Beyond being Good Neighbors: Proximity to International Markets Matter More for India Pakistan Peace

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ABSTRACT

The purpose of this paper is to examine whether greater level of international integration, increased development spending and economic growth improve relations between India and Pakistan. The analysis controls for political orientation, defence spending and population for both countries. We investigate the causal links between different measures of bilateral conflict and these variables in a time series framework running between 1950-2005 in most instances. Our results suggest that more international trade, improved budget allocation for development sector and higher growth rates have been the primary determinants of conflict mitigation between India and Pakistan. The export capabilities of both countries are key for the peace process to move forward. We also find that India Pakistan conflict is the cause of high military expenditures and low/stagnant development expenditures in Pakistan over the Last 50 years. Another important finding of the study is that a weak relationship exists between conflict mitigation and relative political orientation of both countries.

Keywords: Inter-state conflict and trade, democracy and conflict, conflict and economic development.

J.E.L codes: D74, F13, F15, F51.

'The destinies of our two nations are interlinked. We need to put the past behind us'
(Indian Prime Minister Manmohan Singh in response to Pakistani President Pervez Musharraf's peace initiatives) *The Nation, December 21, 2006*

1 INTRODUCTION

International trade allows one country to peacefully benefit from the endowments of another nation through peaceful exchange. Furthermore, free trade integrates the world economy. An equally viable manner, however, of earning a living is through violence, see Skaperdas (1992). War is a way of expropriating the endowments of another country, but it is costly as it destroys a part of both countries pre-existing wealth. In making a living, predation is an alternative to production, but it is not usually the most efficient, as predation (war or other forms of larceny) unnecessarily wastes resources. Such, unenlightened behaviour may be rational or optimal from the standpoint of the individual person or a nation, but is inefficient in the global sense. The work of Francis Edgeworth, writing in the late 19th century, provides a useful starting point in understanding the economic rationale for violence. Edgeworth distinguished between consent—and its absence—in human economic interaction:

> The first principle of Economics is that every agent is actuated only by self-interest. The workings of this principle may be viewed under two aspects, according as the agent acts without, or with, the consent of others affected by his actions. In wide senses, the first species of action may be called war; the second, contract. [Edgeworth, 1881, pp 16-17].

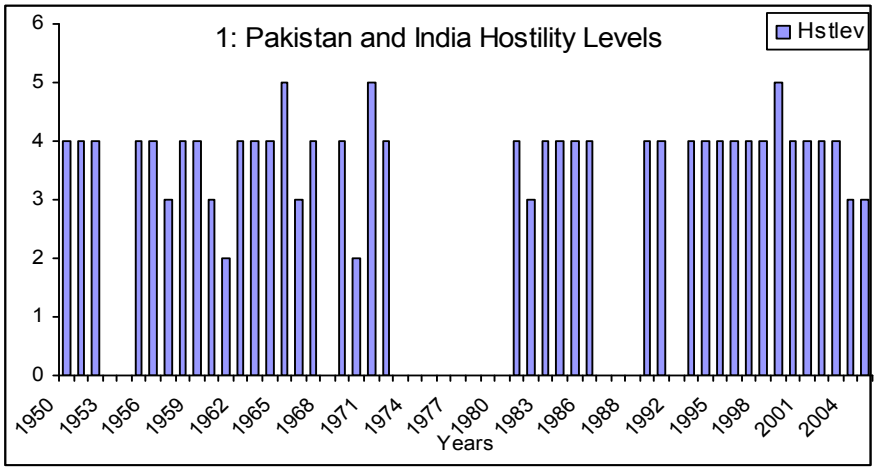
In summary, international economic interactions between nations may involve peaceful trade, or it could be belligerent with attenuated economic interaction. Outright war is just one manifestation of the rivalry between nations; the armed peace is equally consistent with aggressiveness. India and Pakistan are a case in point. They have had at least four large scale military confrontations (1948, 1965, 1971 and 1999), but otherwise spend a great deal of time in uncompromising posturing vis-à-vis each other. India, in particular, frequently accuses Pakistan of sponsoring terrorism in her territory. But occasionally they make goodwill gestures, such as sending out peace buses between cities like Delhi and Lahore, and agree to cricket tours. Less frequently, major concessions are made mainly by Pakistan, such as President Musharraf's willingness to put aside the long standing Pakistani demand and United Nations resolution for a plebiscite to settle the future of Kashmir.[1] Figure 1 charts the hostility levels of the two states on a scale of 0-6. It has never been below 2, but usually at high level of 4, which measures belligerency short of outright war (see variable definitions in the appendix).

Polachek (1997) and Polachek and Seiglie (2006) argue that aggressive posturing and other forms of belligerent behaviour between states disrupts trade and the costs emerge through a deterioration in the terms of trade. Wars and other forms

[1] See http://news.bbc.co.uk/2/hi/south_asia/3330031.stm.

of conflict among geographically contiguous states involve greater losses, as more efficient geographically proximate trade is displaced, Chang, Polachek and Robst (2004).[2] This effect, however, depends on the absence of alternative trading partners, who despite greater distance may be equally or more efficient.

Figure 1: Hostility between Pakistan and India



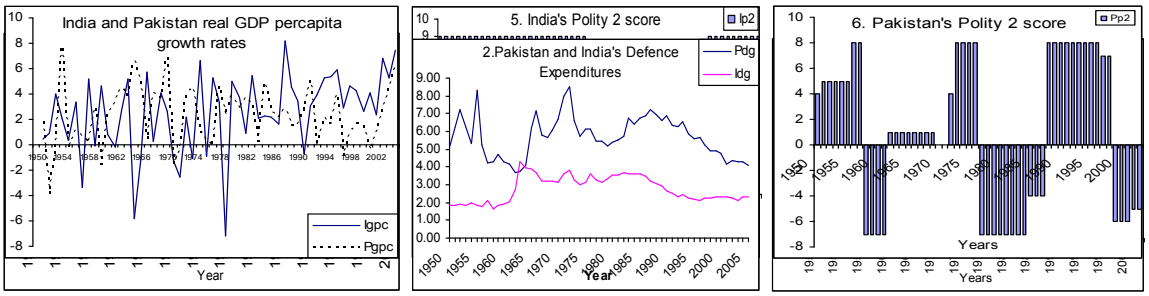
A related issue concerns the so-called democratic peace, see Polachek (1997) and Polachek and Seiglie (2006) for a review of this substantial literature. The idea is that democracies[3] will not fight each other because they share cultural norms that militate against forceful dispute resolution, or alternatively the checks and balances that characterise political processes in advanced democracies restrain violence. Put simply, the idea is that established democracies do not go to war with each other, but cooperate instead. Polachek (1997) presents empirical evidence to suggest that advanced democracies cooperate, not because of their similar political systems, but due to their vast and multiple intersecting economic interdependence. Indeed, Robst, Polachek and Chang (2006) present some evidence to suggest that more democratic nations could exhibit some degree of belligerence to less democratic countries. Their arguments may apply to India-Pakistan relations, as India is consistently more 'democratic' compared to

[2] When we come to comparing trade and conflict with many nations, not just dyadic (pair-wise) interactions, Dorussen (1999) argues that although trade reduces conflict, in the presence of many countries, an increase in the number of countries or the world's endowment may induce more conflict, as there are more countries to grab from. Formally, it lowers the minimum probability of military success needed to make conflict worthwhile in the presence or absence of trade with the target country. Hegre (2002) shows that by taking ratios of the probabilities (rather than differences as in Dorussen, 1999) the benefits of trade rise as the number of countries increase. Thus, Dorussen (1999) establishes gains from conflict after globalization, whereas Hegre (2002) models benefits from cooperation (or trade) as globalization gathers pace.

[3] Mainly, advanced OECD nations that are long standing democracies, not new democracies in the developing world following the cold war.

Pakistan. Also, increased democratic levels can mandate concessions and re-negotiation with neighbours.

Figure 2: Pakistan-India Conflict, Defence, Development and Democracy trends



The Polity score of democracy ranges from 0-10, with advanced industrialised democracies usually getting 10. Similarly there is an autocracy score of between -10 to 0. Together, the autocracy and democracy score gives us an average Polity 2 score, acting as an indicator of the overall political system, which is graphed above. Graph 5 in figure 2 shows that India has one of the highest democracy scores in the developing world for the entire 50 year period (7-9), whereas Pakistan's experience with democracy is more mixed with high autocracy scores at continuous time intervals, associated with military coups in 1958, 1969, 1977 and 1999.

Comparisons of graphs 2 and 3 above indicates that military expenditures tend to move inversely with development (education) expenditure, providing *prima facie* evidence that large military expenditure crowds out development in the social sector. Pakistan's military expenditure is consistently above India's except in the mid-1960s when India had wars with both China and Pakistan. In Pakistan's case, military expenditure as a proportion of GDP has historically been at 5%, but rising during and after its 1965 and 1971 wars with India to as high as 8%. The average defence expenditure of Pakistan is 5.5% of GDP in the 1950-2005 period, whereas for India is about half at 2.8% of GDP. Since the 1990s Pakistan's military expenditure has been falling, and is now at a little above 4% of GDP, which represents a historical low. As Indian education expenditure rose to 4 % of GDP in the1990s, its defence expenditure fell from nearly 4% of GDP in the mid-1960s to less than 3% of GDP (it has rarely been below 2% of GDP). Pakistan's education public expenditure is stagnating at around 2% of GDP.

Growth, a robust indicator of economic development, has been quite volatile for both countries over the period of last 50 years. The opportunity costs of conflict rise, when countries move to higher stages of economic development, as they have more to lose from conflict, and are have more resources to negotiate peaceful settlements. The 1990s is considered to be a golden decade for India as GDP growth rates reached a high of 8%, while on average Indian economy grew at 5 to 6% annually, along with a significant decline in poverty. On economic development front, Pakistan's GDP growth rate shows greater volatility

compared to India. Though Pakistan has been growing at an average of 6% for the last 3 to 4 years, it is making up for lost time in the recent past. Traditionally, since the early 1960s up to the early 1990s, Pakistan's was the faster growing economy of the two. But India is currently growing faster, and it also did so in the 1950s. Both countries are in track to meet the millennium development goals with regard to poverty, and both nations are in the

There is more to India Pakistan conflict than merely Pakistan's political orientation and a comparison of bilateral economic growth rates. This is because of the fact that despite high growth rates and relatively high democracy scores in Pakistan up to 1999, conflict between the countries escalated in the 1990s. Furthermore, the current regime in Pakistan with a strong military orientation (the military is highly influential and the President continues to be the army chief), and therefore less democratic, is making major unilateral concessions to India vis-à-vis their long standing disputes over Kashmir. Could that be related to the very recent impressive growth record in Pakistan? If anything, conflict between the two nations can be best understood in a multivariate framework where the relevant variables and processes (economic performance, integration with rest of the world, trade between the conflicting nations, defence spending, military expenditure, population and so on) are simultaneously taken into account. The purpose of this paper is to examine whether greater inter-state trade, democracy and reduced military spending lower belligerence between India and Pakistan. We also investigate the causal links between bilateral conflict and most of these variables in a time series framework, running between 1950-2005 in most cases. The rest of the paper is organised as follows: section 2 contains the econometric analysis and section 3 concludes.

2 EMPIRICAL ANALYSIS

A Hypotheses

H_1: Greater international trade lowers various forms of inter-state conflict.
H_2: Development expenditure (such as public spending on education) should lower conflict.
H_3: GDP growth will decrease inter-state conflict.
H_4: Increases in dyadic democracy scores will lead to less conflict. Increased democracy may lower the cost of concessions and compromise with former enemies.

Our first hypothesis relates to the work of Polachek (1997). We utilise a metric of total openness, which measures a country's dependence on foreign trade to gauge the conflict reducing properties of international trade. Secondly, development expenditure (say on education) is likely to lower conflict, because it implies lesser military spending, and increased income in the future which increases the utility of citizens via increased consumption. It also lowers poverty. Thirdly, increased per-capita income reduces conflict as people have more to lose from the destructiveness of war or confrontation (there is less poverty) and more to gain from trade, see Lipset's (1960) hypotheses about the modernising and beneficial effects of economic growth on democratic development and peace. Higher growth also

makes granting concessions to rivals less costly, as there are more resources going around, which may help to buy-off the disaffected. Finally, we postulate that increased dyadic democracy (in this case Pakistan's, as India is a stable democracy) lowers conflict because of the theories of the democratic peace, as well as the possibility that higher democracy may also lower the political costs of making concessions to rivals, as states are democratically mandated and less answerable to special interest groups, including the military.

B Data and Methodology

B.1. Data

Since inter-state conflict involves at least two parties, it is a dyadic concept. We will also construct dyadic proxies for India-Pakistan inter-state trade, military burden, development expenditure, economic development and democracy to test the five hypotheses we have presented above. Data definitions are to be found in the appendix.

B.1.1. Measuring Conflict:

The literature on inter-state conflict classifies conflict data sets into two categories: 1) war data and 2) events data (Polachek and Seiglie, 2006). War data sets focus on more hostile aspects of inter-state interactions such as crises, wars or militarised inter-state disputes (Jones, Bremer and Singer, 1996). The most comprehensive wars data set is available under Correlates of War Project (COW) which has updated war data sets employed by Wright (1942), Richardson (1960), and Singer and Small (1972). The data set covers all major militarized inter-state disputes in which one or more states threaten, display, or use force against one or more other states between 1816 and 2001. The data provides coded information on fatality levels, hostility levels, duration of the conflict, highest action taken by state in the dispute. The only un-coded information relates to the precise number of deaths.

The other major data set on inter-state armed conflict is hosted by the Uppsala Conflict Data Project (UCDP) with the collaboration of the International Peace Research Institute, Oslo (PRIO) and is collected on an annual basis and covers the full post-World War II period, 1946–2003. The data set provides coded information on the intensity level of the conflict. There are two different intensity levels: 1) minor armed conflict and 2) wars. The PRIO data set provides information on annual battle deaths. The battle deaths data set is available for use with the Correlates of Wars in the period 1900–97. UCDP also provides information on precise battle deaths in inter-state armed conflicts for 2002-05.

Events data focuses on all inter-state events and bilateral interactions reported in newspapers. McClelland's (1978) World Events Interaction Survey (WIES) is probably the first of its kind based on bilateral interactions, occurring between 1966-1992, reported in New York Times. The WEIS data set codes every reported event into 22 broad categories ranging from extending aid to military assaults

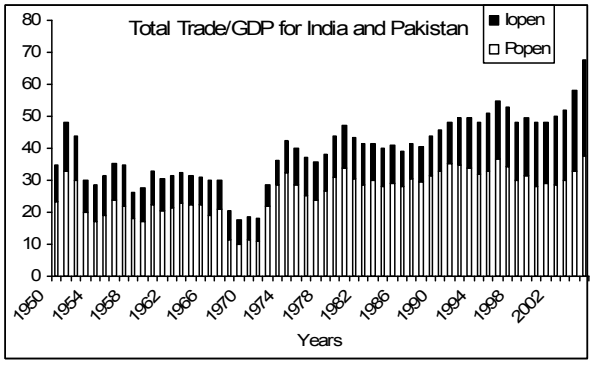
using force. Azar's (1980) Conflict and Peace Data Bank (COPDAB) is an extensive longitudinal collection of about one million daily events reported from forty seven newspaper sources between 1948-1978. The data set codes events into 15 broader categories representing different kinds of conflict and cooperation. Catogories 1 (voluntary unification) through 7 (minor official exchanges) represent cooperation and categories 9 (mild verbal expressions displaying discord) through 15 (extensive war acts causing deaths) represent conflict. Then there is Virtual Research Associates (VRA) data set which is derived from dyadic events reported in wire services and covers inter-state interactions from 1990-2001 (Polachek and Seiglie, 2006).

Since we are interested in the evolution of India-Pakistan conflict over a period of the last 55 years, we will use Uppsala/PRIO and COW inter-state war data set instead of events based data sets because the former data sets provide conflict data which covers most of the period of 55 years (1950-2005) which we have selected for our analysis. The events data set is not available for longer period of times, and thus may not provide information on the evolution of conflict in a longer term. Though the events data set captures daily observations, our macroeconomic and democracy data varies annually which limits the use of daily information on conflict. Secondly, as we showed in figure 1 in section 1, hostility between India and Pakistan has usually been high in most of last 55 years, enabling the COW data set to capture the severity of conflict in most years of the dispute. Consistently high hostility levels between the two countries, more number of years covered by COW and Uppsala data sets, and the availability of macroeconomic and democracy data on an annual basis limits the scope of using the events data sets.

B.1.2. Measuring Trade and the Military Burden:

India and Pakistan are active nations in international trading markets as can be seen in figure 3.

Figure 3: Patterns in Pakistan and India Trade



We construct 4 dyadic proxies to capture combined integration level for both countries. Pakistan's total trade as a ratio of India's total trade (xmpi) and India's total trade as a ratio of Pakistan's total trade (xmip) are the first two indicators. Since exports are more growth enhancing and thus more effective for conflict mitigation than imports, we differentiate between exports and imports by taking both countries' total exports as a percentage of the sum of their GDPs (xpi), as well as total imports separately as a percentage of the sum of their GDPs (mpi).

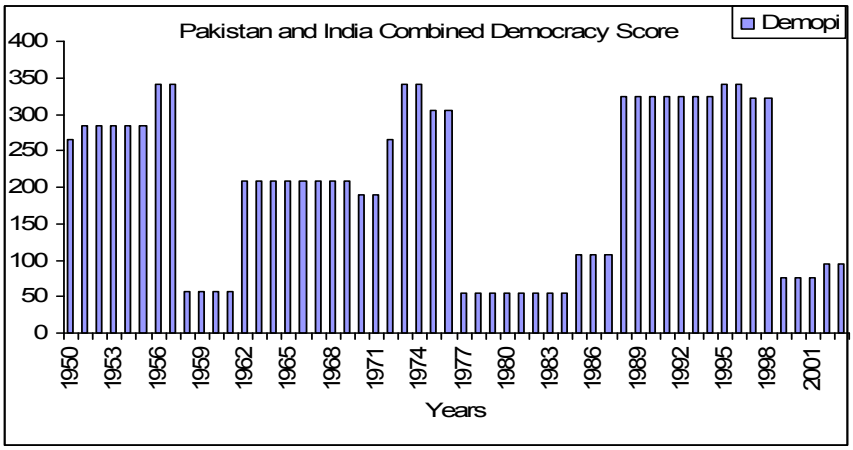
Military expenditures can reflect hostility, as well as deterrence (Ploacheck and Seglie, 2006). In the Pakistan-India case, we would like to examine how each county's military expenditure/ military burden affects the dispute. Figure 2 in section 1 shows that Pakistan's spending on military expenditure as a proportion of GDP is higher than India's. Additionally, since military expenditures may also capture the capability of a country to deal with civil unrest or intra-state conflict, Indian military expenditure can also be explained in terms of the high prevalence of continuing intra-state conflicts in various regions of India. Pakistan has had fewer civil wars. This may mean that Pakistan's military burden captures its security concerns vis-à-vis India solely. If so, dyadic variables which take the military burden of Pakistan as a ratio of the Indian military burden, should affect conflict positively and vice versa. We construct 5 different proxies of military burden utilising data on military expenditures as well as military personnel from Correlates of Wars: 1. Pakistan's defence expenditure over GDP as a ratio of India's defence expenditure over GDP (*milbrd 1*) 2. India's defence expenditure over GDP as a ratio of Pakistan's defence expenditure over GDP (*milbrd 2*). 3. Pakistan's defence expenditure over GDP as a ratio of Pakistan's defence expenditure over GDP plus India's defence expenditure over GDP (*milbrd 3*). 4. India's defence expenditure over GDP as a ratio of Pakistan's defence expenditure over GDP plus India's defence expenditure over GDP (*milbrd4*). 5. The average of India's defence expenditure over GDP and Pakistan's defence expenditure over GDP (*milbrd5*).

B.1.3. Measuring Democracy, Economic Development and Other Determinants of Conflict:

The conflict literature suggests that politically similar regime types share peace (Henderson, 2002). Secondly more democratisation leads to more peace as democracies are less prone to fight with each other (Polachek and Seglie, 2006). To capture democracy levels for India and Pakistan, we turn to the Polity IV project hosted by Center of International Development and Conflict Management (CIDCM). Polity IV contains coded annual information on regime and authority characteristics for all independent states (with a population greater than 500,000) in the global state system, and covers the years 1800-2004. The data set captures general openness of political institutions by providing country level democracy scores ranging 0 to 10, where 0 is the lowest value for democracy and 10 the highest. Similarly, autocracy measures the general closedness of political institutions ranging from 0 to 10, whereas 0 depicts lowest values of autocracy and 10 highest. Polity IV also computes a combined polity score by subtracting autocracy scores from the democracy scores for the corresponding year. The value of this Polity score ranges from -10 to 10, where -10 denotes the highest autocracy level, and 10 the maximum democracy score. We have graphed the Polity score for India and Pakistan in figure 3 from 1950 to 2005. Although India always takes a high positive value of 7 or above, Pakistan frequently takes on negative values. We construct a dyadic variable of democracy for both countries by combining multiplying their Polity scores, following Polachek and Seiglie (2006) for example. Before multiplying the Polity scores of both countries, we add 10 to each countries polity series. This is to make the negative Polity values positive so that our combined democracy score may capture the variations in the democratization process only on a positive scale. The dyadic democracy variable shows values as

low as 50 on the scale of 0 to 400 when there are high levels of political dissimilarities between Pakistan (dictatorship) and India (democracy), and as high as 350 when both countries are governed by democracies (see figure 4).

Figure 4: Dyadic democracy scores for Pakistan and India



As hypothesized above, conflict between two nations may abate with economic growth as states approach higher average income levels, or if they divert funds from the military towards social development. Here we take the mean average of India and Pakistan's real GDP per capita growth rates and the mean average of India and Pakistan's education expenditures as a proportion of respective GDPs as dyadic proxies for economic and social development respectively.[4] We constructed the series for both countries by dividing GDP at constant prices taken from economic surveys, and dividing it by population levels. The data was later tallied with GDP per capita series available at World Development Indicators (2006) version. India and Pakistan are one of the most highly populated countries in the world. Pakistan has 160 million inhabitants, and India has over a billion citizens. In line with the earlier literature, we also take mean average of both countries populations as a standardising variable in our analysis (i.e. see Polachek, 1997).

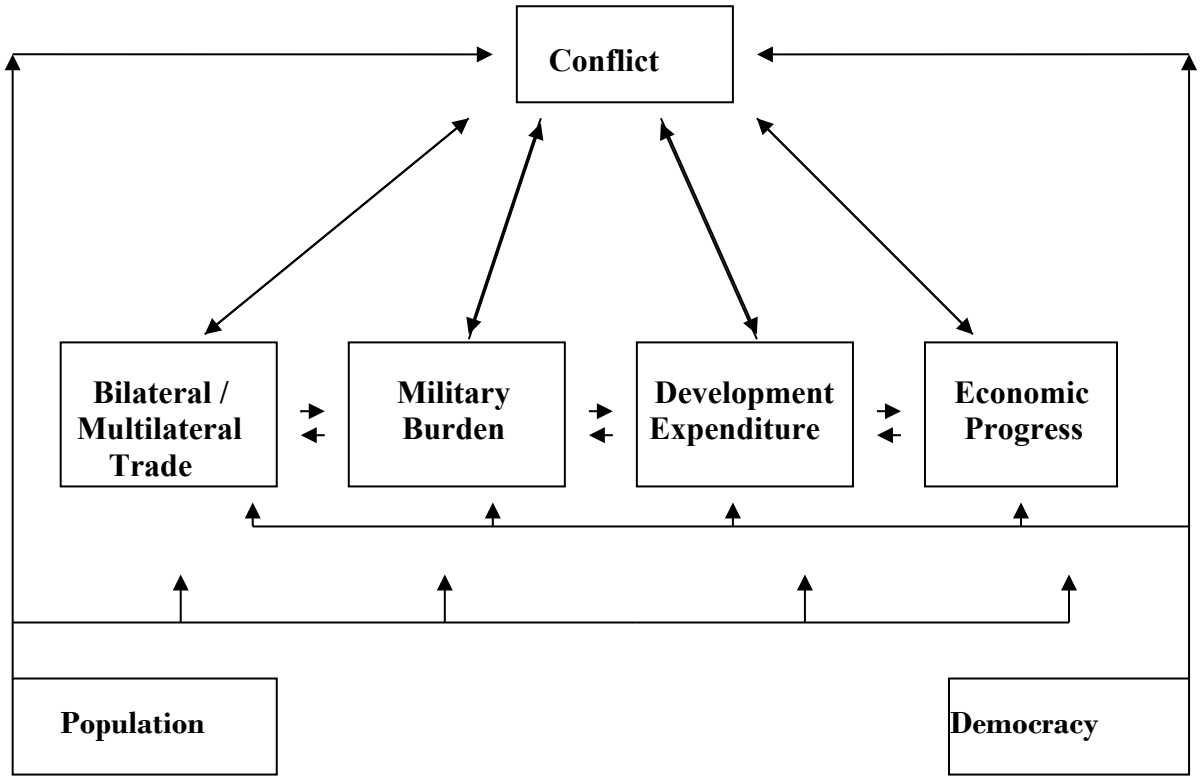
B.2. Methodology:

We have identified trade, military burden, the level of economic development (per capita GDP growth rates), development expenditure and democracy as key determinants of conflict. Before we carry out the econometric analysis, it is important to note that there could be a two-way causality between several pairs of variables. For example, more trade not only mitigates conflict, but conflict may also lead to diminished trade. Greater trade integration with the rest of the world may also enhance growth. At least in case of India, its economic success has largely been attributed to the country's open policies in 1990s. Defence expenditures with levels as high as India and Pakistan are a definite impediment to their social and economic development. Additionally, development expenditure especially education expenditure may not only determine economic progress through the

[4] There is an insufficiently long time series for public health spending data for India.

accumulation of human capital but it is also the case that economic progress and growth improves fiscal capabilities of a nation. In short, there are potential endogenity and interdependence between conflict, trade, economic development and budgetary allocations on defence and development. Figure 5 shows the direction of causality among variables. Since, all developed countries have high GDP per capita incomes, follow more open economic policies, and democracies; democracy not only explains conflict but also level of development in a country. Please note that here democracy and population are pure exogenous concepts determining or affecting rest of the variables.

Figure 5: Endogeneity between Conflict, Trade, Military Burden, Development Expenditure and Economic Progress



Any simple least square regression analysis may lead to spurious results due to endogeniety among our variables. We need to utilize a simultaneous equation model where potential endogenieties between various variables are addressed. Since we have time series data, we can use a Vector Autoregressive model (VAR) which is an extension of univariate autoregressive (AR) models to capture the evolution and the interdependencies between our multiple time series (Sims, 1980). All variables in a VAR are treated symmetrically by including for each variable an equation explaining its evolution based on its own lags, and the lags of other variables in the model. The number of equations in a VAR model depends upon the number of endogenous variables, where each endogenous variable is regressed on its lagged value and the lagged values of all other endogenous variables, as well as a number of exogenous variables. This solves the endogeniety problem. In this sense the VAR model is just a seemingly unrelated regression (SUR) model with lagged variables and/or deterministic terms as common regressors, such that the

regression results for each equation can be interpreted in the same manner as we do for ordinary least square estimators.

After fitting a VAR we may want to know which way causalities go. One way to do that is by running Granger causality tests after the VAR analysis, see Granger (1969).

B.3. Results:

This section reports the results of the multivariate VAR regression analysis. Proxies for conflict, bilateral and multilateral trade, economic progress, military burden and social development will be treated as endogenous variables, whereas democracy and population will be treated as purely exogenous concepts. Before we carry out regression analysis, a test for stationarity is in order for all dyadic variables employed in our analysis. In case any of our time series variables are non-stationary, appropriate lags are taken to solve for the problem of autocorrelation. Stationarity tests are carried out by running modified Dicky-Fuller t-test also known as the DF-GLS test proposed by Elliot, Rothenberg and Stock (1996). The DF-GLS test is an augmented Dickey-Fuller test, where the time series is transformed via a generalised least squares (GLS) regression before performing the test and this approach has been shown to have significantly greater power than the previous versions of augmented Dickey-Fuller tests.
We ran DF-GLS on econometric program STATA which provides results of three methods for choosing which value of lag to use. These methods are (1) the Ng-Perron sequential t, (2) the minimum Schwarz information criterion (SIC), and (3) the Ng-Perron modified Akaike information criterion (MAIC). Maximum lags are chosen for each DF-GLS test according to Schwert (1989) criteria. Table 1 provides unit root test results based on Ng-Perron Sequential t. The results show that nearly all variables have unit roots. Autocorrelation among conflict variables is solved at lag (1). Among variables which capture multilateral trade levels for India and Pakistan, *Xmpi* and *Xmip* become stationary at lags (4) and (8) respectively. The mean average of India and Pakistan's exports *Xpi* is stationary at (0) lags, whereas Ng-Perron Sequential t-test suggests that optimal lag length which solves for the problem of autocorrelation in the series for mean average of imports *Mpi* is (1). The first four proxies of military burden *Milbrd1, Milbrd2, Milbrd3* and *Milbrd4* are all stationary at lag (5). The mean average of India and Pakistan military expenditures is stationary at lag (9).Combined India and Pakistan democracy scores *Demopi* and mean average of both countries' populations *Poppi* become stationary at lags (7) and (10) respectively. Mean average of real GDP per capita growth rates *Gpi* show no significant signs of auto correlation and are stationary at lag (0).

Table 1:
DF-GLS Unit Root Tests

Variables	Lag length	With intercept	With intercept and trend
Fatal	1	-3.528* (Ng-Perron)	-3.774* (Ng-Perron)
Volfatal	1	-4.789* (Ng-Perron)	-4.844* (Ng-Perron)

Dur	1	-4.058* (Ng-Perron)	-4.233* (Ng-Perron)
Hiact	1	-2.382** (Ng-Perron)	-2.590 (Ng-Perron)
Hstlev	1	-2.371** (Ng-Perron)	-2.512 (Ng-Perron)
Cnf	1	-3.025* (Ng-Perron)	-4.082* (Ng-Perron)
Tpitp	15	-1.112*** (Ng-Perron)	-1.861 (Ng-Perron)
Tpiti	15	-3.856* (MAIC)	-3.319** (Ng-Perron)
Xmpi	2	-2.710* (Ng-Perron)	-2.860*** (Ng-Perron)
Xmip	8	-4.951* (MAIC)	-4.923* (MAIC)
Lxpi1	0	2.951** (D-Fuller)	2.951** (D-Fuller)
Lxpi2	0	-4.769* (SIC)	-4.929* (SIC)
Lmpi1	1	-4.049* (SIC)	-3.961* (SIC)
Lmpi2	1	-4.511* (SIC)	-4.382* (SIC)
Lmilbrd1	5	-2.209** (Ng-Perron)	-2.795*** (Ng-Perron)
Lmilbrd2	5	-2.209**(Ng-Perron)	-2.795***(Ng-Perron)
Lmilbrd3	5	-1.911***(Ng-Perron)	-2.686***(Ng-Perron)
Lmilbrd4	5	-2.128***(Ng-Perron)	-2.831***(Ng-Perron)
Lmilbrd5	1	-4.735* (SIC)	-4.748* (SIC)
Lmilbrd6	0	-	-4.308* (SIC)
Lmilppi	1	-4.082* (SIC)	-4.098* (SIC)
Lmilpip	1	-4.082* (SIC)	-4.098* (SIC)
Ledupi1	1	-	-5.374* (SIC)
Gpi	0	-4.256* (Ng-Perron)	-4.276* (Ng-Perron)
Demopi	7	-2.790* (Ng-Perron)	-2.997* (Ng-Perron)
Poppi	10	-	-7.392* (MAIC)

-*, ** and *** shows significance at 1%, 5%and 10% level

- The Lag structure is selected through (1) Ng - Perron sequential t (Ng-Perron), (2) the minimum Schwarz information criterion (SIC), (3) the Ng-Perron modified information criterion (MAIC) and (4) Dickey-Fuller test (D-Fuller).

We can now proceed to VAR analysis. Our reduced form VAR model for conflict is as follows

$$Conf_t = \alpha_1 + \alpha_{2,t-i} Conf_{t-i} + \alpha_{3,t-i} Tr_{t-i} + \alpha_{4,t-i} Mil_{t-i} + \alpha_{5,t-i} E_{t-i} + \alpha_{6,t-i} G_{t-i} + \alpha_7 Demo_t + \alpha_8 P_t + \mathrm{E}_t \quad (1)$$

Where $Conf_t$, Tr_{t-i}, Mil_{t-i}, E_{t-i}, G_{t-i}, $Demo_t$ and P_t depict inter-state conflict, multilateral trade, military burden, education expenditure, real growth rate of GDP per capita, democracy score and population for India and Pakistan respectively, t ranges from 1950-2005 and $i = 1,\ldots, p$. Here p is the optimal lag structure for the VAR model. $\alpha_{2,t-i}$ $\alpha_{3,t-i}$ $\alpha_{4,t-i}$ $\alpha_{5,t-i}$ and $\alpha_{6,t-i}$ are (6×6) metrics (for every $i = 1,\ldots, p$).

The model above is run for *Fatal* under multiple specifications of bilateral and multilateral trade and the military burden to see how trade between Pakistan and India, their integration levels with the outside world and their military expenditures have determined the severity of their dispute over time. We have chosen *Fatal* because it captures severity of the conflict. Later, we also employ other conflict proxies in our analysis. Through out the analysis, mean averages of India and Pakistan's education expenditures (*Edupi*), real GDP per-capita growth rates (*Gpi*), population size (*Poppi*) and combined democracy scores (*Demopi*) remain common regressors.

Table 2 employs different proxies of multilateral trade (*Xmpi, Xmip, Xpi* and *Mpi*) with corresponding combinations of military burden (*Milbrd1, Milbrd2, Milbrd3* and *Milbrd4*) to see how integration with the global economy has affected the India-Pakistan conflict. *Xmpi* and *Xmip* enter equation 1 negatively and significantly. The higher values of $\alpha_{3,t-i}$ for *Xmip,* when compared to *Xmpi,* suggests that higher Indian levels of trade integration mitigate conflict more than when Pakistani openness rises. This may indicate that economic progress in South Asia heavily depends on Indian economic performance. The mean averages of India-Pakistan total exports (*Xpi*) is also negatively related to conflict, and highly significant at 1 percent level. The values of $\alpha_{3,t-i}$ have increased further, indicating that the more these two countries are able to export to rest of the world, the lower are the levels of bilateral conflict. The high coefficients of *Xmpi* can lead us to infer that the explanatory power for *Xpi* comes more from the Indian side. Both countries are at similar rungs on the technological ladder, and share the potential to export to the rest of the world, along with the likes of China. The last two columns in table 2 show the results for mean average of total imports of Pakistan and India (*Mpi*). For both specifications, *Mpi* is insignificant, but the negative signs do reaffirm the case for a positive role of trade in dispute resolution.

In contrast to defense expenditure, which is positively related to conflict, efforts to improve human capital by allocating more funds to education are a strong determinant of conflict mitigation. *Edupi* always enters the conflict regression equation with a negative sign, and is significant mostly. The high values of $\alpha_{5,t-i}$ indicate that investment in education may go a long way in building peace. The mean average of Pakistan and Indian per-capita growth rates (*Gpi*) are negatively and significantly related with *Fatal* in all 16 specifications confirming the hypothesis that countries are more peaceful when they are moving forward economically. The combined democracy score (*Demopi*) is always negatively related to conflict, and significant also. However, the low values of democracy coefficients suggest that political orientation has played a more limited role in the India-Pakistan conflict. Our results also show that the high levels of population in both countries, where a significant proportion are uneducated and poor on both sides, contribute positively to the conflict, although the effect is small.

Further robustness checks, under additional specifications, are carried out on equation 12 with different proxies of conflict (i.e, *Fatal*, *Volfatal*, *Cnfpi, Dur*, *Hstlvl* and *Hiact*). Each definition of conflict is regressed on *Milbrd1, Milbrd2* and *Milbrd5,* whereas *Xpi*, *Edupi, Gpi, Demopi* and *Poppi* make up the common set of regressors in a total of 18 specifications. The results are given in table 3 (appendix 1). They confirm the validity of all the 4 hypotheses proposed at start of our empirical section. More trade, increased education expenditure, higher GDP per capita growth rates, a greater democratic orientation, all exert a downward pressure on conflict, as all of these variables are significant in most cases, and always carry the right signs. A comparison of coefficients $\alpha_{2,t-i}$, $\alpha_{4,t-i}$ $\alpha_{5,t-i}$ and $\alpha_{6,t-i}$ suggest that integration with the world has by far the most dominant effect on conflict mitigation than any other variable. Education spending comes second in its effectiveness in enhancing peace. The results in table 3 also show that annual

battle deaths, severity of conflict, duration of escalation, hostility levels and highest hostility level decrease when both countries score high on democracy. However persistently low values taken by democracy $\alpha_{7,t}$ mean that political orientation plays a less prominent role in explaining the severity of dispute or levels of escalation. There is some evidence that these countries have entered into outright war even when both were democracies. The 'Kargil' war of 1999 is a case in point when both countries were scoring high in democracy. By contrast, the long military stand off between India and Pakistan in 2002, occurred at a time when Pakistan was highly autocratic.

Since we have run a VAR model, the problem of endogneity among variables have been addressed. It would be interesting to run multivariate Granger causality tests to see if causality runs from the determinants of conflict to conflict, and whether there are also cases of reverse causality as is shown in figure 5. We ran Granger causality test for each VAR specification for which we present results in tables 2 and table 3. A summary of Granger causality tests are provided in table 4 (appendix 1) for all endogenous and exogenous regressors of conflict, and where there is an instance of reverse causality it is noted. The results in table 4 show that all regressors except *Milbrd5* and *Mpi* Granger cause conflict. We do not witness any instances of reverse causality except for *Milbrd2* in case of *Fatal* and *Edupi* in case of *Fatal* and *Dur*. These observed instances of reverse causality mean that high levels of conflict between India and Pakistan lower India's military expenditure as a proportion of Pakistan's military expenditure. One interpretation may be that a military build up by Pakistan increases when hostilities between the countries rise. This may be true because dominant role of the army and high military expenditures in Pakistan are justified due to continuous high levels of hostility with its neighbour. Otherwise, Pakistan doesn't have any major dispute with any other nation, or frequent instances of intra-state disputes to justify the high budget allocation for defense. The greater allocation of funds for defense due to ongoing conflict, may also strangle development spending. The reverse causality from conflict to education expenditure could explain this process.

3. Conclusions

Pakistan and India's successful integration with world markets is the most dominant motivating factor for peace. Education spending has been shown to be good for both peace and economic progress. Secondly the conflict between the two nations is the prime cause of high military expenditures in Pakistan. Any peace deal between India and Pakistan would enable the government of Pakistan to divert precious resources from defense to development.

In an ideal world increased dyadic democracy reduces inter-state hostility, but the relationship in our case is present but weak. Peace initiatives are not the sole prerogative of democracies; they can also be made by countries who are less democratic. Economic progress and poverty reduction combined with greater openness to international trade in general are more significant drivers of peace between nations, rather than a common democratic political orientation. In many ways, our results echo Polcahek's (1997) work, where he argues that democracies

cooperate not because they have common political systems, but because their economies are intricately and intensively inter-dependent. Furthermore, meaningfully functioning democracies cannot exist where poverty is so acute and endemic, even in ostensibly democratic nations such as India. Lastly, it may be democracy, itself, that is a by-product of increased general prosperity, as suggested a long time ago by Seymour Lipset (1960).

Our analysis show that current government of Pakistan has rightly taken the initiative to bring India back to the negotiation table for settlements of bilateral issues like Kashmir dispute which is much of a cause for tensions between the two nations for the last 60 years since the two countries got their independence in 1947. Furthermore, as a two prong strategy towards peace, the government of Pakistan has combined dispute settlement initiatives with increased trade incentives for India, as Pakistan will announce a further 5% decrease in tariff reductions on 1077 Indian products by the beginning of 2007.

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APPENDIX:

Table 2

Variables	VAR Regression Equations for Fatal under multiple specifications of BiLateral Trade and Military Burden													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Bilateral Trade														
Tpitp (16)	-0.30*	-0.30*	-0.32*	-0..28*	-0.24**	-0.23**	-0.22**							
Tpiti (16)								-0.76***	-0.76***	-0.83**	-0.70***	-0.61***	-0.64***	0.55***
Military Burdeñ														
lmilbrd1 (6)	2.33***							2.02						
lmilbrd2 (6)		-2.33***							-2.02					
lmilbrd3 (6)			6.53***							6.03				
lmilbrd4 (6)				-3.45							-2.84			
lmilbrd5 (2)					6.84**							6.54**		
lmilbrd6 (1)						3.26***							3.52***	
Lmilppi(2)							-1.80							
Lmilpip(2)														1.79
Social Development														
Ledupi1(2)	-4.98	-4.98	-4.83	-5.09***	-6.35**	-8.34*	-6.08**	-6.07***	-6.07***	-6.19***	-6.02***	-5.97**	-8.35*	-6.10**
Economic Growth														
Gpi (1)	-0.40*	-0.40*	-0.41*	-0.40*	-0.28*	-0.35*	-0.34*	-0.39*	-0.39*	-0.39*	-0.39*	-0.31*	-0.38*	-0.37*
Exogenous Variables														
Demopi (7)	-0.003	-0.003	-0.003	-0.003	-0.003	-0.004***	-0.004***	-0.003	-0.003	-0.003	-0.004	-0.003	-0.003***	-0.004***
Poppi (10)	0.064*	0.064*	0.063*	0.066*	0.112*	0.094*	0.076*	0.063*	0.063*	0.062*	0.064*	0.101*	0.088*	0.072*
N	38	38	38	38	38	38	38	38	38	38	38	38	38	38
R2	0.61	0.61	0.62	0.61	0.63	0.61	0.59	0.57	0.57	0.58	0.57	0.61	0.59	0.57
VAR(p)	VAR(2)	VAR(2)	VAR(2)	VAR(2)	VAR(2)	VAR(2)	VAR(2)	VAR(2)	VAR(2)	VAR(2)	VAR(2)	VAR(2)	VAR(2)	VAR(2)

-*, **, *** shows significance at 1%, 5% and 10% level

- VAR(p) reports lag-order for each VAR model based on final prediction error (FPE), Akaike's information criterion (AIC), Schwarz's Bayesian information criterion (SBIC) and the Hannan and Quinn information criterion (HQIC),

Table 3

Variables	VAR Regression Equations for Fatal under multiple specifications of Multilateral Trade and Military Burden													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Mutilateral Trade														
Xmpi(3)	-0.71	-0.71	-0.75	-0.74	-0.62	-0.77***	-0.75***							
Xmip(9)								-3.74*	-3.74*	-3.77*	-3.74*	-3.89*	-2.68*	-3.83*
Military Burdeñ														
lmilbrd1 (6)	0.08							-0.18						
lmilbrd2 (6)		-0.08							0.18					
lmilbrd3 (6)			0.91							0.27				
lmilbrd4 (6)				-0.58							0.50			
lmilbrd5 (2)					0.04							-0.49		
lmilbrd6 (1)						3.38**							2.26***	
Lmilppi(2)							-1.02							
Lmilpip(2)														0.92
Social Development														
Ledupi1(2)	-3.64*	-3.64*	-3.59*	-3.69*	-3.60*	-8.07*	-2.85*	-4.73*	-4.73*	-4.67*	-4.79*	-4.44**	-7.70*	-4.22*
Economic Growth														
Gpi (1)	-0.37*	-0.37*	-0.37*	-0.38*	-0.37*	-0.34*	-0.37*	-0.40*	-0.40*	-0.39*	-0.40*	-0.40*	-0.36*	-0.39*
Exogenous Variables														
Demopi (7)	-0.006*	-0.006*	-0.006*	-0.006*	-0.006*	-0.006*	-0.005*	-0.006*	-0.006*	-0.006*	-0.005*	-0.006*	-0.006*	-0.005*
Poppi (10)	0.067*	0.067*	0.066*	0.067*	0.066*	0.094*	0.062*	0.083*	0.083*	0.082*	0.084*	0.078*	0.101*	0.075*
N	45	45	45	45	45	45	45	45	45	45	45	45	45	45
R2	0.42	0.42	0.42	0.42	0.42	0.46	0.42	0.45	0.45	0.45	0.45	0.45	0.47	0.46
VAR(p)	VAR(1)	VAR(1)	VAR(1)	VAR(1)	VAR(1)	VAR(1)	VAR(1)	VAR(1)	VAR(1)	VAR(1)	VAR(1)	VAR(1)	VAR(1)	VAR(1)

-*, **, *** shows significance at 1%, 5% and 10% level

- VAR(p) reports lag-order for each VAR model based on final prediction error (FPE), Akaike's information criterion (AIC), Schwarz's Bayesian information criterion (SBIC) and the Hannan and Quinn information criterion (HQIC),

Table: 4

Variables	VAR Regression Equations for Fatal under multiple specifications of Exports, Imports and Military Burden											
	1	2	3	4	5	6	7	8	9	10	11	12
Mutilateral Trade												
Lxpi1(1)	-4.24*	-4.03*	-3.96*									
Lxpi2(1)				-7.89*	-7.15*	-4.78*						
Lmpi1(2)							-0.36	-0.17	0.03			
Lmpi2(2)										-0.71	-0.59	-0.33
Military Burdeñ[a]												
Lmilbrd3 (6)	2.19			5.84**			0.39			0.30		
Lmilbrd4(6)		-0.66			-2.34***			0.44			0.37	
lmilbrd6 (1)			3.51*			2.42***			3.19**			3.09**
Social Development												
Ledupi1(2)	-1.96	-2.08***	-7.13*	-2.87*	-2.89*	-7.02*	-3.97*	-4.19*	-8.66*	-4.01*	-4.13*	-8.43*
Economic Growth												
Gpi (1)	-0.36*	-0.36*	-0.35*	-0.39*	-0.39*	-0.39*	-0.34*	-0.36*	-0.33*	-0.34*	-0.35*	-0.33*
Exogenous Variables												
Demopi (7)	-0.004***	-0.004***	-0.003***	-0.002	-0.002	-0.002	-0.006*	-0.006*	-0.006*	-0.006*	-0.005*	-0.005*
Poppi (10)	0.122*	0.120*	0.154*	0.077*	0.075*	0.103*	0.077*	0.078*	0.104*	0.074*	0.075*	0.103*
N	45	45	45	45	45	45	45	45	45	45	45	45
R2	0.50	0.49	0.55	0.58	0.55	0.55	0.40	0.40	0.45	0.40	0.40	0.44
VAR(p)	VAR(1)	VAR(1)	VAR(1)	VAR(1)	VAR(1)	VAR(1)	VAR(1)	VAR(1)	VAR(1)	VAR(1)	VAR(1)	VAR(1)

-*, **, *** shows significance at 1%, 5% and 10% level

- VAR(p) reports lag-order for each VAR model based on final prediction error (FPE), Akaike's information criterion (AIC), Schwarz's Bayesian information criterion (SBIC) and the Hannan and Quinn information criterion (HQIC),

- [a] Results for *Lmilbrd1*, *Lmilbrd2, Lmilbrd5*, *Lmilppi* and *Lmilpip* are also utilised and the results do not change. (See tables 3a and 3b for details)

Table 5. Granger Causality Wald Tests

Direction of Causality	Causes	RC	Direction of Causality	Causes	RC
Xmpi → *Fatal*	(√)**	×	*Edupi* → *Cnfpi*	(√)*	×
Xmip → *Fatal*	(√)*	×	*Gpi* → *Cnfpi*	(√)*	×
Xpi → *Fatal*	(√)*	×	*Xpi* → *Dur*	(√)*	×
Mpi → *Fatal*	×	×	*Milbrd*1 → *Dur*	×	×
*Milbrd*1 → *Fatal*	(√)**	×	*Milbrd*2 → *Dur*	(√)**	×
*Milbrd*2 → *Fatal*	(√)**	√	*Milbrd*5 → *Dur*	×	×
*Milbrd*3 → *Fatal*	(√)*	×	*Edupi* → *Dur*	(√)*	√
*Milbrd*4 → *Fatal*	(√)*	×	*Gpi* → *Dur*	×	×
*Milbrd*5 → *Fatal*	×	×	*Xpi* → *Hstlvl*	(√)*	×
Edupi → *Fatal*	(√)**	√	*Milbrd*1 → *Hstlvl*	(√)*	×
Gpi → *Fatal*	(√)*	×	*Milbrd*2 → *Hstlvl*	(√)*	×
Xpi → *Volfatal*	(√)***	×	*Milbrd*5 → *Hstlvl*	×	×
*Milbrd*1 → *Volfatal*	(√)*	×	*Edupi* → *Hstlvl*	(√)*	×
*Milbrd*2 → *Volfatal*	(√)*	×	*Gpi* → *Hstlvl*	(√)***	×
*Milbrd*5 → *Volfatal*	×	×	*Xpi* → *Hiact*	(√)***	×
Edupi → *Volfatal*	×	×	*Milbrd*1 → *Hiact*	(√)***	×
Gpi → *Volfatal*	(√)***	×	*Milbrd*2 → *Hiact*	(√)***	×
Xpi → *Cnfpi*	(√)*	×	*Milbrd*5 → *Hiact*	×	×
*Milbrd*1 → *Cnfpi*	(√)*	×	*Edupi* → *Hiact*	(√)*	×
*Milbrd*2 → *Cnfpi*	(√)*	×	*Gpi* → *Hiact*	(√)***	×
*Milbrd*5 → *Cnfpi*	×	×			

*, **, *** shows significance at 1%, 5% and 10% level, RC stands for reverse causation, √ means causes and × means does not cause

DATA and SOURCES

Dyadic Variables:

Cnfpi: Intensity of Conflict between Pakistan and India, Scores 1 (Minor) when 25 to 999 battle-related deaths and 2 (War) when at least 1000 battle-related deaths in a given year, Years: 1950-2003, UCDP/PRIO Armed Conflict Data set Version IV, Harbom et al (2006)

Demopi: Pakistan and India's combine democracy score (by adding 10 to India and Pakistan's Polity2 values for each year and then taking the product of these values in order to covert the variable in dyadic form), Years; 1950-2003

Dur: Number of days a conflict lasts in a year between Pakistan and India, Years: 1950-2003, Source: COW Inter-State War Data, Version 3.02, Faten et al (2004).

Fatal: Annual fatality level of conflict between Pakistan and India, scores from 0 to 6

0 None
1 1-25 Deaths
2 26-100 Deaths
3 101-250 Deaths
4 251-500 Deaths
5 501-999 Deaths
6>999 Deaths

Years: 1950-2003, Source: COW Inter-State War Data, Version 3.02, Faten et al (2004)

Gpi: Weighted average of real GDP per capita growth rates for Pakistan and India, Years: 1950 to 2005. Sources: Pakistan Economic Survey, Indian Economic Survey, International Financial Statistics 2006 (IMF)

Hiact: Highest action by Pakistan and India in annual corresponding dispute [bracketed numbers refer to corresponding hostility level]

0 No militarised action [1]
1 Threat to use force [2]
2 Threat to blockade
3 Threat to occupy territory [2]
4 Threat to declare war [2]
5 Threat to use CBR weapons [2]
6 Threat to join war
7 Show of force [3]
8 Alert [3]
9 Nuclear alert [3]
10 Mobilisation [3]
11 Fortify border [3]
12 Border violation [3]
13 Blockade [4]
14 Occupation of territory [4]
15 Seizure [4]

16 Attack [4]
17 Clash [4]
18 Declaration of war [4]
19 Use of CBR weapons [5]
20 Begin inter-state war [5]
21 Join inter-state war [5]

Years: 1950-2003, Source: COW Inter-State War Data, Version 3.02, Faten et al (2004)

Hstlev: Annual hostility levels reached by India and Pakistan in each annual corresponding dispute

1 No militarised action
2 Threat to use force
3 Display of force
4 Use of force
5 War

Years: 1950-2003, Source: Faten et al (2004)

Ledupi1: Log GDP weighted average of India and Pakistan's per capita education expenditures, Years: 1950 to 2005 Sources: Pakistan Economic Survey, Indian Economic Survey, Education Statistics 2006 (World Bank), International Financial Statistics 2006 (IMF)

Lmilbrd1: Log of Pakistan's defence expenditure over Pakistan's GDP as a ratio of India's defence expenditure over India's GDP, Years: 1950-2005, Sources: Correlates of war data set version 3.02, World Development Indicators 2006 (World Bank), Government Finance Statistics Year Book (IMF) and Economic Survey of Pakistan

Lmilbrd2: Log of India's defence expenditure over India's GDP as a ratio of Pakistan's defence expenditure over Pakistan's GDP, Years: 1950-2005, Sources: Correlates of war data set version 3.02, World Development Indicators 2006 (World Bank), Government Finance Statistics Year Book (IMF) and Economic Survey of Pakistan

Lmilbrd 3: Log of Pakistan's defence expenditure over Pakistan's GDP as a ratio of Pakistan's defence expenditure over Pakistan's GDP plus India's defence expenditure over India's GDP, Years: 1950-2005, Sources: Correlates of war data set version 3.02, World Development Indicators 2006 (World Bank), Government Finance Statistics Year Book (IMF) and Economic Survey of Pakistan

Lmilbrd 4: Log of India's defence expenditure over India's GDP as a ratio of Pakistan's defence expenditure over Pakistan's GDP plus India's defence expenditure over India's GDP, Years: 1950-2005, Sources: Correlates of war data set version 3.02, World Development Indicators 2006 (World Bank), Government Finance Statistics Year Book (IMF) and Economic Survey of Pakistan

Lmilbrd5: Log of Mean average of India's defence expenditure over GDP and Pakistan's defence expenditure over GDP, Years: 1950-2005, Sources: Correlates of war data set

version 3.02, World Development Indicators 2006 (World Bank), Government Finance Statistics Year Book (IMF) and Economic Survey of Pakistan

Lmilbrd6: Log GDP weighted average of Pakistan and India's defence expenditures, Years: 1950-2005, Sources: Correlates of war data set version 3.02, World Development Indicators 2006 (World Bank), Government Finance Statistics Year Book (IMF), Economic Survey of Pakistan, Economic Survey of India

Lmilppi: Log of Pakistan's military personnel over Pakistan's total population as a ratio of India's military personnel over India's total population, Years: 1950-2001, Sources: Correlates of war data set version 3.02 and International Financial Statistics 2006 (IMF)

Lmilpip: Log of India's military personnel over India's total population as a ratio of Pakistan's military personnel over Pakistan's total population. Years: 1950-2001, Sources: Correlates of war data set version 3.02 and International Financial Statistics 2006 (IMF)

Lmpi1: Log GDP weighted average of Pakistan and India's total imports, Years: 1950-2005, Source: International Financial Statistics 2006 (IMF)

Lmpi2: Log mean average of Pakistan's total imports as a proportion of Pakistan's GDP and India's total imports as a ratio of India's GDP, Years: 1950-2005, Source: International Financial Statistics 2006 (IMF)

Lxpi1: Log GDP weighted average of Pakistan and India's total exports, Years: 1950-2001, Source: International Financial Statistics 2006 (IMF)

Lxpi2: Log mean average of Pakistan's total exports over Pakistan's GDP and India's total exports over India's GDP. Years: 1950-2001, Source: International Financial Statistics 2006 (IMF)

Poppi: Average of Pakistan's total population and India's total population, Years: 1950-2001, Source: International Financial Statistics 2006 (IMF)

Tpitp: Bilateral trade between Pakistan and India as a ratio of Pakistan's total trade, Years: 1950-2001, Source: Direction of Trade Statistics yearbook, IMF International Financial Statistics 2006 (IMF)

Tpiti: Bilateral trade between Pakistan and India as a ratio of India's total trade, Years: 1950-2001, Source: Direction of Trade Statistics yearbook, IMF International Financial Statistics 2006 (IMF)

Xmpi: Pakistan's total trade (exports + imports) as a ratio of India's Total trade (exports + imports), Years: 1950-2001, Source: International Financial Statistics 2006 (IMF)

Xmip: India's total trade (exports + imports) as a ratio of Pakistan's total trade (exports + imports). Years: 1950-2001, Source: International Financial Statistics 2006 (IMF)

VolFatal: Precise volume of fatality in each annual corresponding dispute, Years: 1950-2003, Sources: COW Inter-State War Data, Version 3.02 (Faten et al, 2004), CSCW/PRIO Battle Deaths data (Lacina, 2005), CSP Data set on Major Episodes of Political Violence 1946-2006 http://members.aol.com/cspmgm/warlist.htm