trade is the cause exclusively for one of the two extremes (peace or conflict), and argue that trade can have a conflictive as well as a cooperative effect. Sayrs (1990), for instance, criticizes and rejects the assumption that conflict and cooperation are the two "opposite outcomes of the same continuum" (Sayrs, 1990: 23). De Vries (1990) argues that trade intensifies the interaction between two countries in general, thereby generating gains but also potentially controversies. Following this approach, Uchitel (1993), Barbieri (1996, 2002), Gasiorowski (1986), and Li and Reuveny (2008), among others, find similarly mixed results. Martin et al. (2008) find that while bilateral trade openness reduces the likelihood of violent conflicts, multilateral trade openness increases the conflict probability, as it decreases bilateral dependence and thereby the potential costs of a conflict. Peterson (2011) shows that third-party trade ties can aggravate dyadic conflicts.

In those IPE theories, international trade is characterized by specialization. The products in which countries specialize are normally determined by differences in factor endowments. Developing countries are usually characterized by abundance in natural resources and relatively unskilled labor, and specialize in labor intense products and raw materials, while developed countries are abundant in technology and relatively high-skilled labor (Bernard et al., 2012). The benefits that arise from specialization are creating interdependencies and are the reason why, according to Liberals, trading states will not start a conflict with each other. And it is these interdependencies that, as Marxists and Mercantilists argue, are always asymmetrical and lead to exploitation, vulnerability, and eventually to conflict.

However, more recent work such as Melitz (2003), Bernard et al. (2003, 2012), and Melitz and

Trefler (2012) has focused on firm heterogeneity and product diversification rather than specialization as a driver of trade. Melitz and Trefler (2012) argue that the gains from trade stem from three sources: Love-of-variety gains associated with intra-industry trade, productivity gains associated with trade-related innovation, and efficiency gains stemming from the reallocation of capital and labor from small and less productive to large and more productive firms. These findings have implications for the trade and conflict nexus and for the introduced IPE theories. Trade dependencies and interdependencies can be expected to be less intense when countries diversify trade and participate in intra-industry trade. If a country trades more different goods, it is also more likely that it trades with more different partners or at least has the possibility to do so. Mercantilism's and Marxism's main argument, that trade leads to interstate conflict because of dependencies, thus loses power. If sufficiently diversified and heterogeneous, trade does not have to lead to dependency, exploitation, vulnerability, and aggression. A more diversified range of importers and exporters also makes it easier for an economy to substitute trade losses due to conflict. Thus, the economic cost of interstate conflict could decrease compared to a state of specialization and the pacifying effect of trade would decrease. New trade theories therefore weaken the arguments for both the pessimistic view of Mercantilism and Marxism that trade promotes interstate conflict, and for the optimistic view of Liberalism that trade promotes peace.

Pollins (1989) was one of the first to empirically study the conflict-trade nexus in the reverse direction. He argues that there are three different categories of actors who could potentially influence trade: Governments, interest groups, and individuals. Using a gravity model, his findings confirm the assumed effect, namely that an increase in bilateral cooperation increases bilateral trade. Bergeijk (1994) and Gowa (1994) build up on a similar model and find that interstate conflict is negatively correlated with bilateral trade, and that alliances positively affect trade. Kim (1998) uses three different trade measures to find for all of them a reduction with the militarized interstate dispute variable. Morrow et al. (1998), on the other hand, deploy again the idea that cooperation and conflict are not necessarily two values of the same variable. They include separate variables for both alliances and military conflict. Their results are rather mixed and cannot confirm previous results, which might stem from their very limited selection of countries into their sample. Li and Sacko (2002) add measures for the severity, duration, and unexpectedness of a military conflict to their analysis. They find that all these three factors intensify the negative effect that interstate conflict has on trade. Keshk et al. (2004, 2010), motivated by concerns about the direction of causality, use a simultaneous equations model to find that conflict inhibits trade, while the effect of economic interdependence on the likelihood of a military conflict is statistically insignificant, thereby questioning the liberal trade-promotes-peace argument. Long (2008) finds that also violent conflicts short of war as well as the expectation of these reduce trade. Further, he finds that also inner-state conflicts and the expectations of these reduce trade. Bayer and Rupert (2004) look specifically at the effect of civil wars on international trade. Their analysis indicates that a civil war strongly reduces bilateral trade between the country where the civil war occurs and its trade partners.

Only very few studies have touched upon how trade is shifted because of conflicts and how third parties are involved in this nexus. Korovkin and Makarin (2021) use Ukrainian firm-level data to study the impact of the Russian-Ukrainian Crimea conflict on trade in non-conflict areas. They find that Ukrainian counties in non-conflict areas with a higher proportion of ethnic Russians experience a lower trade decrease. They further show that firms from areas with fewer ethnic Russians increase their trade with Turkey and Poland, thereby showing trade-shifting to third-party countries on the firm-level. Theoretically and methodologically somewhat related (even though trade is not the outcome variable here), Li et al. (2017) apply network theory to study military alliance networks and the pacifying effect of higher-degree alliances. They find that the likelihood of a violent conflict is lower between up to third-degree allies, meaning allies of allies of allies.

De Groot (2010), building upon previous studies by Murdoch and Sandler (2002a, 2002b, 2004), investigates the spillover effects of conflicts on economic growth in neighboring countries in Africa. His results show that conflicts do have a negative effect on growth in primary neighbors, but that secondary neighbors (neighbors of neighbors) can actually benefit in terms of growth. As one possible channel, De Groot names trade. First, because primary neighbors would possibly move some of their trade, away from the state that experiences the conflict to their other neighbors, thus the secondary neighbors of the state with the conflict. Second, because richer (non-African) nations would turn to new trade partners with similar resources or industries. However, the article does not test these assumptions empirically, leaving them open for further research.

Caruso (2003) studies the effect of unilateral and multilateral economic sanctions on bilateral trade. He finds that both have a negative impact on bilateral trade. However, when it comes to unilateral sanctions imposed by the US, he finds that while bilateral trade between the US and the receiver country decreases, it increases between the receiver country and the other G7 countries. Even though there has not necessarily to be an underlying military conflict (as it will be the case in this work), Caruso finds evidence for trade shifting due to foreign policy affairs and for "sanction-busting" by other states (Caruso, 2003: 19).

Fuchs (2018), in his work on labor mobility in Spain during WWI, shows case study evidence that when France entered the war against Germany, imports from Spain increased substantially. Fuchs argues that the deployment of French troops let to a loss of domestic production which had to be made up for by imports.

Finally, the study by Feldman and Sadeh (2018) has the closest relation to my study. Feldman and Sadeh use data from 1885 to 2000 to show that combatant countries trade more with third-party countries with higher alliance similarity, and less so with countries with higher alliance similarity with their enemy in the conflict. While Feldman and Sadeh consider alliance similarity as a facilitator to third-party trade, my analysis includes geographical contiguity and common conflicts. I moreover extend the data to include a more recent period (until 2013) and to study both imports and exports, and, finally, I extend the analysis to consider the size of the conflict countries.

3. Conceptual Setup

3.1. Dyadic Setting

There are several plausible reasons why violent conflicts inhibit trade. As a result from a reduction of labor and/or capital, a violent conflict can cause a reduction in the production possibilities of an economy and thereby in its potential ability to trade. Violent conflicts can cause damage and destruction to production facilities like factories, but also to agricultural land, natural resources, or infrastructure. Similarly, casualties among civilians cause a loss in the labor force. Another reason for the reduction of capital and labor is the reallocation and reprioritization of both. At least in a severe military conflict, labor and public (and private) spending is allocated increasingly to military purposes (Feldman and Sadeh, 2018). Foreign firms and investors might reallocate their resources too, as a country with an ongoing conflict is a less favorable destination for foreign direct investments.

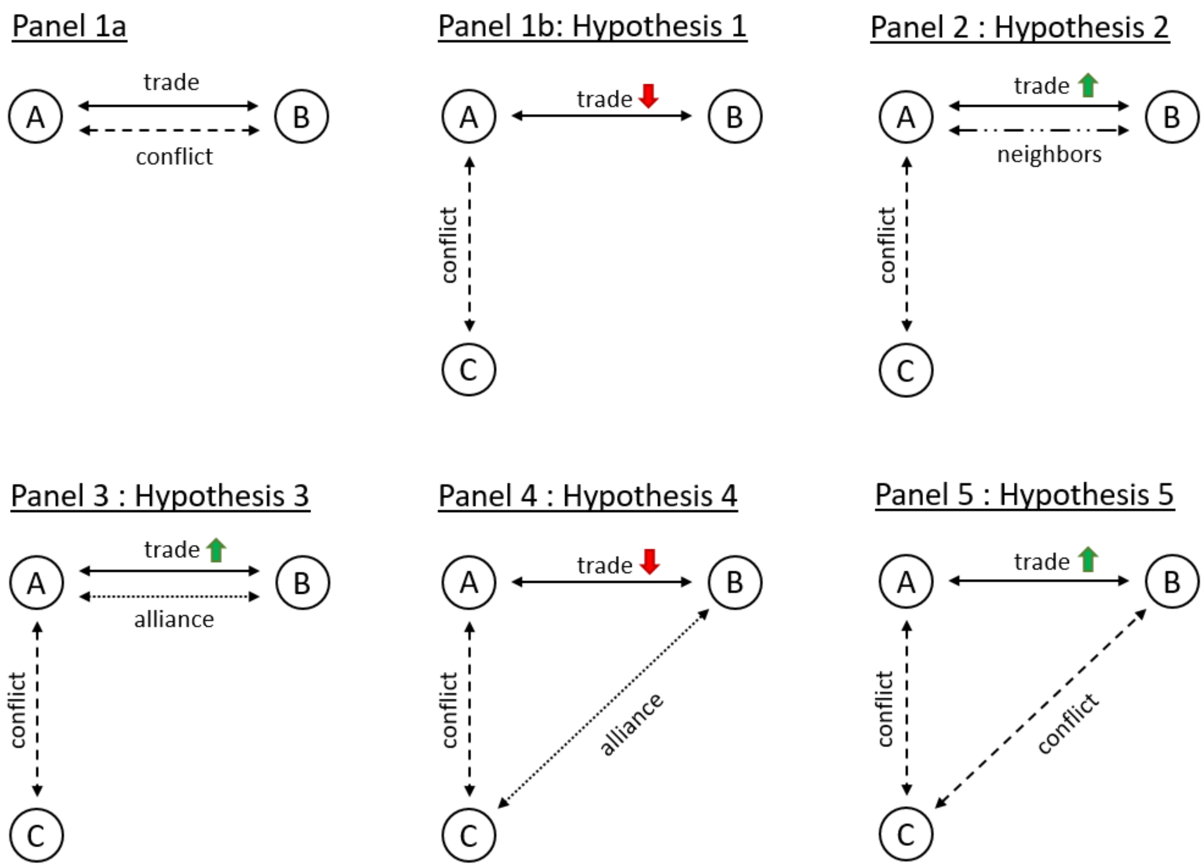
The above-mentioned mechanisms depend on the type, intensity, and location of the conflict as well as on the conflict parties. A country is more likely to experience destruction if the conflict takes place on its own territory. If, on the other hand, the conflict does not take place on the own territory at all, it is unlikely that the country will face destruction of production facilities or infrastructure. Also in a highly asymmetric conflict, it can happen that one side barely faces any destruction. Countries with sufficient military forces would also not necessarily need to allocate additional resources to its military. This is often the case for supporter or intervener countries. In the Gulf War (1990/1991) for instance, a total of 35 countries deployed troops to respond to Iraq's invasion and annexation of Kuwait. However, none of these faced any destruction at home or had to reallocate large amounts of resources to their defense capabilities.

Besides these mechanical effects, a reduction in trade can be the result of an active decision. This decision can be made on different levels: By politicians/governments, companies, interest groups, or individuals (Pollins, 1989)[1]. A government can impose sanctions such as a trade embargo, thereby forbidding and punishing companies and individuals trading with the sanctioned country (Long, 2008; Whang et al., 2013). But also without a political decision, companies can decide to reduce or disrupt trade with the adversary country. They may want to support their government or country in general and thus act for ideological or nationalistic reasons (Michaels and Zhi, 2010). On the other hand, they may have economic reasons. Especially in highly violent conflicts, it is difficult and dangerous to transport goods (Long, 2008). Infrastructure can be destroyed, and, in certain war-affected zones, transportation is simply too risky (Feldman and Sadeh, 2018). Moreover, the enforcement of law may not be secured, thus a higher risk of loss is imposed (Korovkin and Makarin, 2021). All these factors constitute additional costs for a company, making a reduction of trade likely.

Individuals have an impact through their consumption decisions. The motives are very similar to those of companies. It can be a political or ideological decision not to buy products from the adversary country in order to weaken it and support the own country (Katz, 2013). It can also be an economic decision, because products from the conflict country will be more expensive (as

[1] Pollins (1989) only mentions three levels, as he treats companies as part of the interest groups.

Figure 1: Triadic Relationship Constellations



explained for companies). Especially if many individuals bundle their efforts to boycott certain products, this can have a severe impact. Interest groups can influence the decision of whether to reduce trade at all the three levels. Company interest groups, for instance, can have a strong concern that the government does not impose a trade embargo if their income highly relies on this particular trade. Unions may have an interest in maintaining trade too, if many of their members rely on it. Other groups may have an interest in the opposite. Human rights groups, for instance, can have an interest in sanctioning a country for its human rights violations. Nationalist groups can be motivated in weakening the other country by reducing trade with it. Company interest groups representing companies that are competitors of foreign firms can also have an interest in trade reduction. These different mechanisms have been put to empirics by a large body scholars as outlaid in Section 2. As a setting of the scene, I will test whether violent conflicts reduce bilateral trade. This baseline scenario is illustrated in Panel 1a of Figure 1.

3.2. Triadic Setting

One mechanism of how third-party countries can be affected is trade shifting. That is, one country may deliberately (or forcibly) reduce its trade with a partner country, and increase it with another (thus, shifts it to that country). In this way, it tries to compensate for some of the lost trade with the country in conflict. To illustrate that, assume that a violent conflict erupts between country A and country C. As explained in the derivation of the baseline dyadic case, trade between country A and country C will assumedly decrease. The question is now, how this will affect trade between country A and a third country, B. Panel 1b illustrates the baseline setting for the triadic framework on which the remaining hypotheses are built. Again, decisions and actions taken by different actors play a role here. Country A's government can use instruments of trade policy to favor trade with country B, such as trade subsidies or reductions of trade barriers. Country A's companies will try to build up new trade relationships or extend their existing relationships with trade partners in country B to compensate for their loss of trade with country C. Individuals, here probably to a lesser extent, can contribute to trade shifting as well by turning their demand to imports from country B. Whether this leads to a significant increase in trade between country A and country B depends to a large extent on country B's behavior (or more precisely, on the behavior of country B's actors). From an economic point of view, it could be beneficial for country B to intensify its trade with country A. For consumers, this could extend the consumption variety and, in case of favorable trade policies, lower the prices. Companies could benefit from access to new markets and better prices too. Hence, for the government of country B, it makes sense to reciprocate the intensification of trade relations with country A. Beside economic arguments, also political and ideological decisions affect whether trade is shifted. Individuals and companies in country B as well as country B's government could simply want to support country A in its conflict with C. However, for similar reasons country B could also act the opposite way. Out of sympathy or alignment with country C, or out of enmity with country A, country B could take measures to interrupt its trade with country A, thereby increasing the harm that country A is already suffering through reduced trade with country C. How country B will react depends on the relationship between the three countries. I will introduce three different relationship characteristics that are important to determine how third country trade will develop. These are contiguity, formal security alliances, and common conflicts. Holding everything else equal, however, I expect that a conflict between countries A and C will, due to the overall negative economic impact of conflict, reduce trade between A and B. Thus:

Hypothesis 1: If country A and country C have a violent interstate conflict with each other, bilateral trade between country A and country B will decrease.

3.2.1. Contiguity

Geographic distance has proven to be one of the most stable and reliable determinants of foreign trade. Gravity models of trade, in which geographic proximity and country sizes are the major determinants, have been applied in many different settings and modifications. The result that trade increases with shorter geographical distance between countries remains stable for most of these studies (Chaney, 2018).

There are different reasons why geographic proximity favors trade. Chaney (2018) argues that for international trade, there need to be stable networks of importers and exporters. Geographic distance affects these networks by two mechanisms: Direct costs of creating a foreign contact, and costs of direct interaction with an existing foreign contact. Both these costs are smaller over shorter distances and it is easier to set up trade networks in direct neighboring countries. For that reason, it seems likely that companies turn first to geographically close countries to set up new connections in order to shift trade. I therefore argue:

Hypothesis 2: If country A and country C have a violent interstate conflict with each other, country A will increase its trade with its direct neighbors (Panel 2 in Figure 1).

In this hypothesis, I distinguish between two different effects. First, a pure trade shifting effect, that is the stand-alone change in trade between country A and country B if country A and country C have a violent interstate conflict conditional on country A and B being neighbors. Second, the full effect of a violent interstate conflict between countries A and C on trade between countries A and B, conditional on countries A and B being neighbors. This covers the trade shifting effect and the stand-alone effect of the conflict. Both, the trade shifting effect and the full effect are hypothesized to be positive.

3.2.2. Formal Security Alliances

Formal security alliances refer to alliances with an explicit security purpose, such as defense treaties. Members of these alliances commit each other to cooperate and support each other in security questions. It therefore seems likely that member states have a general interest in their partners' wellbeing. Often, alliances have more than only an interest in common security. Their members share similar values, norms, and interests, such as political systems or human rights. Thus, alliance members have an interest not only to support each other militarily, but also in other forms. Trade can be such a non-military support of an allied country. Some alliances even explicitly state economic cooperation as their goals alongside with security and defense (Long and Leeds, 2006). Trade with alliance members has moreover positive security externalities. In fact, international trade, following Liberalism and classical trade theory, leads to greater total wealth, and thus potentially increases the available resources for military spending, which is beneficial for the whole alliance (Long and Leeds, 2006). Feldman and Sadeh (2018) have moreover found that combatant states export more to third-party countries with higher similarity in their alliance portfolio. I therefore argue:

Hypothesis 3: If country A and country B are formal allies, they will increase their trade with each other if country A has a violent interstate conflict with country C (Panel 3).

Again, the hypothesized change applies for both, the trade shifting effect and the full effect, as for the remaining hypotheses as well.

A different situation occurs when country B and country C are formal allies (Panel 4). Feldman and Sadeh (2018) showed that combatant countries reduce exports to states with a high alliance similarity as their enemies. As explained above, alliance members have an interest in supporting each other. In this case, country B could support country C by harming country A. It could do so with trade embargos or other economic sanctions and measures against country A. Economic sanctions have become a quite common instrument of foreign policy and often replaced the use of military force (Caruso, 2003). Thus, I argue:

Hypothesis 4: If country B and country C are formal allies, country B will reduce its trade with country A if country A has a violent interstate conflict with country C (Panel 4).

3.2.3. Common Conflict

This argument follows a similar logic as the one in the previous section. If two countries are in a conflict with the same country (Panel 5), it might be in their common interest to support each other as a measure to harm their common enemy. An increase in bilateral trade would be a plausible consequence. A concern is, however, whether two conflict-affected countries have the capabilities to increase trade with each other. If both countries, A and B, are heavily affected in terms of destruction by their conflict with country C, it seems questionable whether companies in one of these countries would try to build up foreign contacts in a country that is similarly war-affected. Destruction of infrastructure, instability of institutions and the rule of law, or additional risk in war-affected zones – all these consequences are already heavy barriers to build up trade contacts if they occur in only one country. If both countries are affected by some of the aforementioned consequences, the difficulties will be even bigger. It might be easier to set up new contacts or intensify existing ones in a rather stable and peaceful country. This, again, depends on the type, location, and intensity of the conflict. Nevertheless, I argue:

Hypothesis 5: Trade between country A and country B will increase, if they are both engaged in a violent interstate conflict with country C (Panel 5).

3.3. Heterogeneity

With regards to the outlined hypotheses, I will test for two types of heterogeneous effects. First, in the type of trade flow, i.e. imports or exports. Second, in the size of the respective C-country. While in the above-stated hypotheses trade was described and treated as one aggregated type of flow, it is not obvious why imports and exports should behave the same with respect to reaction to conflict. It is, in fact, plausible to argue that the hypothesized effects will affect imports and exports to different extents. Presumably, imports might react stronger to the expected trade increase from neighboring and allied countries (Hypotheses 2, 3, and 5 respectively), while, following the findings of Korovkin and Makarin (2021), exports react stronger to the expected trade decreases from the allies of the conflict country C and stronger to the overall negative conflict effect (Hypotheses 1 and 4). Export capacities are more affected by the conflict in general, as the risk of destruction and higher uncertainty about contract enforcement increase the transportation and transaction costs for exporters, raising exporter prices and reducing competitiveness (Long, 2008). On the other hand, the demand for imports might increase more (or decrease less) during conflict due to reduced domestic production capabilities.

For the second type of heterogeneity in the effect on trade, I will incorporate a GDP weight for the respective C-country. The argument behind this is that the impact of a conflict with a C-country has a differently strong impact depending on that C-country's size. A conflict with a very large country, say the US, is likely to have stronger impact on trade than a conflict with a relatively smaller country, say Belgium. Similarly, the hypothesized trade shifting effects from the different hypotheses are likely to have a different magnitude depending on the size of the C-country.

4. Empirical Strategy

4.1. Identification Strategy and Models

The baseline model for the analysis in this paper is a structural gravity model of trade, which is most commonly used and reliable in the international trade literature (Chaney, 2018; Head and Mayer, 2014), and particularly in the trade and conflict literature (e.g. Li and Sacko, 2002; Long, 2008; Keshk et al., 2010). The very basic idea of that model has been brought up by Tinbergen (1962) and is that bilateral trade is proportional to the product of any two countries' sizes (proxied here by their GDPs), divided by their geographical distance. This relationship is usually expressed as

$$Y_{ab} = \frac{\alpha X_a^{\beta_1} X_b^{\beta_2} H_{ab}}{X_{ab}^{\beta_3}} \tag{1}$$

where Y_{ab} represents the total trade between the countries A and B, X_a and X_b represent country A's and country B's GDP, respectively, and X_{ab} represents the distance between both countries. H_{ab} is what is referred to as multilateral resistance terms (Anderson and van Wincoop, 2003; Head and Mayer, 2014). As the formulation is multiplicative, the β-parameters can be estimated taking the natural logarithm:

$$ln(y_{ab}) = ln(\alpha) + \beta_1 ln(x_a) + \beta_2 ln(x_b) - \beta_3 ln(x_{ab}) + ln(\eta_{ab}) \quad (2)$$

Since the interest lies in the effect of time-varying variables, i.e. conflict, parameter estimates will be obtained by using fixed effects estimation (Equation 3). Thereby, I control for observed and unobserved time-invariant country- and dyad-specific characteristics, including the multilateral resistance terms (Head and Mayer, 2014). In order to account for heterogeneity in the type of trade flow, the dependent variable in Equation 3, y_{abt}, represents either total imports of country A from country B, or total exports from country A to country B in year t in the respective specifications. X_{at} is a vector of country-A-specific covariates, X_{bt} is accordingly a vector of country-B-specific covariates. These country-specific covariates are country A's and country B's GDP, respectively, and their export intensities of oil and oil related products, and of diamonds, gems, and precious stones. X_{abt} is a vector of dyad-AB-specific covariates, including an indicator for violent conflict between A and B in order to test the baseline scenario. Furthermore, it includes an indicator for a formal security alliance between A and B, for geographic contiguity between A and B, for a common free trade agreement, and a measure of the polity-score difference between the two countries. Those country- and dyad-specific covariates will be discussed more in the remainder of this and in the following section. η_{ab} is a dyad-specific fixed effects term, covering time-invariant dyad-specific characteristics. Accordingly, μ_a and θ_b are country-A-specific and country-B-specific fixed effects terms, respectively, covering time-invariant country-A-specific and country-B-specific characteristics. In order to control for general macroeconomic trends and shocks, year dummies τ_t are included. Furthermore, trade from the previous period, y_{abt-1}, is included in order to control for dyad-specific time trends in trade.[2] Finally, ε_{abt} is the dyad-specific heteroscedasticity-consistent error term.

$$y_{abt} = \alpha + \beta_a X_{at} + \beta_b X_{bt} + \beta_{ab} X_{abt} + \delta y_{abt-1} + \eta_{ab} + \mu_a + \theta_b + \tau_t + \varepsilon_{abt} \quad (3)$$

[2] While in dynamic models with a lagged dependent variable structure there will always be an asymptotic bias in the within-group estimator, unless T tends to infinity and thus N/T tends to zero (Nickell, 1981; Alvarez and Arellano, 2003), this bias decreases and becomes reasonably negligible with large T.

$$y_{abt} \in \{import_{abt}, export_{abt}\}$$

One of the particularities that distinguishes this paper from others is that it incorporates a third-country dimension into a dyadic data set. Therefore, a set of additional variables containing C-country information are included (Equation 4). Most importantly, a conflict indicator $C\_conflict_{at}$ is included, which indicates whether country A has a violent conflict with any third-party country C in year *t*. Using fixed effect estimation, this model exploits within-dyad variation of $C\_conflict_{at}$ over time in order to measure the effect of a change in violent conflict with third-party C-countries from period *t-1* to *t* on trade between countries A and B in period *t*. This corresponds to Hypothesis 1.

$$y_{abt} = \alpha + \beta_a X_{at} + \beta_b X_{bt} + \beta_{ab} X_{abt} + \delta y_{abt-1} + \gamma_1 C\_conflict_{at} + \eta_{ab} + \mu_a + \theta_b + \tau_t + \varepsilon_{abt} \quad (4)$$

$$y_{abt} \in \{import_{abt}, export_{abt}\}$$

In order to measure Hypothesis 2, the interaction term $C\_conflict_{at} * contiguity_{abt}$ is included in the model (Equation 5).[3] Recall that $contiguity_{abt}$ is included in the vector of covariates X_{abt}, and thus included in the specification. This interaction term is the additional or joint effect of a conflict between A and C and the respective relationship variable, in this case geographic contiguity between A and B. The corresponding coefficient, ζ_1, therefore depicts the trade shifting effect. Moreover, this interaction term is required to calculate the full effect that a violent conflict between countries A and C has on trade between A and B conditional on country A and country B being neighbors. The coefficient of the contiguity indicator between countries A and B would only provide the estimate for the effect of contiguity between those two countries, regardless of whether there is a conflict between countries A and C or not. The coefficient for the interaction term between conflict between A and C and contiguity between A and B corresponds to the additional effect of a conflict between countries A and C on trade between countries A and B, if the latter two are neighbors. The sum of the coefficient of the conflict between A and C, the stand-alone effect of that conflict, and the coefficient of the interaction, is then the full effect.

[3] While in this equation I use the same coefficients α, β, and γ_1 as in Equation 4, the coefficient estimates will obviously differ in the different model specifications, as they vary in the independent variables included. For simplicity, though, I restrain from using additional subscripts to distinguish the coefficients for the same variables in the different model specifications.

$$y_{abt} = \alpha + \beta_a X_{at} + \beta_b X_{bt} + \beta_{ab} X_{abt} + \delta y_{abt-1} + \gamma_1 C\_conflict_{at} + \zeta_1 (C\_conflict_{at} * contiguity_{abt}) + \eta_{ab} + \mu_a + \theta_b + \tau_t + \varepsilon_{abt} \quad (5)$$

$$y_{abt} \in \{import_{abt}, export_{abt}\}$$

Similarly, and in order to test Hypothesis 3, Equation 6 includes an interaction term between conflict between A and C and the indicator for a formal security alliance between A and B (which is included in the vector of covariates X_{abt}), $C\_conflict_{at} * alliance_{abt}$. Again, the corresponding coefficient κ_1 represents the trade shifting effect, and the full effect can be calculated by adding up γ_1 and κ_1.

$$y_{abt} = \alpha + \beta_a X_{at} + \beta_b X_{bt} + \beta_{ab} X_{abt} + \delta y_{abt-1} + \gamma_1 C\_conflict_{at} + \kappa_1 (C\_conflict_{at} * alliance_{abt}) + \eta_{ab} + \mu_a + \theta_b + \tau_t + \varepsilon_{abt} \quad (6)$$

$$y_{abt} \in \{import_{abt}, export_{abt}\}$$

In order to test Hypothesis 4, two additional variables are required. First, an indicator for whether country B has a formal security alliance with any C-country, $C\_alliance_{bt}$, similar to the conflict AC indicator $C\_alliance_{at}$. Now for the trade shifting effect, one cannot just interact those two with each other. Consider country A having a conflict with a certain C-country, C_1, and thus $C\_alliance_{at} = 1$. At the same time, country B has an alliance with a *different* C-country, C_2, so that $C\_alliance_{bt} = 1$. Interacting those two, would obviously result in $C\_conflict_{at} * C\_alliance_{bt} = 1$. In Hypothesis 4, however, I make a claim about the effect of a conflict between A and C, if country B has an alliance with that exact *same* C-country. Therefore, in order to generate the appropriate variable for the trade shifting effect here, I generate a true triadic data set first.[4] That is a data set, where the observation is a country triad, thus a combination of three different countries. With a total of 200 countries over a period of 46 years, this triadic data has $200 * 199 * 198 * 46 = 362,498,400$

[4] Poast (2010, 2016) and Fordham and Poast (2016) point out the shortcomings of using dyadic data in international relations and in alliance formation in particular. They stress for the use of k-adic data, that is an observation is a combination of a certain set k countries, and demonstrate that approach using simulations and empirical data on alliance formation. However, a k-adic approach is challenging to implement into regression estimation due to the problem of repeated values in the dependent variable and thus repeated equations in the estimation.

observations. It contains information on every possible ABC relationship. From this data, I obtain all the variables with a C-dimension in my models by aggregating it to dyadic data. In order to generate $C\_conflict_{at}$, for instance, I can simply aggregate $conflict_{act}$ to the dyad-year-level, so that

$$C\_conflict_{at} = 1 \;\; if \;\; \Sigma_C \; conflict_{act} > 0 \tag{7}$$

Similarly, $C\_alliance_{bt}$ is constructed as

$$C\_alliance_{bt} = 1 \;\; if \;\; \Sigma_C \; alliance_{bct} > 0 \tag{8}$$

Their interaction was then obtained from the triadic data as

$$C\_conflict\_alliance_{abt} = 1 \;\; if \;\; [\Sigma_C \; conflict_{act} * alliance_{bct}] > 0 \tag{9}$$

Thus, in order to make sure to capture the exact effect required to test the posed hypothesis, the interaction was in fact generated already in the triadic data, so that it can be aggregated to a dyadic variable following my data structure. Hypothesis 4 can then be tested with Equation 10, where λ_1 is the coefficient of interest.

$$\begin{aligned} y_{abt} = \alpha + \beta_a X_{at} + \beta_b X_{bt} + \beta_{ab} X_{abt} + \delta y_{abt-1} + \gamma_1 C\_conflict_{at} \\ + \lambda_1 C\_conflict\_alliance_{abt} + \nu C\_alliance_{bt} + \eta_{ab} + \mu_a + \theta_b + \tau_t + \varepsilon_{abt} \end{aligned} \tag{10}$$

$$y_{abt} \in \{import_{abt}, export_{abt}\}$$

Finally for Hypothesis 5, the interaction term was constructed in a similar way from the triadic data. That is, the interaction variable $C\_conflict\_conflict_{abt}$ was obtained as in Equation 11 so that it is equal to one if both country A and country B have a conflict with the *same* C-country. In line with the previous models, the coefficient of interest is then again ξ_1 as estimated in Equation 12. Equation 13 includes all relationship variables and interaction terms as outlined above in a full model.

$$C\_conflict\_conflict_{abt} = 1 \;\; if \;\; [\Sigma_C \; conflict_{act} * conflict_{bct}] > 0 \tag{11}$$

$$\begin{aligned} y_{abt} = \alpha + \beta_a X_{at} + \beta_b X_{bt} + \beta_{ab} X_{abt} + \delta y_{abt-1} + \gamma_1 C\_conflict_{at} \\ + \xi_1 C\_conflict\_conflict_{abt} + \rho C\_conflict_{bt} + \eta_{ab} + \mu_a + \theta_b + \tau_t + \varepsilon_{abt} \end{aligned} \tag{12}$$

$$y_{abt} \in \{import_{abt}, export_{abt}\}$$

$$\begin{aligned} y_{abt} = \alpha + \beta_a X_{at} + \beta_b X_{bt} + \beta_{ab} X_{abt} + \delta y_{abt-1} + \gamma_1 C\_conflict_{at} + \zeta_1 (C\_conflict_{at} * contiguity_{abt}) \\ + \kappa_1 (C\_conflict_{at} * alliance_{abt}) + \lambda_1 C\_conflict\_alliance_{abt} + \nu C\_alliance_{bt} \\ + \xi_1 C\_conflict\_conflict_{abt} + \rho C\_conflict_{bt} + \eta_{ab} + \mu_a + \theta_b + \tau_t + \varepsilon_{abt} \\ y_{abt} \in \{import_{abt}, export_{abt}\} \end{aligned} \tag{13}$$

Besides country-A-specific, country-B-specific, and dyad-AB-specific fixed effects, capturing all time-invariant characteristics of country A, country B, and of country A and B as a dyad, a number of covariates is included in the estimation model in order to reduce the risk of omitted variable bias. This type of bias can arise if there are variables affecting both the regressand (trade between countries A and B) and the regressor (conflict between countries A and a C-country). Contiguity and security alliances between countries A and B are already included in order to test for Hypotheses 2 and 3. GDP is included as the above-mentioned proxy for country size in the gravity equation. The rationale behind it is that the size of an economy (as measured by GDP) increases a country's potential to trade. At the same time, GDP could affect the military capabilities of a country, which in turn might affect the likelihood of being engaged in a violent conflict. A measure of similarity in the political system, that is the difference in democracy scores of two countries, is included to capture additional attitudes and international policy preferences towards each other. A variable indicating whether countries A and B are members of the same free trade agreement (bilateral and multilateral) is included too. Free trade agreements between countries positively affect trade between countries (Baier and Bergstrand, 2007), but could potentially also affect the likelihood of conflict. On the one hand, increased interaction and negotiations through and for the free trade agreement could also make negotiations on other topics more likely, potentially improving diplomatic ties and reducing the likelihood of a conflict (Mansfield and Pevehouse, 2000). On the other hand, countries with a more intense conflict history are more likely to sign trade agreements (Martin et al., 2012). Apart from relationship variables, bias due to unobserved heterogeneity could stem from omitted country-A-specific variables, since country A is involved in both trade between A and B and conflict between A and C. Numerous country characteristics are already covered by the fixed effect term (all time-invariant observed and unobserved country characteristics). Thus, only time-varying country-specific factors that can affect both foreign politics and economics of a country can pose a problem as omitted variables. The overall economic performance and capabilities of an economy are controlled for by GDP. The involvement in international political and economic organizations, regimes, and treaties, is further controlled for by the different above-explained relationship variables. However, different types of economic and political shocks could potentially play a role here. One such factor that is often brought in connection with conflicts is the discovery or abundance of natural resources (e.g. Berman et al., 2017). If country A experiences such a discovery (of significant size), could this potentially increase trade flows with other countries, both in terms of raw materials but also of processed or manufactured products. At the same time, this could make country A more attractive as a target for a foreign aggression by country C, since the prospect of natural resource extraction could be an attractive gain. In reality though, only few violent interstate conflicts were actually caused, or partly caused, by natural resources. The vast majority of evidence on the effect of natural resources on the likelihood of conflict is limited to inner-state conflicts. Caselli et al. (2013), however, find that also interstate conflicts can be fueled by natural resources (in particular by oil fields), if they are located sufficiently proximate to the state border. To proxy for the abundance of natural resources, the country specific control vectors include measures for the amount of oil and oil related exports as well as of exports of diamonds, pearls, and precious stones, which are the most common natural resources related to conflict in the literature (e.g. De Soysa and Neumayer, 2007, or Sorens, 2011).

Another typical concern in the field of conflict and trade studies is the risk of reverse causality, thus the risk that it is actually trade that determines the likelihood of conflict, rather than the other way around. The large body of literature studying this direction (as outlaid in the Section 2), gives support to this concern. These previous studies, however, exclusively study the dyadic case without a third-party country dimension. In that framework, it seems plausible that the causality could go in both directions: A violent conflict between countries A and B has an effect on trade between

A and B; or trade between countries A and B has an effect on the likelihood of violent conflict between countries A and B. In the framework of this paper, however, this logic is not as straight forward. While I argue that a conflict between country A and a third-party country C will have an effect on trade between countries A and B, reverse causality would in this case imply that trade between countries A and B has an effect on the likelihood of conflict between countries A and C. The argument of the IPE literature (e.g. Polachek, 1980) that the potential loss of trade benefits would restrain countries from entering a conflict, does not hold here: For country A to enter a conflict with C would not necessarily reduce the trade ties with B (except for the general negative effect a conflict has on the economy of the country, which should, however, restrain a country from entering *any* conflict then). There is therefore no reason to believe that trade ties between A and B should cause a reduced (or increased) likelihood of a conflict between A and C. Moreover, country C is not involved in the bilateral trade between AB, thus, there is even less reason to believe that trade between A and B should influence the likelihood of country C entering a conflict with country A.

Finally, bias could arise due to systematic measurement error. The concern is that trade could systematically contain a higher number of missing values during conflicts. Especially in high intensity conflicts, it is plausible that official trade records are not taken or are less reliable. If this was the case, a number of observations containing a conflict would be missing from the data set, and thus the coefficient estimates would be biased. While the effect of the violent conflict between countries A and C would likely be downward biased, since it is the high intensity conflicts that inflict the highest damage to an economy and are more likely to cause missing trade data, the direction of bias for the trade shifting effect, thus the interaction term, would remain unclear. It is the high intensity conflicts that would generate a greater urge to shift trade to other countries. But at the same time, it is also the high intensity conflicts that reduce the overall trade capabilities of an economy the most. The bias could thus go into both directions. While this risk of a bias due to measurement error remains, and the possibility of omitted variable bias cannot be entirely ruled out, the above mentioned strategy using C-country variation and country- and dyad-specific covariates and fixed effects, makes me confident that a causal effect is identified.

As stated in Section 3.3, I will not only look at heterogeneity in terms of the type of trade flow (i.e. imports and exports), but also in terms of the size of the respective C countries. In order to test whether the GDP size of country C matters for the tested trade shifting effects, the respective interaction terms are weighted by country C's GDP. As the C-country dimension is involved for this, the required variables are generated in the true triadic data, similar as the other C-country variables. For Hypothesis 1, where just the effect of conflict between A and C is measured, a weighted measure for conflict between A and C is constructed as

$$C\_conflict\_gdp\_share_{at} = \Sigma_C \left[conflict_{act} * GDP_{ct}\right] \tag{14}$$

where GDP_{ct} is measured as country C's GDP as a share of world GDP in year t. The share of GDP of all countries that country A has a violent conflict with in year t is then given by $C\_conflict\_gdp\_share_{at}$. This weighted conflict measure, additionally to the conflict dummy, is then included in Equation 4. In Equation 15, γ_2 then measures how the effect of a violent conflict between countries A and C varies with the GDP size of those C countries, controlled for whether there is a violent conflict between A and C.

$$\begin{aligned} y_{abt} = \alpha + \beta_a X_{at} + \beta_b X_{bt} + \beta_{ab} X_{abt} + \delta y_{abt-1} + \gamma_1 C\_conflict_{at} \\ + \gamma_2 C\_conflict\_gdp\_share_{at} + \eta_{ab} + \mu_a + \theta_b + \tau_t + \varepsilon_{abt} \end{aligned} \tag{15}$$

$$y_{abt} \in \{import_{abt}, export_{abt}\}$$

For Hypothesis 2, both $C\_conflict_{at}$ and $C\_conflict\_gdp\_share_{at}$ are then interacted with $contiguity_{abt}$ in order to measure how the size of country C's GDP affects the trade shifting effect, given that countries A and C have a conflict and that countries A and B are neighbors (Equation 16). The former will simply be a binary indicator, and thus ζ_1 will measure the effect of whether countries A and C have a conflict and countries A and B are neighbors. The later will be a continuous measure, and ζ_2 will depict how country C's size will affect trade between A and B if the two are neighbors and country A and C have a violent conflict.

$$\begin{aligned} y_{abt} = \alpha + \beta_a X_{at} + \beta_b X_{bt} + \beta_{ab} X_{abt} + \delta y_{abt-1} + \gamma_1 C\_conflict_{at} + \zeta_1 (C\_conflict_{at} * contiguity_{abt}) \\ + \zeta_2 (C\_conflict\_gdp\_share_{at} * contiguity_{abt}) + \eta_{ab} + \mu_a + \theta_b + \tau_t + \varepsilon_{abt} \end{aligned} \tag{16}$$

$$y_{abt} \in \{import_{abt}, export_{abt}\}$$

For Hypothesis 3 (alliance between countries A and B), the model is set up in the same way. For Hypotheses 4 and 5, the C-country GDP share is again constructed separately in the triadic data, as I want a measure for the GDP share of only those C-countries that have a conflict with country A *and* are allies with country B (Hypothesis 4) or in conflict with country B (Hypothesis 5). Those are generated by Equations 17 and 18. The estimation models are then set up equivalently as in Equation 16.

$$C\_conflict\_gdp\_share_{at}^{Hyp4} = \Sigma_C \left[conflict_{act} * alliance_{bct} * GDP_{ct}\right] \tag{17}$$

$$C\_conflict\_gdp\_share_{at}^{Hyp5} = \Sigma_C \left[conflict_{act} * conflict_{bct} * GDP_{ct}\right] \tag{18}$$

4.2. Data

For this paper, a country-dyadic data set with a third-party country dimension is used, where an observation is a pair of countries in a certain year. Given the total number of countries in the data (all sovereign states, as listed by the United Nations, plus some quasi-sovereign but not fully recognized states and some former states), the potential number of country combinations is 39,800 directed country dyads. For the studied period from 1968 to 2013, this adds up to 1,830,800 dyad-year observations. However, given that some of the following data sources are not complete, the panel is highly unbalanced. Constraining this to a balanced panel will reduce the number of observations to 543,040 (if a basic set of covariates is used) and to 475,130 (if the full set of covariates is used).

The particularity of this paper is that it adds a third-party country (or C-country) dimension to the dyadic data. This C-country dimension is obtained from a triadic data set. That is a data set where an observation is a triplet of countries in a certain year. Given the total number of countries and years studied, this adds up to a potential number of 362,498,400 triad-year observations in the studied period. Certain C-country variables are then obtained by aggregating this triadic data set to a dyadic one, as explained in the previous section.

The crucial data for this analysis are information on conflict and on trade. For conflict, I use the data of the International Crisis Behavior (ICB) Project (Brecher et al., 2016), which provides a large variety of information about interstate conflicts on a dyadic level and covers a period of 96 years (1918 to 2013), of which I will utilize the latest 46 years.[5] The total number of dyad-year observations with conflict in the ICB data set for this period is 545, of which 165 are non-violent conflicts. This leaves a share of 5.80 percent of the dyad-year observations of the balanced data set with a violent interstate conflict with a C-country (see Table 1). The remaining violent conflicts consist of three different intensities, of which I am using the lowest one as the threshold to define a violent conflict dummy. That is, a violent conflict is defined by any use of directed kinetic force by one country with the potential to kill people in the other one.

The trade data comes from the Correlates of War (COW) database (Barbieri and Keshk, 2016). The COW data covers imports and exports over the period from 1870 to 2014 and is based on the Directions of Trade Statistics of the International Monetary Fund (IMF, 2017), complemented with data from the UN and from national statistic bureaus. All sovereign as well as some former and quasi-sovereign states are included. The data is far from being complete. Many countries do not have trade data reported for all years and/or all partner countries. The total number of dyad year observations is 886,828 (678,116 in the studied period 1968-2013). In some dyads, there is only one flow – import or export – reported, while the other is missing. In some of these cases, however, the missing trade flow is reported in the opposite direction, and thus the missing information could be filled in (for instance exports from country A to country B are missing, but imports from country A into country B are reported). In some other dyads, both import and export data are missing, but at least one of them is reported in the opposite direction. It was again possible to fill up some missing values with reported values. This lifts up the number of dyadic observations with both import and export data reported to 688,828 in the studied period. As the dependent variables, the natural

[5] Two other conflict databases that are often used in research on trade and conflict are the Correlates of War (COW) Project, and the Uppsala Conflict Data Program (UCDP). The main disadvantage of the COW conflict data is that it does not come in a clear dyadic format. In conflicts with more than two states involved, it is often not clear who is actually fighting whom. Using this data would therefore bear the risk of reporting violent conflicts between countries who were not actually violently involved with each other. For instance, many South and Central American states declared war on Japan or Germany during World War II, while most of them were not actually involved in any combat action. Others declared war to all of the Axis powers, but were only involved in combats with some certain states. The UCDP data has a similar flaw. It does not come in a clear dyadic format either. As this dataset includes non-state actors, other states are often only listed as supporters, without distinguishing between military or just political or verbal support. Other conflict data-bases cover shorter periods (Conflict and Peace Data Bank (COPDAB), Data on Armed Conflict and Security (DACS), World Event/Interaction Survey (WEIS)), are limited to certain regions (Armed Conflict Location Event Data Project (ACLED)), or do not provide their full data in an accessible data format (Heidelberg Institute for International Conflict Research (HIIK)).

logarithm[6] of imports of country A from country B and of exports from country A to country B in year *t*, expressed in millions of 2010 US dollars, is then used.

As this paper draws upon a gravity model of international trade, data on country sizes, proxied by the natural logarithm of GDP, is required. I use the data from the World Development Indicators (WDI) databank of the World Bank (2017), where GDP is reported in millions of 2010 US dollars and covers the period from 1968 on. The data that is required for the formation of the different relationship constellations, i.e. geographic contiguity and formal military alliances, is extracted from the COW project too (Correlates of War Project, 2016; Stinnett et al., 2002; Gibler, 2009). Based on that, dummy variables are created which denote whether two countries are geographical neighbors in the broadest sense, or whether there is any form of formal security-related alliance between two countries.

The measure of similarity of the political system of two countries is based on the Polity IV data (Integrated Network for Societal Conflict Research, 2018), which provides a score on how democratic or autocratic a country is. The data ranges from (depending on the country) 1800 to 2015, and the score ranges from -10 (maximum autocratic) to 10 (maximum democratic). The similarity is calculated by subtracting the lower democracy score from the higher democracy score within a dyad. The minimum distance is 0 (same democracy score), the maximum is 20. Data on free trade agreements comes from the Design of Trade Agreements Database (Baccini et al., 2014), and covers data on bilateral and multilateral trade agreements over the period of 1945 to 2019. Finally, data on natural resources exports is extracted from the Observatory of Economic Complexity (OEC) (Hidalgo and Simoes, 2011), which contains bilateral and unilateral import and export data from 1962 to 2017 on a 4-digit product level. The OEC data is based on the data from The Center for International Data and from the UN COMTRADE database. The oil variable is then created by taking the natural logarithm of the sum of exports of petroleum and petroleum related products (SITC4 Rev. 2 codes 3330 – 3354). The stone variable is generated in the same way by using exports of worked and unworked pearls, and precious and semi-precious stones (SITC4 Rev. 2 codes 6671 – 6674), which covers diamonds and other precious stones.

[6] As taking the logarithm of imports and exports in the presence of zero trade flows leads to missing values in the data, I re-run the main analyses with log(1+imports) and log(1+exports) as the dependent variables. While magnitudes change, the direction and precision of the main estimates remain mostly unchanged, as can be seen in the Tables A1, A2, and A3 in the appendix.

Table 1: Summary Statistics

Variable	Description	Scale	N	Mean	SD	Min	Max
log imports	log of imports (in millions of 2010 US dollars) of country A from country B	continuous	475,130	1.951	3.554	-22.06	12.99
log exports	log of exports (in millions of 2010 US dollars) from country A to country B	continuous	475,130	1.951	3.554	-22.06	12.99
conflict AB	violent interstate conflict between countries A and B	binary	475,130	0.0005	0.022	0	1
conflict AC	violent interstate conflict between countries A and C	binary	475,130	0.0580	0.234	0	1
conflict BC	violent interstate conflict between countries B and C	binary	475,130	0.0576	0.233	0	1
contiguity AB	geographic contiguity between countries A and B	binary	475,130	0.0554	0.229	0	1
alliance AB	formal security alliance between countries A and B	binary	475,130	0.0997	0.300	0	1
alliance BC	formal security alliance between countries B and C	binary	475,130	0.7358	0.441	0	1
FTA AB	preferential trade agreement between countries A and B	binary	475,130	0.0108	0.103	0	1
polity AB	polity score difference between countries A and B	ordinal	475,130	7.6699	6.384	0	20
GDP A	log of GDP (in millions of 2010 US dollars) of country A	continuous	475,130	11.1793	2.068	5.10	16.58
GDP B	log of GDP (in millions of 2010 US dollars) of country B	continuous	475,130	11.0341	2.139	5.10	16.58
oil A	log of total exports (in current US dollars) of petroleum and related products of country A	continuous	475,130	9.3862	9.854	0.00	26.45
oil B	log of total exports (in current US dollars) of petroleum and related products of country B	continuous	475,130	9.3375	9.817	0.00	26.45
stones A	log of total exports (in current US dollars) of diamonds, gems, and precious stones of country A	continuous	475,130	6.8512	8.083	0.00	23.97
stones B	log of total exports (in current US dollars) of diamonds, gems, and precious stones of country B	continuous	475,130	6.7056	8.028	0.00	24.21
conflict AC x contiguity AB	interaction term between conflict AC and contiguity AB	binary	475,130	0.0034	0.058	0	1
conflict AC x alliance AB	interaction term between conflict AC and alliance AB	binary	475,130	0.0065	0.080	0	1
conflict AC x alliance BC	interaction term between conflict AC and alliance BC	binary	475,130	0.0049	0.070	0	1
conflict AC x conflict BC	interaction term between conflict AC and conflict BC	binary	475,130	0.0031	0.055	0	1

Table 1 provides summary statistics for the variables used in the baseline estimation models. It also includes the relevant interaction terms for Hypotheses 2 to 5. The constellation tested in Hypothesis 2, namely that country A has a violent conflict with country C and is neighbors with country B, occurs in 0.34 percent of the of the dyad-year observations. Country A having a violent conflict with country C while being in a security alliance with country B (Hypothesis 3) occurs in 0.65 percent of the observations. For Hypothesis 4, country A and country C having a violent conflict while countries B and C are neighbors, the share is 0.49 percent. And for the final case in Hypothesis 5, where both countries A and B have a violent conflict with country C, the share 0.31 percent.

5. Results

5.1. Baseline Results

Table 2: Estimates of Dyadic and Third-Party Country Conflicts

	(1) log import 1968-2013	(2) log import 1968-2013	(3) log import 1968-2013	(4) log export 1968-2013	(5) log export 1968-2013	(6) log export 1968-2013
conflict AB	-0.7571***	-0.8231***	-0.8180***	-0.7571***	-0.8231***	-0.8131***
	(0.1142)	(0.1221)	(0.1223)	(0.1142)	(0.1221)	(0.1221)
conflict AC			-0.0211***			-0.0398***
			(0.0079)			(0.0082)
Observations	543,040	475,130	475,130	543,040	475,130	475,130
Year FE	yes	yes	yes	yes	yes	yes
Country FE	yes	yes	yes	yes	yes	yes
Dyad FE	yes	yes	yes	yes	yes	yes
Controls	basic	full	full	basic	full	full

Notes: Robust standard errors are reported in parentheses. The asterisk denote the significance levels of 1, 5, and 10 percent (*** $p<0.01$, ** $p<0.05$, * $p<0.1$). All columns use year, country, and dyad fixed effects. All columns use GDP and contiguity AB as covariates. Columns 2, 3, 5, and 6 use additionally alliance AB, FTA AB, polity AB, as well as the oil and diamond covariates for A and B. Columns 1 to 3 include imports lagged by one year, Columns 4 to 6 exports lagged by one year. Columns 1, 2, 4, and 5 are estimated using Equation 3, Columns 3 and 6 are estimated using Equation 4. Fixed effects, covariates, R-squared, and constants are not reported.

Table 2 displays the results from Equations 3 and 4. Columns 1 and 2 show the results for imports as the dependent variable without any C-country dimension. The estimation reports a negative and statistically highly significant coefficient for *conflict AB*. The estimated coefficients of -0.7571 (if only GDP and contiguity are used as covariates) and -0.8231 (if the full set of covariates is used[7]) correspond to reductions in imports of 53.10 and 56.09 percent, confirming what has been found in the literature before. The magnitudes lie closer to what has been estimated by Long (2008), with trade reductions of more than 70 percent, or Feldman and Sadeh (2018), with reductions of 64 percent, than by Li and Sacko (2002; between 6 and 12 percent) or Keshk et al. (2010; between

[7] For better readability, most of the covariates are not displayed in Tables 2, 3, and 5. Only those that are directly relevant to the outcomes of the different hypotheses are shown. Tables A4, A5, and A6 in the appendix show the same tables with all covariates displayed.

4 and 10 percent). Columns 3 and 4 show the same estimation with exports the as dependent variable. As there is no C-country dimension yet in these estimations, the results for exports are just the mirrored results of imports and the estimates are in fact the same. For Columns 3 and 6, the C-country dimension is added and Equation 4 is used. Both columns report the respective coefficient for conflict AC, which is the indicator variable $C\_conflict_{at}$ from Equation 4. Both show a negative and statistically significant effect of *conflict AC* on the dependent variable. This corresponds to a reduction in imports of 2.11 percent (Column 3) and of 3.98 percent in exports (Column 6). The magnitudes are, unsurprisingly, weaker than for *conflict AB*. This is also in line with what have been found by Feldman and Sadeh (2018), even though their estimates are larger (between 14 and 23 percent), potentially due to the difference in the sample period. These results confirm Hypothesis 1, namely that a violent interstate conflict between countries A and C reduces bilateral trade (both imports and exports) between countries A and B. The results further show that country A's exports appear to decrease more than its imports.

Table 3 shows the results for testing the remaining four hypotheses on imports as the dependent variable. All columns use the full set of covariates as well as year, country, and dyad fixed effects. Column 1 uses Equation 5, thus includes the interaction term between *conflict AC* and *contiguity AB* in order to test Hypothesis 2. The coefficient for *conflict AC* continues to be negative and statistically significant (slightly weaker though in terms of magnitude and precision compared to Column 3 of Table 2). The coefficient estimate for the interaction term between *conflict AC* and *contiguity AB* is negative and statistically insignificant. Similarly, in Column 5, where all relevant interaction terms are included in a full model and thus Equation 13 is used, the interaction coefficient is negative and statistically insignificant too. Thus, different than hypothesized, country A does not appear to import more from its neighbors when it has a conflict with country C.

In Column 2, the interaction between *conflict AC* and *alliance AB* is included, using Equation 6. The coefficient estimate is positive and statistically significant (even though only weakly, at the 10 percent level), corresponding to an increase in imports of 3.90 percent. This confirms Hypothesis 2 regarding the trade shifting effect: Country A increases imports from its allies if it has a conflict with country C. This trade shifting effect appears to be larger than the stand-alone negative effect of *conflict AC*, thus the full effect of *conflict AC* conditional on countries A and B being allies is an increase in imports by 1.42 percent (see Table 4, Column 2), even though an F-test for joint significance has to be rejected. In the full model (Table 3, Column 5), the trade shifting effect for Hypothesis 3 appears to be larger both in terms of magnitude and precision, representing an increase in imports by 6.29 percent. The full effect is stronger too, with an increase in imports of 4.01 percent (Table 4, Column 4), jointly significant at the 10 percent level.

Table 3: Estimates of Trade Shifting Effects on Imports

	(1) log import 1968-2013	(2) log import 1968-2013	(3) log import 1968-2013	(4) log import 1968-2013	(5) log import 1968-2013
conflict AC	-0.0206**	-0.0251***	-0.0139*	-0.0265***	-0.0231***
	(0.0082)	(0.0084)	(0.0081)	(0.0081)	(0.0087)
conflict AC x contiguity AB	-0.0078				-0.0184
	(0.0247)				(0.0258)
conflict AC x alliance AB		0.0382*			0.0610***
		(0.0199)			(0.0213)
conflict AC x alliance BC			-0.0858***		-0.1051***
			(0.0275)		(0.0282)
conflict AC x conflict BC				0.0910***	0.0918***
				(0.0228)	(0.0236)
Observations	475,130	475,130	475,130	475,130	475,130
Year FE	yes	yes	yes	yes	yes
Country FE	yes	yes	yes	yes	yes
Dyad FE	yes	yes	yes	yes	yes
Controls	full	full	full	full	full

Notes: Robust standard errors are reported in parentheses. The asterisk denote the significance levels of 1, 5, and 10 percent (*** $p<0.01$, ** $p<0.05$, * $p<0.1$). All columns use year, country, and dyad fixed effects. All columns use the full set of AB covariates: GDP, contiguity AB, alliance AB, FTA AB, polity AB, oil and diamond exports, conflict AB, as well as imports lagged by one year. Column 3 and 5 additionally use alliance BC, Columns 4 and 5 use conflict BC. Column 1 is estimated using Equation 5, Column 2 using Equation 6, Column 3 using Equation 10, Column 4 using Equation 12, and Column 5 using Equation 13. Fixed effects, covariates, R-squared, and constants are not reported.

Column 3 of Table 3 uses Equation 10 and shows the results for testing Hypothesis 4. The coefficient estimate for *conflict AC* is weaker in terms of magnitude and significance than in the previous models, yet still negative and weakly statistically significant. The trade shifting effect, thus the coefficient estimate for the interaction term *conflict AC x alliance BC*, is negative, statistically significant and large in terms of magnitude. The coefficient size is -0.0858, corresponding to a decrease in imports by 8.22 percent. Adding this to the stand-alone effect of *conflict AC*, the full effect appears to be even stronger: Country A reduces its imports from country B by 9.61 percent if it has a violent interstate conflict with country C *and* if countries B and C are allies (see Table 4, Column 2). This confirms Hypothesis 4, showing that countries reduce imports from the allies of the countries they have a conflict with. Both the trade shifting and the full effect are even stronger in full model (Column 5), amounting in a total reduction in imports of 12.26 percent (Table 4, Column 4). The full effect is statistically significant both in the single model and in the full model.

Table 4: Effect Sizes on Imports in %

	(1) log import Single Model Trade Shifting	(2) log import Single Model Full Effect	(3) log import Full Model Trade Shifting	(4) log import Full Model Full Effect
conflict AC x contiguity AB	-0.78	-2.81	-1.82	-4.11
	(0.025)	(0.024)	(0.026)	(0.026)
conflict AC x alliance AB	3.90*	1.42	6.29***	4.01*
	(0.020)	(0.018)	(0.021)	(0.021)
conflict AC x alliance BC	-8.22***	-9.61***	-9.98***	-12.26***
	(0.028)	(0.027)	(0.028)	(0.028)
conflict AC x conflict BC	9.53***	6.92***	9.62***	7.33***
	(0.023)	(0.022)	(0.024)	(0.024)

Notes: The displayed numbers are the percentage changes in imports corresponding to the coefficient estimates from Table 3. Columns 1 and 2 of this table refer to the coefficient estimates from Columns 1-4 of Table 3, and Columns 3 and 4 of this table refer to the coefficient estimates of Column 5 of Table 3. Columns 2 and 4 of this table report the sum of the coefficient estimates of *conflict AC* in the respective columns and of the respective interaction terms. Standard errors are reported in parentheses. The asterisk denote the significance levels of 1, 5, and 10 percent (*** $p<0.01$, ** $p<0.05$, * $p<0.1$). For Columns 2 and 4, the significance levels are based on an F-statistic for joint significance.

Finally, Column 4 of Table 3 uses Equation 12 and tests the case of common conflicts. The included interaction term is between *conflict AC* and *conflict BC*. The coefficient estimate is positive, statistically significant, and high in terms of magnitude, corresponding to an increase in imports of 9.53 percent, thus confirming Hypothesis 5. As the positive trade shifting effect is stronger than the negative stand-alone effect of *conflict AC*, the full effect is positive too, with an increase in imports of 6.92 percent (see Table 4, Column 2). Thus, if country A and country B both have a violent interstate conflict with the *same* country C, country A increases its imports from that country B. In the full model (Table 3, Column 5), the trade shifting and the full effect are slightly stronger, with increases in imports of 9.62 and 7.33 percent, respectively. Again, the full effect is statistically significant in both the single and the full model.

Table 5 now turns to exports as the dependent variable, testing the different Hypotheses separately and together in a full model. Again, all columns include the full set of covariates and use time, country, and dyad fixed effects. The *conflict AC* coefficient is negative and statistically significant in all columns. As already indicated in Table 2, the effect appears to be stronger for exports than for imports, with reductions in exports of between 3.00 and 4.37 percent, as compared to reductions in imports of 1.39 to 2.61 percent. Column 1 of Table 5 shows the results for testing Hypothesis 2. The coefficient estimate for the interaction term between *conflict AC* and *contiguity AB* is negative and statistically insignificant. Thus, as already shown for imports, exports to neighboring countries do not increase as a result of violent interstate conflicts with C-countries, and Hypothesis 2 can accordingly not be confirmed. This result remains the same in the full model (Column 5).

In Column 2, the interaction between *conflict AC* and *alliance AB* is included. While this interaction had a positive and weakly significant coefficient estimate on imports as the dependent variable (see Table 3, Column 2), the estimate on exports is negative and statistically not significant. Hypothesis 3 can thus not be confirmed for exports. In other words, while countries import more from their allies if they have a violent interstate conflict with a third-party country C, they do not export more to those allies, contrary to what has been found by Feldman and Sadeh (2018). Again, this result does not change in the full model (Table 5, Column 5).

The estimate of the interaction term between *conflict AC* and *alliance BC* (Column 3) is negative and statistically significant. The coefficient of -0.1083 corresponds to a decrease in exports of 10.27 percent. The full effect of *conflict AC* conditional on countries B and C being allies is a decrease in exports from country A to country B by 13.27 percent and is statistically significant (see Table 6, Column 2). In the full model (Table 5, Column 5) both the trade shifting effect as well as the stand-alone conflict effect are stronger. Accordingly, the full effect is stronger too, with a decrease in exports of 14.09 percent (Table 6, Column 4). Those results give strong support for Hypothesis 4: Countries do decrease exports to the allies of the countries they are in conflict with, in line with previous findings of Feldman and Sadeh (2018). Note that both the trade shifting as well as the full

Table 5: Estimates of Trade Shifting Effects on Exports

	(1) log export 1968-2013	(2) log export 1968-2013	(3) log export 1968-2013	(4) log export 1968-2013	(5) log export 1968-2013
conflict AC	-0.0377***	-0.0379***	-0.0305***	-0.0447***	-0.0347***
	(0.0086)	(0.0088)	(0.0085)	(0.0085)	(0.0092)
conflict AC x contiguity AB	-0.0340				-0.0232
	(0.0259)				(0.0269)
conflict AC x alliance AB		-0.0176			0.0043
		(0.0194)			(0.0204)
conflict AC x alliance BC			-0.1083***		-0.1130***
			(0.0263)		(0.0268)
conflict AC x conflict BC				0.0910***	0.1031***
				(0.0228)	(0.0237)
Observations	475,130	475,130	475,130	475,130	475,130
Year FE	yes	yes	yes	yes	yes
Country FE	yes	yes	yes	yes	yes
Dyad FE	yes	yes	yes	yes	yes
Controls	full	full	full	full	full

Notes: Robust standard errors are reported in parentheses. The asterisk denote the significance levels of 1, 5, and 10 percent (*** $p<0.01$, ** $p<0.05$, * $p<0.1$). All columns use year, country, and dyad fixed effects. All columns use the full set of AB covariates: GDP, contiguity AB, alliance AB, FTA AB, polity AB, oil and diamond exports, conflict AB, as well as imports lagged by one year. Column 3 and 5 additionally use alliance BC, Columns 4 and 5 use conflict BC. Column 1 is estimated using Equation 5, Column 2 using Equation 6, Column 3 using Equation 10, Column 4 using Equation 12, and Column 5 using Equation 13. Fixed effects, covariates, R-squared, and constants are not reported.

effect are stronger on exports than on imports.

Column 4 of Table 5, finally, shows the results for testing Hypothesis 5, thus the case where both country A and country B have a violent interstate conflict with the same country C. The interaction term *conflict AC x conflict BC* is positive and statistically significant. Its size corresponds to an increase in exports by 9.52 percent. In the full model (Column 5), this trade shifting effect is even larger, with an increase in exports by 10.86 percent. Those positive trade shifting effects are larger than the negative stand-alone effects of *conflict AC*, thus the full effect is positive both in the single (5.15 percent increase in exports) and in the full model (7.45 percent), and is statistically significant in both. Thus, Hypothesis 5 can be confirmed for exports as the dependent variable too: Country A's exports to country B increase if they both have a violent interstate conflict with the same country

C. The trade shifting effect appears to be slightly stronger for exports than for imports. However, since the stand-alone negative effect of *conflict AC* is stronger for exports as well, the full effect does not differ much between imports and exports.

Table 6: Effect Sizes on Exports in %

	(1) log export Single Model Trade Shifting	(2) log export Single Model Full Effect	(3) log export Full Model Trade Shifting	(4) log export Full Model Full Effect
conflict AC x contiguity AB	-3.34	-7.04***	-2.30	-5.70**
	(0.026)	(0.025)	(0.027)	(0.027)
conflict AC x alliance AB	-1.75	-5.47***	0.43	-2.98
	(0.019)	(0.018)	(0.020)	(0.020)
conflict AC x alliance BC	-10.27***	-13.27***	-10.69***	-14.09***
	(0.026)	(0.025)	(0.027)	(0.027)
conflict AC x conflict BC	9.52***	5.15**	10.86***	7.45***
	(0.023)	(0.022)	(0.024)	(0.024)

Notes: The displayed numbers are the percentage changes in exports corresponding to the coefficient estimates from Table 4. Columns 1 and 2 of this table refer to the coefficient estimates from Columns 1-4 of Table 4, and Columns 3 and 4 of this table refer to the coefficient estimates of Column 5 of Table 4. Columns 2 and 4 of this table report the sum of the coefficient estimates of *conflict AC* in the respective columns and of the respective interaction terms. Standard errors are reported in parentheses. The asterisk denote the significance levels of 1, 5, and 10 percent (*** $p<0.01$, ** $p<0.05$, * $p<0.1$). For Columns 2 and 4, the significance levels are based on an F-statistic for joint significance.

5.2. Additional Specifications

This section will show the results regarding heterogeneity in the size of the respective C-countries, as outlined in Sections 3.3 and 4.1. Table 7 shows the results for the five different hypotheses with imports as the dependent variable and with the *GDP share C* measure included. Column 1 shows the results for the baseline case without any additional interaction terms, meaning that it measures the effect of *conflict AC* (using Equation 16). Unlike in main results (see Tables 2, 3, and 4), the coefficient estimate of *conflict AC* is statistically insignificant. The *GDP share C* estimate, however, is negative and statistically significant. Note that *GDP share C* only covers the GDP of countries that country A has a violent conflict with. Thus, the two different coefficients can be interpreted as the extensive margin (*conflict AC*, indicating *whether* there is a conflict between countries A and C) and the intensive margin (*GDP share C*, indicating *the size* of that C-country). As for Column 1, the intensive margin seems to be the relevant effect, as the coefficient of *GDP country C* captures most of the negative relationship between *conflict AC* and imports between A and B.[8]

In Column 2, the interaction between *conflict AC* and *contiguity AB* is included. As in the main results, this interaction has a statistically insignificant coefficient estimate. *GDP country C* has a negative and insignificant coefficient estimate too. Column 3 shows the result for testing Hypothesis 3. In the baseline model (without *GDP share C* included), the interaction of *conflict AC* and *alliance AB* had a positive and statistically significant coefficient estimate (see Table 3, Column 2). Now, with *GDP share C* included, the interaction term coefficient remains positive and becomes even larger in magnitude and more precisely estimated. *GDP share C* itself, however, is statistically not significant in this estimation. Thus, in the presence of the positive trade shifting effect to allied B-countries, the size of the conflict country C does not impede or amplify this effect.

Column 4 of Table 7 includes the interaction between *conflict AC* and *alliance BC* as well as *GDP share C*. Similar as in Column 1, the negative trade shifting effect that was estimated in the model without *GDP share C* (Table 3, Column 3), seems to be covered to a large degree by country C's size now: The coefficient estimate for *conflict AC x alliance BC* is negative but statistically not significant, while the estimate for *GDP share C* is negative and highly statistically significant. Thus, imports of country A from country B decrease more the higher country C's GDP is, if country A and country C have a violent interstate conflict with each other and country B and country C are allies. Finally, Column 5 of Table 7 includes the interaction term between *conflict AC* and *conflict BC*. As in the results without *GDP share C* (Table 3), the coefficient estimate for the interaction is positive, statistically highly significant and strong in magnitude, even stronger here than in Table 3. The coefficient estimate for *GDP share C* is highly negative and statistically weakly significant. That means that while there is a positive trade shifting effect for imports of country A from country B if both countries have a conflict with the same country C, and while this effect is large enough to outweigh the negative stand-alone effect of *conflict AC*, it decreases with the size of country C's

[8] Note that the GDP share measure is not centered, as the interaction between country C's GDP and violent conflict between A and C takes place before the aggregation from the triadic to the dyadic data. The variable can thus not simply be centered as usually done. The magnitudes in Table 7 and 8 should thus be interpreted with caution.

Table 7: Estimates of Trade Shifting Effects on Imports, GDP C Weighted

	(1) log import 1968-2013	(2) log import 1968-2013	(3) log import 1968-2013	(4) log import 1968-2013	(5) log import 1968-2013
conflict AC	-0.0072	-0.0206**	-0.0251***	-0.0140*	-0.0265***
	(0.0080)	(0.0082)	(0.0084)	(0.0081)	(0.0081)
GDP share C	-1.2998***				
	(0.2018)				
conflict AC x contiguity AB		0.0023			
		(0.0255)			
GDP share C		-0.8047			
		(0.6202)			
conflict AC x alliance AB			0.0452**		
			(0.0197)		
GDP share C			-0.4570		
			(0.4557)		
conflict AC x alliance BC				-0.0441	
				(0.0288)	
GDP share C				-0.9221***	
				(0.2977)	
conflict AC x conflict BC					0.1184***
					(0.0271)
GDP share C					-24.1379*
					(14.0877)
Observations	475,130	475,130	475,130	475,130	475,130
Year FE	yes	yes	yes	yes	yes
Country FE	yes	yes	yes	yes	yes
Dyad FE	yes	yes	yes	yes	yes
Controls	full	full	full	full	full

Notes: Robust standard errors are reported in parentheses. The asterisk denote the significance levels of 1, 5, and 10 percent (*** p<0.01, ** p<0.05, * p<0.1). All columns use year, country, and dyad fixed effects. All columns use the full set of AB covariates: GDP, contiguity AB, alliance AB, FTA AB, polity AB, oil and diamond exports, conflict AB, as well as imports lagged by one year. Column 4 additionally uses alliance BC, Column 5 uses conflict BC. Column 1 is estimated using Equation 15, Column 2 using Equation 16, Column 3 using Equation 6 with Equation 14 included additionally, Column 4 using Equation 10 with Equation 17 included additionally, and Column 5 using Equation 12 with Equation 18 included additionally. Fixed effects, covariates, R-squared, and constants are not reported.

GDP.

Table 8 shows the results for the analysis with exports as the dependent variable. Unlike as for imports, one can see in Column 1 that for exports both the extensive and intensive margin matter.

Table 8: Estimates of Trade Shifting Effects on Exports, GDP C Weighted

	(1) log export 1968-2013	(2) log export 1968-2013	(3) log export 1968-2013	(4) log export 1968-2013	(5) log export 1968-2013
conflict AC	-0.0314***	-0.0378***	-0.0379***	-0.0306***	-0.0447***
	(0.0083)	(0.0086)	(0.0088)	(0.0085)	(0.0085)
GDP share C	-0.8269***				
	(0.2710)				
conflict AC x contiguity AB		-0.0141			
		(0.0264)			
GDP share C		-1.5736*			
		(0.8108)			
conflict AC x alliance AB			-0.0173		
			(0.0195)		
GDP share C			-0.0249		
			(0.4846)		
conflict AC x alliance BC				-0.0810***	
				(0.0266)	
GDP share C				-0.6353	
				(0.4359)	
conflict AC x conflict BC					0.1184***
					(0.0271)
GDP share C					-24.1373*
					(14.0879)
Observations	475,130	475,130	475,130	475,130	475,130
Year FE	yes	yes	yes	yes	yes
Country FE	yes	yes	yes	yes	yes
Dyad FE	yes	yes	yes	yes	yes
Controls	full	full	full	full	full

Notes: Robust standard errors are reported in parentheses. The asterisk denote the significance levels of 1, 5, and 10 percent (*** p<0.01, ** p<0.05, * p<0.1). All columns use year, country, and dyad fixed effects. All columns use the full set of AB covariates: GDP, contiguity AB, alliance AB, FTA AB, polity AB, oil and diamond exports, conflict AB, as well as imports lagged by one year. Column 4 additionally uses alliance BC, Column 5 uses conflict BC. Column 1 is estimated using Equation 15, Column 2 using Equation 16, Column 3 using Equation 6 with Equation 14 included additionally, Column 4 using Equation 10 with Equation 17 included additionally, and Column 5 using Equation 12 with Equation 18 included additionally. Fixed effects, covariates, R-squared, and constants are not reported.

Both *conflict AC* and *GDP share C* have negative and statistically significant coefficient estimates, indicating that both the fact *whether* there is a conflict with a C-country matters as well as *the size* of this C-country does. The results in Column 2 resemble those of imports. The interaction between *conflict AC* and *contiguity AB* remains statistically insignificant, while the estimate for *GDP share C* is negative and even weakly statistically significant here. Thus, the hypothesized positive trade shifting effect cannot be found here either, and the size of the respective C-country further intensifies the decrease in exports from country A to B.

For the interaction with *alliance AB* (Column 3), the results resemble those of Table 5. The hypothesized positive trade shifting effect can only be found on imports, but not on exports. Interestingly, *GDP share C* does not have a significant coefficient in this estimation. For the interaction between *conflict AC* and *alliance BC* (Column 4), the coefficient estimate remains negative and statistically significant as it is in Column 3 of Table 5, thus confirms the hypothesized negative trade shifting effect. Country C's size does not seem to amplify this effect, as the coefficient estimate is statistically insignificant.

Finally, for the interaction between *conflict AC* and *conflict BC* (Column 5), the results mirror those for imports: The interaction term estimate is strongly positive and statistically significant, while the *GDP share C* estimate is strongly negative and statistically weakly significant. The magnitude of increased exports from country A to B thus depends on the size of the conflict country C. Overall, the results from Tables 7 and 8 indicate that the GDP size of the conflict country C only matters for trade reduction. It does not appear that the positive trade shifting effect increases with the size of the adversary country.

6. Conclusion

The aim of this paper was to examine the effect of violent interstate conflicts on trade with third-party countries, and which role the relationship constellations of the three countries play. I derived five hypotheses based on four different country-triad relationship constellations, and tested them separately for imports and exports as the outcome variable. For three out of the five hypotheses I find support for both imports and exports. For one hypothesis I only find support on imports, while one hypotheses has to be rejected for both. Countries do shift trade to other countries to outweigh trade losses, and shift it away from other countries to harm them.

The results show that violent interstate conflicts between two countries reduce both imports from as well as exports to third-party countries by between 1.38 and 2.61 percent (imports) and by between 3.00 and 4.37 percent (for exports), confirming Hypothesis 1. The results for Hypotheses 3, 4, and 5 show that countries use trade to a certain degree as a measure of foreign policy when it comes to supporting their allies by harming their enemies. Countries net-increase imports by between 6.92 and 7.33 percent from countries that have a common enemy (Hypothesis 5), and by between 1.42 and 4.01 percent from members of the same formal security alliance (Hypothesis 3). On the other hand, countries do net-decrease imports by between 9.61 and 12.26 percent from their enemy's allies (Hypothesis 4). While an increase in exports to members of the same security alliance cannot be found, countries net-increase exports by between 5.15 and 7.45 percent to countries that have the same enemy, and reduce exports by between 13.27 and 14.09 percent to their enemy's allies. That can be seen as support to both the ideas of Liberalism, that politics and economics are entangled and influence each other, and to those of Mercantilism, that economics are subordinated to politics. However, trade shifting to neighboring countries, as hypothesized in Hypothesis 2, could not be found, neither for imports nor for exports. An additional heterogeneity analysis revealed that the size of the C-conflict countries in terms of GDP does amplify the overall stand-alone trade decrease of a violent conflict with C-countries, but does not amplify the positive trade shifting effect.

Table 9: Overview of Results

Hypotheses	Expected effect on trade AB	Imports Trade Shifting	Imports Full Effect	Exports Trade Shifting	Exports Full Effect
Hypothesis 1 conflict AC	negative	**negative**	**negative**	**negative**	**negative**
Hypothesis 2 conflict AC x contiguity AB	positive	insignificant	insignificant	insignificant	negative
Hypothesis 3 conflict AC x alliance AB	positive	**positive**	**positive**	insignificant	insignificant
Hypothesis 4 conflict AC x alliance BC	negative	**negative**	**negative**	**negative**	**negative**
Hypothesis 5 conflict AC x conflict BC	positive	**positive**	**positive**	**positive**	**positive**

Notes: This table gives a summary of the results with regard to the different hypotheses. Results written in **bold** letters mean they confirm the respective hypotheses.

The results add to both the existing trade as well as to the trade and conflict literature. They confirm and extend the existing findings on the effect of violent conflicts on trade, and they show the application of the gravity equation with a third-party country dimension incorporated. The results are mostly in in line with previous work on third-party trade by Feldman and Sadeh (2018), even though most estimates in this paper appear to be much smaller. I extended the existing evidence by including more specific relationship characteristic, considering both imports and exports, extending the sample period to more recent years, and taking into account the size of the conflict countries.

Besides adding to the conflict and trade literature, this paper provides a more dynamic perspective to the understanding of international economics and politics by looking specifically at third-party country effects. It added a unique and new analytical framework to the fields of international economics and politics, which could be applied to gain a similar understanding of other research questions within these fields, such as non-violent conflicts, political tensions, development assistance, or foreign direct investments.

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APPENDIX

Table A1: Estimates of Dyadic and Third-Party Country Conflicts, log(1+trade)

	(1) log 1+import 1968-2013	(2) log 1+import 1968-2013	(3) log 1+import 1968-2013	(4) log 1+export 1968-2013	(5) log 1+export 1968-2013	(6) log 1+export 1968-2013
conflict AB	-0.5811***	-0.6131***	-0.6076***	-0.5811***	-0.6131***	-0.6044***
	(0.0729)	(0.0759)	(0.0760)	(0.0729)	(0.0759)	(0.0760)
conflict AC			-0.0189***			-0.0289***
			(0.0032)			(0.0033)
Observations	841,326	702,314	702,314	841,326	702,314	702,314
Year FE	yes	yes	yes	yes	yes	yes
Country FE	yes	yes	yes	yes	yes	yes
Dyad FE	yes	yes	yes	yes	yes	yes
Controls	basic	full	full	basic	full	full

Notes: Robust standard errors are reported in parentheses. The asterisk denote the significance levels of 1, 5, and 10 percent (*** $p<0.01$, ** $p<0.05$, * $p<0.1$). All columns use year, country, and dyad fixed effects. All columns use GDP and contiguity AB as covariates. Columns 2, 3, 5, and 6 use additionally alliance AB, FTA AB, polity AB, as well as the oil and diamond covariates for A and B. Columns 1 to 3 include imports lagged by one year, Columns 4 to 6 exports lagged by one year. Columns 1, 2, 4, and 5 are estimated using Equation 3, Columns 3 and 6 are estimated using Equation 4. Fixed effects, covariates, R-squared, and constants are not reported.

Table A2: Estimates of Trade Shifting Effects on Imports, log(1+trade)

	(1) log 1+import 1968-2013	(2) log 1+import 1968-2013	(3) log 1+import 1968-2013	(4) log 1+import 1968-2013	(5) log 1+import 1968-2013
conflict AC	-0.0178***	-0.0198***	-0.0152***	-0.0212***	-0.0181***
	(0.0033)	(0.0034)	(0.0033)	(0.0033)	(0.0034)
conflict AC x contiguity AB	-0.0253				-0.0293*
	(0.0168)				(0.0176)
conflict AC x alliance AB		0.0103			0.0300**
		(0.0107)			(0.0120)
conflict AC x alliance BC			-0.0472***		-0.0551***
			(0.0132)		(0.0137)
conflict AC x conflict BC				0.0463***	0.0495***
				(0.0134)	(0.0138)
Observations	702,314	702,314	702,314	702,314	702,314
Year FE	yes	yes	yes	yes	yes
Country FE	yes	yes	yes	yes	yes
Dyad FE	yes	yes	yes	yes	yes
Controls	full	full	full	full	full

Notes: Robust standard errors are reported in parentheses. The asterisk denote the significance levels of 1, 5, and 10 percent (*** $p<0.01$, ** $p<0.05$, * $p<0.1$). All columns use year, country, and dyad fixed effects. All columns use the full set of AB covariates: GDP, contiguity AB, alliance AB, FTA AB, polity AB, oil and diamond exports, conflict AB, as well as imports lagged by one year. Column 3 and 5 additionally use alliance BC, Columns 4 and 5 use conflict BC. Column 1 is estimated using Equation 5, Column 2 using Equation 6, Column 3 using Equation 10, Column 4 using Equation 12, and Column 5 using Equation 13. Fixed effects, covariates, R-squared, and constants are not reported.

Table A3: Estimates of Trade Shifting Effects on Exports, log(1+trade)

	(1) log 1+export 1968-2013	(2) log 1+export 1968-2013	(3) log 1+export 1968-2013	(4) log 1+export 1968-2013	(5) log 1+export 1968-2013
conflict AC	-0.0272***	-0.0274***	-0.0254***	-0.0310***	-0.0262***
	(0.0034)	(0.0035)	(0.0034)	(0.0034)	(0.0036)
conflict AC x contiguity AB	-0.0365**				-0.0313*
	(0.0168)				(0.0176)
conflict AC x alliance AB		-0.0177*			-0.0028
		(0.0105)			(0.0114)
conflict AC x alliance BC			-0.0443***		-0.0433***
			(0.0128)		(0.0131)
conflict AC x conflict BC				0.0463***	0.0550***
				(0.0134)	(0.0138)
Observations	702,314	702,314	702,314	702,314	702,314
Year FE	yes	yes	yes	yes	yes
Country FE	yes	yes	yes	yes	yes
Dyad FE	yes	yes	yes	yes	yes
Controls	full	full	full	full	full

Notes: Robust standard errors are reported in parentheses. The asterisk denote the significance levels of 1, 5, and 10 percent (*** $p<0.01$, ** $p<0.05$, * $p<0.1$). All columns use year, country, and dyad fixed effects. All columns use the full set of AB covariates: GDP, contiguity AB, alliance AB, FTA AB, polity AB, oil and diamond exports, conflict AB, as well as imports lagged by one year. Column 3 and 5 additionally use alliance BC, Columns 4 and 5 use conflict BC. Column 1 is estimated using Equation 5, Column 2 using Equation 6, Column 3 using Equation 10, Column 4 using Equation 12, and Column 5 using Equation 13. Fixed effects, covariates, R-squared, and constants are not reported.

Table A4: Estimates of Dyadic and Third-Party Country Conflicts, Covariates Reported

	(1) log import 1968-2013	(2) log import 1968-2013	(3) log import 1968-2013	(4) log export 1968-2013	(5) log export 1968-2013	(6) log export 1968-2013
log import AB, t-1	0.5315***	0.5466***	0.5466***			
	(0.0021)	(0.0023)	(0.0023)			
log export AB, t-1				0.5315***	0.5466***	0.5466***
				(0.0021)	(0.0023)	(0.0023)
conflict AB	-0.7571***	-0.8231***	-0.8180***	-0.7571***	-0.8231***	-0.8131***
	(0.1142)	(0.1221)	(0.1223)	(0.1142)	(0.1221)	(0.1221)
conflict AC			-0.0211***			-0.0398***
			(0.0079)			(0.0082)
log GDP A	0.4961***	0.4796***	0.4792***	0.5895***	0.5625***	0.5618***
	(0.0086)	(0.0088)	(0.0088)	(0.0093)	(0.0096)	(0.0096)
log GDP B	0.5895***	0.5625***	0.5624***	0.4961***	0.4795***	0.4796***
	(0.0093)	(0.0096)	(0.0096)	(0.0086)	(0.0088)	(0.0088)
contiguity AB	-0.0793	-0.0676	-0.0691	-0.0793	-0.0677	-0.0700
	(0.1054)	(0.1044)	(0.1044)	(0.1054)	(0.1044)	(0.1043)
alliance AB		0.0626***	0.0628***		0.0626***	0.0630***
		(0.0135)	(0.0135)		(0.0135)	(0.0135)
FTA AB		-0.0450***	-0.0450***		-0.0450***	-0.0450***
		(0.0166)	(0.0166)		(0.0166)	(0.0166)
polity difference AB		0.0006	0.0006		0.0006	0.0006
		(0.0005)	(0.0005)		(0.0005)	(0.0005)
log oil A		-0.0010**	-0.0010**		0.0031***	0.0032***
		(0.0004)	(0.0004)		(0.0005)	(0.0005)
log oil B		0.0031***	0.0031***		-0.0010**	-0.0010**
		(0.0005)	(0.0005)		(0.0004)	(0.0004)
log diamonds A		-0.0018***	-0.0018***		0.0036***	0.0037***
		(0.0005)	(0.0005)		(0.0006)	(0.0006)
log diamonds B		0.0036***	0.0036***		-0.0017***	-0.0017***
		(0.0006)	(0.0006)		(0.0005)	(0.0005)
Observations	543,040	475,130	475,130	543,040	475,130	475,130
Year FE	yes	yes	yes	yes	yes	yes
Country FE	yes	yes	yes	yes	yes	yes
Dyad FE	yes	yes	yes	yes	yes	yes
Controls	basic	full	full	basic	full	full

Notes: Robust standard errors are reported in parentheses. The asterisk denote the significance levels of 1, 5, and 10 percent (*** $p<0.01$, ** $p<0.05$, * $p<0.1$). All columns use year, country, and dyad fixed effects. All columns use GDP and contiguity AB as covariates. Columns 2, 3, 5, and 6 use additionally alliance AB, FTA AB, polity AB, as well as the oil and diamond covariates for A and B. Columns 1 to 3 include imports lagged by one year, Columns 4 to 6 exports lagged by one year. Columns 1, 2, 4, and 5 are estimated using Equation 3, Columns 3 and 6 are estimated using Equation 4. Fixed effects, R-squared, and constants are not reported. This table contains the same estimation results as Table 2, but reports all covariates.

Table A5: Estimates of Trade Shifting Effects on Imports, Covariates Reported

	(1) log import 1968-2013	(2) log import 1968-2013	(3) log import 1968-2013	(4) log import 1968-2013	(5) log import 1968-2013
log import AB, t-1	0.5466***	0.5466***	0.5465***	0.5466***	0.5465***
	(0.0023)	(0.0023)	(0.0023)	(0.0023)	(0.0023)
conflict AB	-0.8172***	-0.8199***	-0.7988***	-0.8033***	-0.7809***
	(0.1222)	(0.1222)	(0.1225)	(0.1222)	(0.1224)
conflict AC	-0.0206**	-0.0251***	-0.0139*	-0.0265***	-0.0231***
	(0.0082)	(0.0084)	(0.0081)	(0.0081)	(0.0087)
conflict BC				-0.0447***	-0.0448***
				(0.0085)	(0.0085)
contiguity AB	-0.0683	-0.0685	-0.0724	-0.0702	-0.0712
	(0.1044)	(0.1043)	(0.1044)	(0.1043)	(0.1043)
alliance AB	0.0628***	0.0603***	0.0758***	0.0627***	0.0720***
	(0.0135)	(0.0135)	(0.0137)	(0.0135)	(0.0137)
alliance BC			-0.0368***		-0.0371***
			(0.0104)		(0.0104)
conflict AC x contiguity AB	-0.0078				-0.0184
	(0.0247)				(0.0258)
conflict AC x alliance AB		0.0382*			0.0610***
		(0.0199)			(0.0213)
conflict AC x alliance BC			-0.0858***		-0.1051***
			(0.0275)		(0.0282)
conflict AC x conflict BC				0.0910***	0.0918***
				(0.0228)	(0.0236)
log GDP A	0.4792***	0.4791***	0.4785***	0.4792***	0.4781***
	(0.0088)	(0.0088)	(0.0088)	(0.0088)	(0.0088)
log GDP B	0.5624***	0.5624***	0.5623***	0.5617***	0.5615***
	(0.0096)	(0.0096)	(0.0096)	(0.0096)	(0.0096)
FTA AB	-0.0450***	-0.0450***	-0.0453***	-0.0448***	-0.0450***
	(0.0166)	(0.0166)	(0.0165)	(0.0166)	(0.0165)
polity difference AB	0.0006	0.0006	0.0006	0.0006	0.0006
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
log oil A	-0.0010**	-0.0010**	-0.0010**	-0.0010**	-0.0010**
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
log oil B	0.0031***	0.0031***	0.0031***	0.0032***	0.0032***
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
log diamonds A	-0.0018***	-0.0018***	-0.0018***	-0.0018***	-0.0018***
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
log diamonds B	0.0036***	0.0036***	0.0036***	0.0037***	0.0037***
	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0006)
Observations	475,130	475,130	475,130	475,130	475,130
Year FE	yes	yes	yes	yes	yes
Country FE	yes	yes	yes	yes	yes
Dyad FE	yes	yes	yes	yes	yes
Controls	full	full	full	full	full

Notes: Robust standard errors are reported in parentheses. The asterisk denote the significance levels of 1, 5, and 10 percent (*** p<0.01, ** p<0.05, * p<0.1). All columns use year, country, and dyad fixed effects. All columns use the full set of AB covariates: GDP, contiguity AB, alliance AB, FTA AB, polity AB, oil and diamond exports, conflict AB, as well as imports lagged by one year. Column 3 and 5 additionally use alliance BC, Columns 4 and 5 use conflict BC. Column 1 is estimated using Equation 5, Column 2 using Equation 6, Column 3 using Equation 10, Column 4 using Equation 12, and Column 5 using Equation 13. Fixed effects, R-squared, and constants are not reported. This table contains the same estimation results as Table 3, but reports all covariates.

Table A6: Estimates of Trade Shifting Effects on Exports, Covariates Reported

	(1) log export 1968-2013	(2) log export 1968-2013	(3) log export 1968-2013	(4) log export 1968-2013	(5) log export 1968-2013
log export AB, t-1	0.5466***	0.5466***	0.5466***	0.5466***	0.5466***
	(0.0023)	(0.0023)	(0.0023)	(0.0023)	(0.0023)
conflict AB	-0.8091***	-0.8121***	-0.7893***	-0.8032***	-0.7755***
	(0.1221)	(0.1221)	(0.1208)	(0.1222)	(0.1209)
conflict AC	-0.0377***	-0.0379***	-0.0305***	-0.0447***	-0.0347***
	(0.0086)	(0.0088)	(0.0085)	(0.0085)	(0.0092)
conflict BC				-0.0265***	-0.0265***
				(0.0081)	(0.0081)
contiguity AB	-0.0663	-0.0701	-0.0722	-0.0703	-0.0698
	(0.1043)	(0.1043)	(0.1043)	(0.1043)	(0.1044)
alliance AB	0.0630***	0.0642***	0.0561***	0.0627***	0.0555***
	(0.0135)	(0.0135)	(0.0136)	(0.0135)	(0.0137)
alliance BC			0.0285***		0.0283***
			(0.0093)		(0.0093)
conflict AC x contiguity AB	-0.0340				-0.0232
	(0.0259)				(0.0269)
conflict AC x alliance AB		-0.0176			0.0043
		(0.0194)			(0.0204)
conflict AC x alliance BC			-0.1083***		-0.1130***
			(0.0263)		(0.0268)
conflict AC x conflict BC				0.0910***	0.1031***
				(0.0228)	(0.0237)
log GDP A	0.5618***	0.5619***	0.5620***	0.5617***	0.5618***
	(0.0096)	(0.0096)	(0.0096)	(0.0096)	(0.0096)
log GDP B	0.4796***	0.4796***	0.4798***	0.4790***	0.4793***
	(0.0088)	(0.0088)	(0.0088)	(0.0088)	(0.0088)
FTA AB	-0.0450***	-0.0450***	-0.0445***	-0.0448***	-0.0444***
	(0.0166)	(0.0166)	(0.0166)	(0.0166)	(0.0166)
polity difference AB	0.0006	0.0006	0.0005	0.0006	0.0005
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
log oil A	0.0032***	0.0032***	0.0032***	0.0032***	0.0032***
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
log oil B	-0.0010**	-0.0010**	-0.0010**	-0.0009**	-0.0009**
	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
log diamonds A	0.0037***	0.0037***	0.0037***	0.0037***	0.0037***
	(0.0006)	(0.0006)	(0.0006)	(0.0006)	(0.0006)
log diamonds B	-0.0017***	-0.0017***	-0.0017***	-0.0017***	-0.0017***
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Observations	475,130	475,130	475,130	475,130	475,130
Year FE	yes	yes	yes	yes	yes
Country FE	yes	yes	yes	yes	yes
Dyad FE	yes	yes	yes	yes	yes
Controls	full	full	full	full	full

Notes: Robust standard errors are reported in parentheses. The asterisk denote the significance levels of 1, 5, and 10 percent (*** p<0.01, ** p<0.05, * p<0.1). All columns use year, country, and dyad fixed effects. All columns use the full set of AB covariates: GDP, contiguity AB, alliance AB, FTA AB, polity AB, oil and diamond exports, conflict AB, as well as imports lagged by one year. Column 3 and 5 additionally use alliance BC, Columns 4 and 5 use conflict BC. Column 1 is estimated using Equation 5, Column 2 using Equation 6, Column 3 using Equation 10, Column 4 using Equation 12, and Column 5 using Equation 13. Fixed effects, R-squared, and constants are not reported. This table contains the same estimation results as Table 3, but reports all covariates.