Guest editorial

Economics of conflict and defence: introduction

Conflicts, both international and intra-national, are not as uncommon as one would like, and these can be found in every continent of the world. Conflicts can be different types: terrorism, civil war, insurgencies, inter-country war, military coup, ethnic riots, sectarian or communal conflicts, etc. Irrespective of the type, all conflicts cause human suffering and economic devastations not only to the parties involved but also to innocent bystanders or to the international community. Therefore, resolving a conflict brings huge dividends to all, and the international community may have good reasons to get involved in conflict resolution.

Conflict resolution is however not an easy task. We do observe some conflicts persisting for decades. We believe that the key to a resolution of a conflict is an understanding of the economic forces that lead to the conflict in the first place. Identifying and assessing the costs and benefits of conflicts to the involved parties are important building blocks toward lasting peace.

This special issue focuses on many of the aspects of conflict mentioned above and contains a mixture of theoretical and empirical contributions.

It begins with the paper "China, India and the Contest for the Indo-Pacific" by Peter E. Robertson, Jingdong Yuan and Harsha K. Mudiyanselage, which analyses security issues in the Indo-Pacific region arising out of strategic distrust and bilateral disputes between China and India and their economic and military aspirations. It begins by noting that China's phenomenal economic rise to the status of being the second largest economy in the world is seen as a significant global security threat by Western countries and a challenge for India. On the other hand, warming relation between the USA and India is a worry for China. Both countries have been expanding their influence in Asia. China's signature Belt and Road Initiative, which India is wary of, is a prime example. India's expanding diplomatic activism in the Southeast Asia that irks China is another. Apart from these, there is a long standing boundary dispute between the two countries, which is far from resolved.

The paper documents that despite increases in nominal defence spending in both countries over the past decade, they have not translated into greater shares of their respective total income. In China, military spending in recent years is about 40% of the US spending, while those of India and Japan are approximately 9% and 8% as large as the military spending of the USA, respectively. But military spending in both countries remains between 2% 4% of the respective GDPs.

Regression estimates indicate that China's military spending has no significant effect on world military spending or military spending in the South and East Asia. The authors also estimate a Richardson–Baumol type arms-race model, where changes in military spending in one country is negatively and positively related respectively to the levels of military spending in the own and a rival country. The positive cross effects capture the notion of arms race. But the estimated coefficients on them are statistically insignificant, suggesting that there is little basis for a presumption of an active arms race between the two countries.

However, major modernization of military in terms of rapidly rising capital-labor ratio in military spending has taken place, much more so in China than in India. Over the period 2000–2014, military equipment spending increased by 12.63% and 6.58% in China and India respectively.

The upshot of the paper is that, contrary to standard perceptions, militaries in China and India are not growing disproportionately compared to their overall economic growth. While

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their military strength and prowess are growing, there is little evidence of arms race between the two countries.

The next paper in the volume is "Conflict, Caste, and Resolution: A Quantitative Analysis for Indian Villages" by Vani K. Borooah, Anirudh Tagat and Vinod Kumar Mishra. It is India-specific and deals with a long-standing source of conflict, namely, the caste related conflicts in India. The authors use data from the Rural Economic and Demographic Survey of 2006 covering 18 states in India and encompassing 8,659 households in 242 villages in 18 Indian states. By using this micro dataset and applying probit and ordered-probit regressions, the authors examine the source of caste-based conflict *vis-`a-vis* non-caste-based conflicts, the time trend of caste-based conflict (comparing conflicts during the tenure of the last and the present Panchayats), and how conflicts are resolved when they are in fact resolved. The first part of their findings is rather concerning, as they find a rising incidents of caste-based conflicts. They provide a plausible explanation in terms of high-caste backlash while the low-caste groups have been organizing themselves in demanding rights to basic necessities such as access to drinking water and jobs. On the positive, they find that caste-based conflicts are more likely to be resolved with the help of non-family local individuals and Panchayats, and Panchayats are much more effective in resolving caste-based conflicts than other conflicts.

The following paper, "Understanding Subnational Conflicts in Myanmar" by Partha Gangopadhyay and Siddharth Jain analyzes subnational conflicts in one of the countries, neighboring India, namely, Mayanmar (formerly known as Burma) since the 1960s. Mayanmar has been in the news in recent years due the violence against the Rohingya population there. Using annual time-series data for the period 1960–2017, the authors examine the interrelationships between internal conflicts in Myanmar and variables such as the lack of security and the vulnerability of sections of the population and the aggressiveness of the ruling armed forces. Using time-series techniques, the authors identify a number of economic variables that are closely linked with the conflicts there. For example, increased agricultural productivity, crop yield and the availability of arable land are quite likely to reduce conflicts. They also find that the vulnerability of sections of the population, and the lack of accountability of, and the aggressive actions by, the ruling armed forces played a major role in the escalation of the conflicts. This study thus makes a clear positive contribution, and some of the policy prescriptions, which follow from the analysis, such as an increase in crop production and productivity leading to an enhanced accountability of the military may help resolve some of the conflicts there.

"Leadership Preferences and Ethnic Bargaining: Theory and Illustrations" by Shale Horowitz and Min Ye looks beyond the sub-continent. It analyzes how ethnoterritorial conflicts may arise because of variations in leadership preferences and draws profiles of leaders in the Central Asia and East European regions. The paper is both theoretical and empirical. It differentiates between three categories of leadership: normal-nationalist, extreme-nationalistic and power-seeking. Normal nationalist weigh between collective goals on one hand and downside risks and conflict costs on the other in a balanced way. Compared to normal nationalists, extreme nationalists more highly value ideal upside collective goals, as compared to status quo conditions and to downside risks and conflict costs. Power seekers have a very different objective namely political power without regard to collective goals or conflict cost.

The first part of the paper considers alternative bargaining scenarios between a pair of leaders and the issue is whether bargaining can lead to a situation where both parties gain and conflict does not arise or bargaining fails to yield a settlement, leading a conflict inevitably. If both parties are normal-nationalists, then a settlement is likely and conflicts

are unlikely, whereas other situations are less likely to produce a settlement and thus are conducive to conflict outcomes.

The next part of the paper characterizes seven leaders in the central Asia and East European region in terms of their leadership type based their policy and strategy stances and actions: Dzhokar Dudayev (Chechnya), Boris Yeltsin (Russia), Slobodan Milošević (Serbia), Ibrahim Rugova and Democratic League (Kosovo), Franjo Tudjman (Croatia) and Alija Izetbegović (Bosnian Muslims). The case studies support the theoretical expectation that variation in leadership preferences adds significant explanatory power to analyses that would otherwise rely mainly on discussing the impact of relative power and status quo conditions.

Future research would profit from investing in quantitative measurement of leadership preferences in large samples of ethnic civil wars. Apart from estimating the impact of leadership preferences, such measures would also be likely to reduce estimation bias in model specifications that have hitherto omitted leadership preferences. The same approach can also be applied to the impact of leadership preferences in other types of wars – for example, international territorial conflicts.

The next paper, namely, "Peace Keeping in a Model of Conflict with Foreign Investments" by Sajal Lahiri and Valerica Vlad is a theoretical contribution. As suggested by its title, it develops a trade-theoretic model of countries engaged in conflict with each other, while outside nations contribute to peacekeeping between the warring nations and are a source of foreign direct investment (FDI) to these countries as well. For example, in the Cyprus Dispute, the war has ended but permanent solutions are being sought by the international community and peacekeeping forces are present to prevent the recurrence of the war. In principle, FDI can influence peacekeeping and vice versa. They consider two cases according to whether FDI is exogenous or endogenous. It provides key insights into how FDI may affect conflict and peace-keeping and what cooperation between countries entails in terms of conflict, FDI and the size of peace-keeping forces?

It is shown that an exogenous increase in foreign investment can lower the level of conflict and increase the level of peacekeeping. An increasing in FDI leads to a higher incentive to increase the size of peacekeeping to protect its income from FDI, which, in turn, reduces the benefits from and hence the magnitude of conflict. When FDI is endogenous, starting from the non-cooperative (war) equilibrium, a Pareto-improving multilateral agreement to which the warring countries and the outside nation(s) are parties entails less conflict, more FDI and a larger peace-keeping force.

The volume includes two valuable contributions on terrorism, a form of conflict, which is a major global concern and in almost everyone's mind especially since the 9/11 attacks. In "Aid and terrorism: a dynamic contracts approach with interlinked moral hazard," Prabal Roy Chowdhury and Jaideep Roy articulate a contract theoretic model to characterize a situation where a terrorist organization based in a poor country targets a rich nation and the government in the poor country may be sympathetic to the cause of the terrorist organization. The target nation designs a dynamically incentive-compatible contract involving joint counter-terror activities with associated costs for the two governments. However, ex post the government in the poor country can stop counter-terror activities. To deal with this issue of ex-post moral hazard in relation to the counter-terror operations, the target country government provides foreign aid for developmental purposes. However, aid can be fungible, i.e. a part can be diverted away to non-developmental projects such purchasing military equipment or spending on a prestige project like a building a football stadium. In other words, the delivery of aid also involves a moral hazard problem in that the recipient government can divert a part of this aid to uses that are unacceptable to the donor.

These provide the authors with an interesting interlinked moral hazard problem involving counter-terror activities and the use of rewards. Foreign aid induces a greater use of counter-terror activities by the recipient of aid. A number of unconventional results follow. For example, it is not necessarily that a more hawkish donor is less pro-development. There could be a higher level of counter-terror activities when the government in the poor country is more sympathetic to terrorists. Linking counter-terror activities to foreign aid, the authors generate a number of very interesting results. For example, they find that political changes in the donor country, or pressures from international agencies on the donor government, can have unanticipated consequences.

The second paper on terrorism, namely, "Terrorism and Policy Response: Theory and Empirics" by Hamid Mohtadi and Brian Weber develops a model of terrorist defender game where the terrorist organization can substitute between an extremely lethal terror attack such as biological, chemical, radioactive and nuclear attacks, commonly abbreviated as CBRN, and a conventional terror attack by bombing, suicide attacks etc. that do not involve mass killing agents. Using data on large scale injuries and fatalities from terror attacks, the model is then calibrated to recover deep structural parameters reflecting (a) complexity of attacks, (b) effort level of terror organizations, (c) the defending government's counter-terror efforts and (d) probability of success of terror attacks. The fact that large terrorist attacks can be very lethal but are also rare calls for an estimation procedure that utilizes special density functions involving fat tails (black swan effects). Altogether there are eight parameters that are estimated, four for conventional terror attacks and four for unconventional CBRN attacks. Each of these parameters represents a single, aggregative indicator or a marker that is unobservable. While the reader can see these numbers in their article, the broader value added of this research piece lies in its methodology.

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