Article

The Trade-Conflict Nexus in SAARC Region: A Gravity Model Approach

Nassir Ul Haq Wani

Kardan Journal of Social Sciences and Humanities
4 (2) 56–74

Kardan Publications
Kabul, Afghanistan
DOI: 10.31841/KJSSH.2021.45
https://kardan.edu.af/Research/CurrentIssue.aspx?j=KJSSH

Abstract

This study evaluates the theoretical and empirical relationship between conflict and trade flows in the SAARC region. The analysis is based on a panel data set with annual observations on 5 countries from 2005 to 2019, which combines World Bank trade data with Uppsala Conflict Data Program data on armed conflict, non-state conflict, and one-sided violence. A structural gravity model is used to investigate the data. Indigeneity issues are addressed using theory-consistent estimation methods such as the fixed effect estimator. According to the study, the type of conflict and the number of conflicts in which the country is involved have an impact on trade flows. Furthermore, the effects differ on the exporter and importer sides. According to the study, smaller conflicts between armed groups have a negative but minor impact only on the importer side and even a positive impact on the exporter side, whereas aggressions against civilians have a negative impact only on the importer side. Major conflicts reduce trade flows by up to 73%, with the impact being greater on the exporter side than the importer side. The study also assesses the impact on trade of the status of a country pair's relationship (enemy or ally) involved in the same conflict. Trading country pairs face a trade loss of up to 87 per cent if both countries enter the same conflict and become adversaries. Surprisingly, even if two countries are allies in the same conflict, the impact on trade volume is still negative and significant. Our findings support the idea that the peace-promoting effect of trade varies according to the geographical proximity of countries. Greater bilateral trade interdependence appears to have a significantly greater peace-promoting effect on neighbouring countries. Overall, our findings show that trade integration has a significant impact on interstate conflict.

Received: 22 July 21
Revised: 02 Oct 21
Accepted: 10 Dec 21

JEL codes: E00, F13, F14, O47

Keywords: Trade, Conflict, Peace, Conflict-Trade Model, SAARC, Gravity model.

Introduction

It is well documented that conflicts are detrimental to economic activities. Recent studies focus on the effects on economic outcomes of a single event that creates conflicts. Conflict in its various forms and manifestations remains ubiquitous around the world As history has repeatedly shown, conflicts impose immeasurable human suffering and large economic and social costs. The loss of human life; destruction of infrastructure, human capital, and institutions; political instability; and greater uncertainty associated with conflicts can impede investment and economic growth—not only during conflict but also afterward, making it difficult to escape the "conflict

trap.[1],[2,3,4,5] Recent research focuses on the effects of a single event that causes conflict on economic outcomes, thus a source of contention. Furthermore, conflicts tend to complicate public finances by reducing revenue, destroying a portion of the tax base while increasing military spending. Fiscal deficits and public debt rise as a result, and resources shift away from social and developmental spending, exacerbating the debilitating effects of the conflicts.

The relationship between trade and conflict has been extensively studied in political science, with a focus on determining whether trade promotes peace by highlighting the liberal and realist perspectives. According to the liberal viewpoint, trade generates economic benefits for both parties and thus discourages trading partners from engaging in conflict due to expected trade losses. Realists argue that trade has little impact on conflict because increased competition and asymmetric trade can lead to conflict between trading partners.

Howbeit, both theories agree on a negative impact conflict has on trade with liberal theory claiming that conflict will affect the terms of trade and realist theory following the argument that states are concerned with gains from trade making it possible for the adversary to increase military power[6]. In the field of economics, the relationship between trade and conflict has been less explored so far. In 1980 a model was developed called as 'Conflict- Trade-Model', stating a relationship between trade and conflict[7]. According to the model, conflict leads to a welfare loss since trade - as a source of welfare due to comparative advantage - is more difficult in times of conflict, and hence hinders trading partners to engage in conflict. Various studies have empirically tested the model, approving the results in subject matter[8].

This research studies the impact of conflict during 2005–2019 on trade in SAARC region. The impact of conflicts on trade flows is estimated by using a structural gravity model of international trade using the datum from World Bank and some of the other data sources including the database of conflict. The structural gravity model enables to examine issues related to proximity and size in the dyadic relationship, particularly examining key factors that either positively or negatively affect the volumes and levels of trade between/to countries. Given the history and the trajectory of the conflict in

---

1 This study uses a broad definition of conflict based on the Uppsala Georeferenced Event Dataset, which includes civil wars and terrorist incidents. Criminal activity is usually excluded.

2 Michaels, Guy, and Xiaojia Zhi. "Freedom fries." *American Economic Journal: Applied Economics* 2, no. 3 (2010): 256-81.

3 Davis, Christina L., and Sophie Meunier. "Business as usual? Economic responses to political tensions." *American Journal of Political Science* 55, no. 3 (2011): 628-646.

4 Pandya, Sonal S., and Rajkumar Venkatesan. "French roast: consumer response to international conflict—evidence from supermarket scanner data." *Review of Economics and Statistics* 98, no. 1 (2016): 42-56.

5 "Conflict trap" refers to the vicious cycle between conflicts and economic performance, whereby conflicts retard economic growth and development, in turn raising the likelihood of a conflict (Collier and Sambanis 2002).

6 Barbieri, Katherine, and Jack S. Levy. "Sleeping with the enemy: The impact of war on trade." *Journal of Peace Research* 36, no. 4 (1999): 463-479.

7 Polachek, Solomon W. Dyadic dispute: An economic perspective. *Peace Science Society* 28 (1978): 67-80.

8 Polachek, Solomon W., and Carlos Seiglie. Trade, peace and democracy: an analysis of dyadic dispute. *Handbook of Defense Economics* 2 (2007): 1017-1073.

the SAARC region especially Afghanistan, it becomes necessary to conduct counterfactual analysis while examining datasets on trade. The structural gravity model is practically suited to this sort of analysis and is of a lot utility. While there are some limitations regarding the availability of data on trade among the SAARC region, the gravity equations will still be useful to conduct empirical research on the impact of conflict on trade flows.

The research on the nexus of conflict and trade has produced a rich understanding of how conflict dampens economic integration. Due to the fact that most studies do not differentiate between types of conflict and intensity, our analysis starts exactly with this. This study aims to comprehend how changes in risk and intensity of conflict affect economic relations. It attempts to explicitly incorporate a fragility lens into the standard trade policy discussion in fragile SAARC countries in this manner. In doing so, the study contributes to the nascent but growing empirical literature on the relationship between conflict and trade. The rest of the study includes a literature review presented in section two followed by methodology in the third section. Section four presents the empirical analysis and lastly section five concludes the study.

2. Review of Literature

For a long time, people have debated whether foreign trade promotes peace or destructive conflict. Globalization, related international trade treaties, and a changing global landscape of conflicts and wars present new challenges and necessitate new examinations. The expanding scientific field of peace and conflict studies can provide insights into the causes of violent conflict and war, as well as the conditions for peace.

Many schools of thought and studies have posed questions about trade issues with significant policy implications. In the broadest sense, there are two major propositions: (1) trade promotes peace, and (2) trade causes conflict. The propositions can also be viewed in terms of trade being beneficial to peace when trade relationships are symmetrical (equal) or detrimental to peace when trade relationships are asymmetrical (unequal). Another hypothesis that has received little attention is that trade and conflict are unrelated.

The propositions have been studied and debated, and arguments and evidence in support of each can be found. The relationship between trade and peace is far more complicated than simple trade theories suggest. The liberal peace claim, in particular (trade and economic interdependence improves peace prospects), has been criticized, and academics are certainly divided on the issue. Simultaneously, global actors such as the European Union, the World Trade Organization, and previous and current US administrations "confidently claim their trade policies have a positive impact on the world." Certainly, more literature supports the notion that “economic interdependence has a calming effect on people.”

2.1. Trade Promotes Peace

As violence and war are likely to disrupt profits, proponents of free trade are more interested in peace – better expressed as stability. Global trade relationships have historically and currently been unequal between developed and developing countries. Furthermore, the benefits of trade, both within and between developed and developing countries, are disproportionally distributed to a small number of people. The nature of trade relationships becomes one of the most important variables in determining whether trade is conducive to peace or conflict. When trade relationships and interdependence exist, the costs of destructive conflict (violence and war) for commercial partners are too high.[9]

There are potential chances for negative economic fallout and instability, as violent conflict is not desirable for either side. As a result, trade costs rise. Trade promotes contact and communication, and the need to reach agreements promotes cooperation. To successfully establish and maintain beneficial trade relationships, partners must prioritize common interests over differences, resulting in increased trade cooperation. Partners better understand 'the other' and reduce conflict-causing misunderstandings through communication, contact, cooperation, and transnational trading. Foreign trading partners adopt a mutual "trade agreement identity," reducing the possibility of violent conflict with the in-group (trading partners). As a result, societies gain a better understanding of one another. Conflicts are addressed by institutional trade mechanisms. Trading partners can create mechanisms for resolving conflicts through facilitation, mediation, or interest-based negotiation. These approaches to conflict resolution range from simple dispute resolution and conflict management to long-term constructive conflict transformation. Furthermore, trade promotes economic development. National and regional economic integration are perceived benefits of free market trading systems. Poverty and unemployment are well-documented causes of destructive conflict. Trade promotes economic development in poorer areas, and positive impact of multinational corporations have a positive impact.[10]

The economic costs of conflict are severe as found in case of 'Basque Country'[11]. The study found that after the outbreak of terrorism in the late 1960's, per capita GDP declined by 10 per cent. Furthermore, 1998-99 truce was used as a natural experiment, it was found that stocks of firms with a significant part of their business manifested a positive relative performance wen truce became credible, and a negative relative performance at the end of the ceasefire[12]. Martin *et al.* evaluated the impact of trade on war with war being the result of failed negotiations between trading partners. They

[9] Lupu, Yonatan, and Vincent A. Traag. "Trading communities, the networked structure of international relations, and the Kantian peace." *Journal of Conflict Resolution* 57, no. 6 (2013): 1011-1042.

[10] Kay, Sean. "*Global Security in the Twenty-First Century: The Quest for Power and the Search for Peace*". Rowman & Littlefield, 2015.

[11] Basque Country is one of the richest regions in Spain, occupying the third position in per capita GDP (out of 17 regions).

[12] Abadie, Alberto, and Javier Gardeazabal. "The economic costs of conflict: A case study of the Basque Country." *American economic review* 93, no. 1 (2003): 113-132.

find that while bilateral trade reduces the likelihood of war, less bilateral dependence due to multilateral openness actually increases the likelihood of conflict[13]. The latter findings confirm the result of Gowa and Mansfield (1993)[14], relating that trade is more likely within political alliances and within bipolar systems, rather than across alliances and within multipolar systems, but contradicts various other studies which do not find a purely positive relationship between openness and conflict.[15,16,17,18] These studies have discussed on how trade impacts on the relationship between trading countries, that is, answering the question of how likely it is that a conflict arises if two countries are trading. Although, there are only few economic empirical studies analysing the opposite, answering the question of how arising conflict impacts on already existing trade relationships. The first one to study this reverse relationship using a gravity-type equation was Pollins (1989 a, b)[19,20],evaluated the diplomatic relationship between trading partners, and found a positive relationship between cooperative diplomatic relations and trade. Furthermore, Gowa and Mansfield[21] studied the effect of alliances on bilateral trade flows by estimating a game-theoretical model with a gravity equation. It was found that alliances promote trade and that interstate war has a negative effect on trade. Morrow *et al*. analysed determinants of international trade policies and include interstate war variables as well as a democracy and a political alliance variable. Due to a collinearity problem of the war and the alliance variable the coefficient of the former is not significant.[22] Blomberg and Hess (2006)[23] broaden the concept of war by empirically investigating the effect of violence on trade flows based on a panel dataset off 177 countries from 1968-1999 by employing theoretical and traditional gravity model. The findings suggested that for a given country year, the presence of terrorism, as well as internal and external conflict is equivalent to as much as a 30 percent tariff on trade, which is larger than estimated tariff equivalent costs of border and language barriers and tariff-equivalent reduction through GSPs and WTO participation. Martin *et al*. [24] used a gravity equation to estimate a negative impact of

---

13 Martin, Philippe, Thierry Mayer, and Mathias Thoenig. "Make trade not war?." *The Review of Economic Studies* 75, no. 3 (2008): 865-900.

14 Gowa, Joanne, and Edward D. Mansfield. "Power politics and international trade." *American political science review* 87, no. 2 (1993): 408-420.

15 Maoz, Zeev. "The effects of strategic and economic interdependence on international conflict across levels of analysis." *American Journal of Political Science* 53, no. 1 (2009): 223-240.

16 Lee, Hoon. "Foreign Direct Investment and militarized interstate conflict." *Department of Political Science Working Paper, University of Iowa* (2005).

17 Kinne, Brandon J. "Multilateral trade and militarized conflict: Centrality, openness, and asymmetry in the global trade network." *The Journal of Politics* 74, no. 1 (2012): 308-322.

18 Muram, Shahla, and Nassir Ul Haq Wani. "Linkage between International Political Relations and Foreign Direct Investment: A Case Study of Afghanistan." *Kardan Journal of Social Sciences and Humanities* 3, no.1 (2020): 1-34.

19 Pollins, Brian M. "Does trade still follow the flag?." *The American Political Science Review* (1989a): 465-480.

20 Pollins, Brian M. "Conflict, cooperation, and commerce: The effect of international political interactions on bilateral trade flows." *American Journal of Political Science* (1989b): 737-761.

21 Gowa, Joanne, and Edward D. Mansfield. "Power politics and international trade." *American political science review* 87, no. 2 (1993): 408-420.

22 Morrow, James D., Randolph M. Siverson, and Tressa E. Tabares. "The political determinants of international trade: The major powers, 1907-90." *American Political Science Review* (1998): 649-661.

23 Blomberg, S. Brock, and Gregory D. Hess. "How much does violence tax trade?." *The Review of Economics and Statistics* 88, no. 4 (2006): 599-612.

24 Martin, Philippe, Thierry Mayer, and Mathias Thoenig. "Make trade not war?." *The Review of Economic Studies* 75, no. 3 (2008): 865-900.

war on trade. Furthermore, it was found that the negative effect is persistent for more than a decade after the specific war. By employing gravity equation, Glick and Taylor[25] confirm this finding for WWI and WWII and found that decreases up to 80%, which is much higher than the effect found by Martin *et al.*[26] Moreover, the negative and persistent effect of war on trade applies not only for belligerent countries, but also for neutral countries. Lamotte[27] extricated the effects of sanctions and conflict on trade by studying the case of former Yugoslavia. Using a gravity equation, the study estimates a negative and tenacious effect of sanctions and conflict on trade, with the impact of sanctions being more striking. Mcdonald studied the prospects of peace through free trade, by advocating the premises of promotion of trade through trade escalation. The statistical tests applied establish and demonstrate that higher levels of free trade, rather than trade alone, reduce military conflict between states.[28]

Some studies [29] focused on the long-standing liberal hypothesis that trade ties facilitate
interstate peace, putting much thrust on the nature and context of economic linkages in
assessing whether such ties are more likely to dampen or amplify interstate conflict. The study finds evidence that economic linkages have a dramatic influence on whether or not dyads engage in militarised interstate disputes, but no influence on the occurrence of wars. Rather than inhibiting conflict, extensive economic interdependence increases the likelihood that dyads will engage in militarised interstate disputes. Howbeit, there are some new dimensions proposed to minimise the intensity of conflicts by taking cognizance of borders as institutions that not only distribute territory but also allow trade cooperation and the production of joint gains, thereby minimising conflict.[30] The effect of trade integration on interstate military conflict is evaluated through empirical analysis, based on a large panel data set of 243,225 country-pair observations from 1950 to 2000, confirming that an increase in bilateral trade interdependence significantly promotes peace, and reduces the probability of interstate conflict.[31] In contradiction, some studies have comprehensively stated that economic interdependence can have mixed consequences. Several measures of economic interdependence that embody its costly aspects are found to be positively associated with conflict implying that interdependence produces increased international conflict. However, when these measures are controlled for, another key measures found to be inversely related to

---

25 Glick, Reuven, and Alan M. Taylor. "Collateral damage: Trade disruption and the economic impact of war." *The Review of Economics and Statistics* 92, no. 1 (2010): 102-127.

26 Martin, Philippe, Thierry Mayer, and Mathias Thoenig. "Make trade not war?." *The Review of Economic Studies* 75, no. 3 (2008): 865-900.

27 Lamotte, Olivier. "Disentangling the impact of wars and sanctions on international trade: evidence from former Yugoslavia." *Comparative Economic Studies* 54, no. 3 (2012): 553-579.

28 McDonald, Patrick J. "Peace through trade or free trade?." *Journal of Conflict Resolution* 48, no. 4 (2004): 547-572.

29 Barbieri, Katherine. "Economic interdependence: A path to peace or a source of interstate conflict?." *Journal of Peace Research* 33, no. 1 (1996): 29-49.

30 Schultz, Kenneth A. "Borders, conflict, and trade." *Annual Review of Political Science* 18 (2015): 125-145.

31 Lee, Jong-Wha, and Ju Hyun Pyun. "Does trade integration contribute to peace?." *Review of Development Economics* 20, no. 1 (2016): 327-344.

conflict. This suggests that both schools of thought may be correct: while the costly aspects of interdependence seem to produce greater international conflict, its beneficial aspects appear to produce a decline in conflict.[32] Some argued and illustrated the likelihood of a relationship between international trade and conflict, arguing that the mutual dependence established between two trading partners (dyads) is sufficient to raise the costs of conflict, there by abating the levels of dyadic dispute. It is found that *ceteris paribus* countries with the greatest levels of economic trade engage in the least amounts of aggression. In fact, a doubling of trade on average leads to a 20% abatement of bellicoseness.[33,34,35]

2.2 Trade as a Source of Conflict

While developed nations – or corporations – benefit from trade, trade relationships have the potential to destabilize traditional political, economic, and social structures. This destruction increases inequality between and within countries, as well as reliance on trading partners. Groups that do not benefit or are even exploited by trade may have negative attitudes toward international trading partners. Conflict is more likely to erupt among powerless actors. As a result, trade becomes asymmetrical (unequal). Because trade is not voluntary, trade treaties imposed on many by a few create involuntary, forced relationships. Such relationships are more likely to result in delinquency. Furthermore, non-renewable resource trade causes conflict. Fossil fuels, earth minerals, and metal ores are examples of finite resources that frequently spark conflict at the local, regional, national, and international levels. With a growing awareness of the negative impact on the climate and a recognition of the need to address climate change urgently, global opposition to resource extraction is growing. Furthermore, it has come to light that trade broadens the range of conflict issues as nations enter into trade agreements, broadening the range of issues over which disputes arise. When markets are opened through trade agreements, local populations lose control over self-determination of their lands.

Forcible relocation and land grabs are direct causes of insecurity and conflict. Even when states enter into preferential trade agreements, they benefit from lower barriers with members. Non-members of such agreements, on the other hand, may see it as a threat. According to one study, "economic agreements can be used as a form of discrimination, benefiting insiders at the expense of outsiders." Local populations lose control as a result of agreements. Outsiders suffering from trade distortions potentially could respond with hostility to a perceived economic attack."[36] With established trade relationships, outside actors are more likely to intervene in civil wars to protect economic ties. Even if the government is considered authoritarian and

[32] Gasiorowski, Mark J. "Economic interdependence and international conflict: Some cross-national evidence." *International Studies Quarterly* 30, no. 1 (1986): 23-38.

[33] Polachek, Solomon William. "Conflict and trade." *Journal of conflict resolution* 24, no. 1 (1980): 55-78.

[34] Hegre, Håvard, John R. Oneal, and Bruce Russett. "Trade does promote peace: New simultaneous estimates of the reciprocal effects of trade and conflict." *Journal of Peace Research* 47, no. 6 (2010): 763-774.

[35] Heilmann, Kilian. "Does political conflict hurt trade? Evidence from consumer boycotts." *Journal of International Economics* 99 (2016): 179-191.

[36] Peterson, Timothy M. "Insiders versus outsiders: preferential trade agreements, trade distortions, and militarized conflict." *Journal of Conflict Resolution* 59, no. 4 (2015): 698-727.

undemocratic, the intervention is more likely to support the government, which is usually the entity with which the trade relationship has been established. Thus, trade relationships lead to military intervention.[37] Military force and trade have always been inextricably linked, according to the histories of colonialism and imperialism. Corporate globalization is perceived as having a negative impact on countries by putting them in a state of dependence, enriching a few in less developed countries, and having devastating humanitarian, environmental, and ecological consequences in the so-called neo-colonies. Large-scale trade agreements are regarded as one of the most influential factors in the establishment and maintenance of such a system.[38]The arguments supporting the proposition that trade causes conflict mainly evolve around the important recognition of trade relationships and consequences on those affected by trade. There is also a direct relationship between trade and the current global security landscape, as well as the so-called war on terror. Local economies suffer as a result of corporate-driven free trade, which leads to joblessness and poverty. The urban unemployed are the most vulnerable to becoming terrorists, as evidenced by the recruitment of ISIS fighters.[39]

2.3 Trade and Conflict – The Less Examined Propositions

According to some researchers, trade and conflict are unrelated. This school of thought contends that traditional security and military concerns are unrelated to trade considerations and relationships.[40] The arguments about asymmetrical (unequal) vs. symmetrical (equal) trade relationships essentially support the points "trade promotes peace" and "trade as a source of conflict," with an emphasis on the relationship between trading partners and the consequences for the constituencies affected by trade. Both propositions, despite appearing to be in direct contradiction, have logical and realistic merit. As a result, it is critical to concentrate on the nature of trade and trade relationships. Unbalanced, exploitative relationships tend to increase conflict. Balanced and mutually beneficial relationships can reduce them.[41] The changing nature of conflict and warfare, combined with the nature of trade, results in some intricate dimensions. When we combine trade relationships with the overall changing nature of warfare – particularly the decline of interstate warfare – there is need to re-examine and re-evaluate thinking and approaches. Unequal trade relationships and unequal trade benefits within nations become a far more pressing concern. For example, despite the fact that Middle Eastern regimes have excellent trade relations with the US, many citizens have negative attitudes toward the US, and the Middle East is in turmoil due in part to US intervention. Despite Nigeria's oil wealth and trade relationships, there is violent civil unrest. Among other things, international trade is a clear contributor to violent conflict, war, and terrorism.

---

37 Stojek, Szymon M., and Mwita Chacha. "Adding trade to the equation: Multilevel modeling of biased civil war interventions." *Journal of Peace Research* 52, no. 2 (2015): 228-242.

38 Scott, John, and Gordon Marshall, eds. *A dictionary of sociology*. Oxford University Press, USA, 2009.

39 Mousseau, Michael. "Urban poverty and support for Islamist terror: Survey results of Muslims in fourteen countries." *Journal of Peace Research* 48, no. 1 (2011): 35-47.

40 Barbieri, Katherine. *The liberal illusion: Does trade promote peace?*. University of Michigan Press, 2002.

41 Dumas, Lloyd J. *The peacekeeping economy: using economic relationships to build a more peaceful, prosperous, and secure world*. Yale University Press, 2011.

2.4 Conclusion

Trade and economies have the potential to bring about both peace and violence and war. We must examine trade and conflict in all of their complexities, adding layers such as equality and justice. While the peace through trade question yields inconclusive results in terms of direct violence, it is clear that unregulated free trade contributes significantly to structural violence – violence in which social structures and institutions prevent people from meeting their basic needs. The current global economic system is a war economy. It needs to be transformed into a peace economy. As political economist Lloyd Dumas states, "a militarized economy distorts and ultimately weakens and society".[42] Peace through trade can become a more realistic concept when linked to the fundamental principles of a peacekeeping economy. These are: by establishing balanced relationships in which everyone benefits in a way that is at least equal to their contribution and there is little incentive to disrupt the relationship. The larger body of literature backs this up. As an example: The European Union – they argue, they have disagreements, but there are no threats of war. It leads to further development. Since WWII, the majority of wars have been fought in developing countries. Poverty and a lack of opportunities are fertile ground for violence. Because it weakens the support network, thus development is an effective counter-terrorism strategy.[43]

Trade can be used as a ploy in the arsenal to minimize ecological stress. The competition for depletable resources (also known as "stress-generating resources"), most notably oil and, in the future, water, leads to dangerous conflicts between nations and groups within nations. It has been proven that when there is oil, war is more likely to occur. Using natural resources more efficiently, developing and employing non-polluting technologies and procedures, and a significant shift toward qualitative rather than quantitative economic growth can all help to reduce environmental stress. The most fundamental economic and peace principles should be the satisfaction of basic needs on a local, national, and global scale, equal global trade relations, and economic activity that ensures a dignified life and thus fosters equitable relations between countries. It is need of hour to introspect that if our current economic systems and trade policies achieve those principles or if it is in our interest to maintain and create new trade frameworks which consist of grabbing natural resources of others and using the military to protect what we took.[44] To put weight to it, trade is not the issue. People and societies have always traded and will continue to do so. Trade relationships and mechanisms are central to whether trade promotes peace or fuels violent conflict and war. As a result, the literature reveals a wide range of perspectives on the relationship between trade and conflict. According to liberal theory, trade has an inverse relationship with conflict; the more important a trading relationship, the less likely a pair of states will engage in conflict. According to Neo-

[42] Dumas, Lloyd J. *The peacekeeping economy: using economic relationships to build a more peaceful, prosperous, and secure world*. Yale University Press, 2011.

[43] Mousseau, Michael. "Urban poverty and support for Islamist terror: Survey results of Muslims in fourteen countries." *Journal of Peace Research* 48, no. 1 (2011): 35-47.

[44] Galtung, Johan. "Peace and conflict studies as political activity." *Critical Issues in Peace and Conflict Studies: Theory, Practice and, Pedagogy* (2011): 3-18.

Marxist theories, the impact of conflict is determined by the balance of dependence, where symmetry of dependence could inhibit conflict but asymmetry may exacerbate conflict. Finally, in the realist tradition, trade relations are thought to be unimportant and have little influence on leaders decisions to engage in or refrain from conflict.

3. Research Methodology

3.1. Methodology and data

A plethora of studies in economic literature mainly uses gravity equations to evaluate the impact of conflict on trade. Thus, this study addresses the impact of conflicts on trade by using a structural gravity model of international trade. The analysis is based on time series data from 2005 to 2019, bringing trade data together from World Bank and some of the other data sources including the database of conflict. The structural gravity model allows for the investigation of issues concerning proximity and size in a dyadic relationship, with a focus on key factors that either positively or negatively affect the volumes and levels of trade between/to countries. Given the history and trajectory of conflict in the SAARC region, particularly in Afghanistan, it is necessary to conduct counterfactual analysis when examining trade datasets. The structural gravity model is well-suited to this type of analysis and is extremely useful. While there are some limitations in the availability of data on trade among SAARC member countries, the gravity equations will still be useful for conducting empirical research on the impact of conflict on trade flows. The study further recommends future research on exploring this question so as to improve the basic understanding of the problem and to guide efforts toward its resolution.

3.2. Gravity Model

An estimable log-linear specification is used, which is derived formally from an Anderson and Van Wincoop general equilibrium model of trade, production, and consumption (2003). Two estimation equations are used in this study:[45]

- To model the level of bilateral trade between the respective countries as a function of the log of their GDPs and dummy variables defining whether exporter or/and importer are in a conflict in the given year:

$$Log(Exports_{ijt}) = \beta_0 + \beta_1 Log(GDP_{it}) + \beta_2 Log(GDP_{jt}) + \beta_3 Conflict\,Variable_{it\ \ (1)} + \beta_4 Conflict\,Variable_{jt} + \gamma_{ij} + \delta_{ij} + \varepsilon$$

- To model the level of bilateral trade between the respective countries as a function of the log of the distance between country i and j, dummy variables defining whether the country-pair is allies or enemies in the given year, as well as other control variables:

[45] Sanctions, which appear concurrent with conflicts, might take up some of the negative effect on trade. Because data on sanctions is not available for a high number of countries on the one hand, and because sanctions are mostly not imposed on country-level but on individual or group level, we are not able to include sanctions in our analysis but are aware of the fact that this might upward bias our estimates.

$$Log(Exports_{ijt}) = \beta_0 + \beta_1 Log(dist_{ij}) + \beta_2 Relationship\,Variable_{ijt} + \beta_3 \text{Contiguity}_{ij} + \beta_4\ Relationship\,Variable_{ijt} + \beta_4\, Coloial\ Relationship_{ijt} + \rho_{it} + \rho_{jt} \quad (2)$$

where i and j denote the countries, t denotes time, and the other variables are defined as:

- $Exportsij$ is the total trade value traded from country i to country j at time t;
- $distij$ is the distance between country i and j;
- $Relationship\,Variableijt$ are dummy variables taking up the value 1 if country-pair is allies or enemies in the given year, and 0 otherwise;
- $Contiguityij$ is a dummy variable being unity if i and j share a common border;
- $Common\ Languageijt$ is a dummy variable being unity if i and j have a common official language in given year;
- $\rho it, \rho jt$ are the country-time fixed effects, and
- ε is the usual error term, taking up all other influences on bilateral trade.

Estimation equation (1) thus considers the impact of conflict in its various forms, namely armed conflict, non-state conflict, and one-sided violence, on trade, whereas estimation equation (2) considers the impact of a country-pair relationship being in armed conflict on mutual trade flows. According to previous research, the impact of the conflict variables in (1) is expected to be negative and high. Throughout the analysis, we will differentiate between different levels of conflict intensity, that is, whether the given country is involved in one, multiple (2-5) or a large number (6-10) of conflicts in the given year. It is expected that, with increasing intensity of conflict is the negative impact on trade flows increase. For (2), the relationship variables are – according to literature - expected to have a positive impact on trade in the case of allies and a negative impact in the case of enemies.

3.3. Econometric issues

Most of the economic research studying the relationship of conflict and trade use gravity equations for estimation purposes. Furthermore, the usage is subject to one major econometric issue of simultaneity.[46] Assessing the relationship of conflict and trade with a single equation model does not account for the fact that conflict may reduce trade, while trade as well reduces conflict, and hence leads to biased and

[46] Hegre, Håvard, John R. Oneal, and Bruce Russett. "Trade does promote peace: New simultaneous estimates of the reciprocal effects of trade and conflict." *Journal of Peace Research* 47, no. 6 (2010): 763-774.

inconsistent results. [47,48] One option to deal with this simultaneity bias is to use simultaneous equations and two-stage least-square. This, however, usually leads to the problem of identifying appropriate exogenous variables as identifiers for the two equations, which are only allowed to affect the dependent variable of one equation but not the dependent variable of the other. Many of the variables used, such as PTAs or military expenditures, are correlated to both trade and conflict, according to the literature [49,50, 51] and hence make the use of the two-stage least-squares estimator difficult.

We assume that estimating a gravity equation clearly leads to a simultaneity bias, which is difficult to correct with a two-stage least-squares estimator due to identification issues with suitable exogenous variables. As a result, in this paper, we estimate the effects of conflict on trade using a gravity model and account for simultaneity bias by using country-pair fixed effects as well as country-and-time fixed effects.

3.4. Data set

The bilateral trade data stems from a study for World Bank[52] and uses UNComtrade data containing country-level information on total trade value in US$, GDP of exporter and importer in current US$, and country-pair-level information on colonial relationship, and distance. Various other country and country-pair characteristics are included in the data but not used in this first step of the analysis. The data covers 5 countries with a time series running from 2005-2019.

Hence, this paper uses conflict data from the Uppsala Conflict Data Program (UCDP)[53] instead of Correlates of War Project (COW)[54],[55]and merged it with trade data,

---

47 Polachek, Solomon William. "Conflict and trade." *Journal of conflict resolution* 24, no. 1 (1980): 55-78.

48 Polachek, Solomon W., and Carlos Seiglie. "Trade, peace and democracy: an analysis of dyadic dispute." *Handbook of Defense Economics* 2 (2007): 1017-1073.

49 *Ibid*

50 Hegre, Håvard, John R. Oneal, and Bruce Russett. "Trade does promote peace: New simultaneous estimates of the reciprocal effects of trade and conflict." *Journal of Peace Research* 47, no. 6 (2010): 763-774.

51 Martin, Philippe J., Thierry Mayer, and Mathias Thoenig. *The geography of conflicts and free trade agreements*. London: Centre for Economic Policy Research, 2010.

52 Goȑg, Meyer, de Rosa (2013): Economic Mass, Geography and Economic Policy: Implications for Eurasian Trade.

53 "Uppsala Conflict Data Program," UCDP, accessed May 26, 2021, https://ucdp.uu.se/. The dataset which contains detailed information on intensity, location, types, start and end date etc. of the respective conflicts. One conflict dataset is assembled out of UCDP/Peace Research Institute Oslo (PRIO) Armed Conflict Dataset, UCDP Non-State Conflict dataset and UCDP One-sided Violence dataset.

54 "About the Correlates of War Project." Correlates of War, April 5, 2021. https://correlatesofwar.org/.

55 As for conflict data, literature usually uses data from the Correlates of War Project (COW)[55], which focuses on militarized disputes and began only recently to distinguish between different types of conflict. This datum is not suitable for our analysis because of two reasons: first, the COW time series runs only until 2007 and is hence not matching our trade data. Second, at least for our purpose COW is not detailed enough about the types and the intensity of conflicts.

to obtain one coherent dataset for analysis.[56,57,58] The UCDP One-sided Violence dataset contains information on 660 cases (total events) of one-sided violence committed by 206 different actors in 74 countries from 1992-2019. One-sided violence is defined as "the use of armed force by the government of a state or by a formally organized group against civilians which results in at least 25 deaths".[59] A total of 158 countries are represented in the conflict data, of which 5 SAARC countries are represented in the trade dataset for analysis purpose.

4. Analysis of the Empirical Effects of Conflict on Trade

Two gravity equations are estimated, as described in the section "Gravity model." Table 1 shows the results of the first estimation of (1), where Conflict Variable$_i$ and Conflict Variable$_j$ have the value 1 if the exporter/importer has been involved in at least one conflict in the given year, and 0 otherwise. This estimate does not account for whether the country has been involved in a greater number of conflicts or the type of conflict. Because most studies do not distinguish between conflict types and intensity, our analysis begins with this.

Table 1: Impact of Conflict on Trade

Variables	(1)
	Conflict general log(total trade)
Exporter in conflict ($Conflict\ Variable_i$)	-0.0006 (0.007)
Importer in conflict ($Conflict\ Variable_j$)	0.0568*** (0.005)
log (GDP exporter)	0.8800*** (0.016)
log (GDP importer)	0.3461*** (0.010)
Observations	300
R-squared	0.882

Source: Data output from EViews-8.0
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

[56] The dataset contains the following information: The UCDP/PRIO Armed Conflict Dataset contains information on 120 armed conflicts in 137 countries from 1992-2019 (total of 961 events for the conflict-year-combination), defining armed conflict as "a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths." (UCDP/PRIO Armed Conflict Dataset Codebook, Version 4-2014; Gleditsch et al., 2002; Pettersson and Wallensteen, 2015).

[57] Note that the location variable does not indicate the geographical location of the conflict but the location of the government of the main actor in the respective conflict (for more information see section "Analysis of empirical effects of conflict on trade").

[58] Non-state conflict is defined as "the use of armed force between two organized armed groups, neither of which is the government of a state, which results in at least 25 battle-related deaths in a year" (UCDP Non-State Conflict Codebook, Version 2.5-2014; Sundberg et al., 2012) and contains information on 414 non-state conflicts in 59 countries from 1992-2011 (total of 633 events). Note that the location variable indicates the geographical location of the conflict.

[59] (UCDP One-sided Violence Codebook, Version 1.4 – June 2014)

This generalization of conflict has no significant impact on the exporter, but has a highly significant and positive impact on the importer, with trade increasing by approximately 5.7%. This is unsurprising given that a country at war redirects government spending, produces less, and imports more. Nonetheless, no other conclusions can be drawn from this outcome. Table 2 shows the results of the second estimation of (1), which show that differentiation into types of conflict matters. Conflict Variable$_i$ and Conflict Variable$_j$ are now distinguished in the previously mentioned three types of conflict, namely armed conflict, non-state conflict, and one-sided violence.

Table 2: Impact of Conflict Types on Trade

Variables	**(2)** **Types of Conflict log(total trade)**
Exporter in Armed conflict	-0.0053 (0.006)
Importer in Armed Conflict	0.0832*** (0.007)
Exporter in Non-state Conflict	-0.0130 (0.015)
Importer in Non-state Conflict	-0.02387* (0.011)
Exporter in One-sided Violence	0.0059 (0.013)
Importer in One-sided Violence	-0.0230*** (0.013)
log (GDP exporter)	0.8378*** (0.011)
log (GDP importer)	0.3324*** (0.014)
Observations	300
R-squared	0.885

Source: Data output from EViews-8.0
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

While the exporter is still not significantly affected by conflict, the importer experiences an increase in trade (+ 8.32 percent) when confronted with an armed conflict, but suffers trade losses when confronted with a non-state conflict (-2.38 percent) or in a case of one-sided violence (-2,30 percent). It should be noted that this estimation does not take into account the number of conflicts in which the respective country is involved in the given year, so the conflict dummy variable is one if at least one conflict is measured. In the third estimation of (1), we distinguish between conflict types and intensity subsets for the exporter and importer sides. In this context, intensity is measured not by the number of battle-related deaths, but by the number of conflicts of the same type in which the respective country is involved in a given year, with “multiple conflicts” referring to involvement in two to five conflicts of the same type, and “high number of conflicts” referring to involvement in six to ten conflicts of the same type.

Table 3: Impact of Conflict Types and Intensity on Trade

Variables	**(3)** **Types of conflict & intensity subsets log(total trade)**
Exporter in one Armed conflict	-0.0053 (0.006)
Importer in one Armed Conflict	0.1068*** (0.009)

Exporter in multiple Armed conflict	0.0065 (0.013)
Importer in multiple Armed conflict	0.0832*** (0.007)
Exporter in high number of Armed conflicts	-1.6611*** (0.057)
Importer in high number of Armed conflicts	0.0496* (0.045)
Exporter in one Non-state Conflict	-0.0130 (0.015)
Importer in one Non-state Conflict	-0.02387* (0.011)
Exporter in multiple Non-state conflicts	-0.0241 (0.025)
Importer in multiple Non-state conflicts	0.0080 (0.024)
Exporter in high number of Non-state conflicts	0.1143*** (0.043)
Importer in high number of Non-state conflicts	0.0796* (0.045)
Exporter in One-sided Violence	-0.0056 (0.013)
Importer in One-sided Violence	-0.0498*** (0.012)
Exporter in multiple One-sided violence	0.0023 (0.021)
Importer in multiple One-sided violence	0.0003 (0.019)
Exporter in high number of One-sided violence	-0.0897 (0.125)
Importer in high number of One-sided violence	-0.0409 (0.127)
log (GDP exporter)	0.8378*** (0.011)
log (GDP importer)	0.3324*** (0.014)
Observations	300
R-squared	0.885

Source: Data output from EViews-8.0
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Only when the intensity of the conflict is high does the exporter suffer a negative and highly significant impact of up to -66.11 percent of trade decrease. In the case of an importer, a low intensity has a positive impact on trade (+10.68 percent), whereas a rising intensity has a negative impact on trade (-49.6 percent). Involvement in non-state conflict has surprising effects on both the exporter and the importer, with trade increasing by 11% if the exporter is involved in a high number of conflicts and decreasing by -4,78% if the importer is only involved in one conflict. Only the importer appears to be affected by one-sided violence, with a trade loss of -4.98 percent if involved in one case of one-sided violence.

Moving on to estimation equation (2), table 4 shows the results of the first estimation of (2), where Relationship Variable$_{ijt}$ are two dummy variables that take the value 1 if the country-pair was allies or enemies in an armed conflict in the given year, and 0 otherwise.

Table 4: Estimation Results

Variables	**(1)** **Relationship general log(total trade)**
Enemies	-1.8731*** (0.274)
Allies	0.0047 (0.023)
Log (Distance)	-1.5234*** (0.004)

Contiguity	0.6177*** (0.025)
Colonial Relationship	0.9463*** (0.027)
Observations	300
R-squared	0.731

Source: Data output from EViews-8.0
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Surprisingly, as previously suggested by literature, being an ally has no positive impact on trade. The impact of the country-pair being enemies is undeniably negative and significant (-87.31 percent). In the second estimation of (2), we want to see if the countries' roles in an armed conflict, that is, whether the country is a main actor or a supporter, affects the country pair's trade flows. Table 5 displays the outcomes for the specified relationship.

Table 5: Results of Specific Relationship

Variables	**(1)**
	Relationship specified log(total trade)
Allies, main actors	-0.3251 (0.879)
Allies, both supporters	0.0436* (0.026)
Allies, Importer supports Exporter	--0.7837*** (0.154)
Allies, Exporter supports Importer	-0.7162*** (0.110)
Enemies, main actors	-3.0793*** (0.418)
Enemies, Importer supports enemy	-0.5283 (2.148)
Enemies, exporter supports enemy	-0.5612 (0.514)
Enemies, both supporters	-1.1754** (0.520)
log (distance)	-1.5533*** (0.004)
Contiguity	0.6321*** (0.023)
Common official language	0.9180*** (0.011)
Colonial relationship	0.9516*** (0.027)
Observations	300
R-squared	0.733

Source: Data output from EViews-8.0
Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

According to the findings, alliances are not beneficial to trade in the way that previous studies have suggested, with allies facing trade losses of up to -43.6 percent. If both countries are major players and adversaries, they will suffer a trade loss of -79.3 percent.

4.2. Discussions

According to the empirical analysis, increased bilateral trade reduces the likelihood of military conflict between countries. When we control for the simultaneous estimation of trade and conflict, our empirical findings are consistent. Our findings also support the idea that the peace-promoting effect of trade varies according to the geographical proximity of countries. Greater bilateral trade

interdependence appears to have a significantly greater peace-promoting effect on neighboring countries. Overall, our findings show that trade integration has a significant impact on interstate conflict. A recent pioneering paper in global trade and conflict[60] contends that internationalization can increase the likelihood of military conflict by decreasing bilateral reliance on any given country. This argument is largely refuted by our empirical findings. The generalizability of conflict has no significant impact on the exporter, but has a large and positive impact on the importer as suggested by other studies as well.[61] This is unsurprising given that a country at war redirects government spending, produces less, and imports more.

Nonetheless, no other conclusions can be drawn from this outcome. When conflict is classified according to its type, the exporter is still unaffected significantly; however, the importer experiences an increase in trade when confronted with an armed conflict, but suffers trade losses when confronted with a non-state conflict or one-sided violence.[62] In the case of armed conflict, the exporter experiences a negative and highly significant impact, whereas the importer experiences a shift in signs regarding the impact: whilst the low intensity has a positive impact on trade, a rising ferocity leads to a reduction in trade. Non-state conflict has unexpected effects on both the exporter and the importer, with trade increasing if the exporter is involved in a large number of conflicts and trade decreasing only if the importer is involved in one conflict. Only the importer appears to be affected by one-sided violence, facing trade loss if involved in just one case of one-sided violence.[63]

Surprisingly, as previously suggested by literature, being an ally has no positive impact on trade. The impact of the country-pair being enemies is undeniably negative and significant. According to the findings, alliances are not beneficial to trade in the way that previous studies have suggested, with allies facing trade losses. If both countries are major players and adversaries, they will suffer a trade loss. Our findings suggest that trade integration can lead to significant political benefits and economic gains, such as a peace dividend between trading partners.

5. Conclusion

Much has been written about the negative economic consequences of war. However, there has been very little case study research on this topic in the SAARC region to date. This article shows how the conflict has had a negative economic impact on the SAARC region. Because most studies do not distinguish between conflict types and intensity, our analysis begins with this. The study of the relationship between conflict and trade has yielded a rich understanding of how conflict dampens economic integration. The impact of conflict on trade appears to be quite strong, according to the analysis presented in this paper.

---

60 Martin, Philippe, Thierry Mayer, and Mathias Thoenig. "Make trade not war?." *The Review of Economic Studies* 75, no. 3 (2008): 865-900.

61 Marano, Valentina, Alvaro Cuervo-Cazurra, and Chuck CY Kwok. "The impact of conflict types and location on trade." *The International Trade Journal* 27, no. 3 (2013): 197-224.

62 Palik, Júlia, Siri Ass Rustad, and Fredrik Methi. "*Conflict Trends: A Global Overview, 1946–2019*." (2020).

63 Khan, Shaheen Rafi. *Regional Trade Integration and Conflict Resolution*. Routledge, 2008.

This generalizability of conflict has no significant impact on the exporter, but has a highly significant and positive impact on the importer, with trade increasing by approximately 5.7 percent. This is unsurprising given that a country at war redirects government spending, produces less, and imports more. Nonetheless, no other conclusions can be drawn from this outcome. The distinction between conflict types is important. The conflict variables I and j) are now differentiated in the previously mentioned three types of conflict, namely armed conflict, non-state conflict, and one-sided violence, and the results show that, while the exporter side is still not significantly affected by conflict, the importer does witness an increase in trade (+ 8.32 percent) when facing an armed conflict, but encounters trade losses when being involved in a non-state conflict (-2.38 percent) or in a case of one-sided violence (-2.30 percent).

Only when the intensity of the conflict is high does the exporter suffer a negative and highly significant impact of up to -67.24 percent of trade decrease. In the case of an importer, a low intensity has a positive impact on trade (+11.18 percent), whereas a rising intensity has a negative impact on trade (-42,24 percent). Involvement in non-state conflict has surprising effects on both the exporter and the importer, with trade increasing by 12% if the exporter is involved in a high number of conflicts and decreasing by -4,78% if the importer is only involved in one conflict. Only the importer appears to be affected by one-sided violence, with a trade loss of -4,78 percent if involved.

Surprisingly, as previously suggested by literature, being an ally has no positive impact on trade. The impact of the country-pair being enemies is undeniably negative and significant (-87.31 percent). In the second estimation of (2), we want to see if the countries' roles in an armed conflict, that is, whether the country is a main actor or a supporter, affects the country pair's trade flows. According to the findings, alliances are not beneficial to trade in the way that previous studies have suggested, with allies facing trade losses of up to -54.75 percent. If both countries are major players and adversaries, they will suffer a trade loss of -95.39 percent. However, it shows that increased global commercial openness reduces the likelihood of interstate conflict more for countries that are far apart than for countries that share borders. According to the findings, military conflict between countries has an impact not only on bilateral trade interdependence but also on global trade integration. When controlling for natural and geopolitical characteristics of state dyads that may influence the likelihood of military conflict and the simultaneous determination of trade and peace, the main finding of the peace-promoting effect of bilateral and global trade integration remains robust..

After controlling for potentially confounding factors such as contiguity, regime type, relative capabilities, and alliance commitments, the studies show that economic ties have a dramatic impact on whether or not dyads engage in militarized interstate disputes, but have no impact on the occurrence of wars. Even so, the relationship between interdependence and extensive economic linkages reduces the likelihood of dyadic disputes while increasing the likelihood of militarized conflicts. Extreme interdependence, whether symmetrical or asymmetrical, has the greatest potential to

increase conflict. Nonetheless, the relationship between interdependence and extensive economic ties reduces the likelihood of dyadic conflicts while increasing the likelihood of militarized conflicts. Extreme interdependence, whether symmetrical or asymmetrical, has the greatest potential for escalation.

About the Author

Dr. Nassir Ul Haq Wani, Head, Department of Research and Development, Kardan University, Kabul, Afghanistan. <*n.wani.kardan.edu.af*>