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EXPLORING THE RELATIONSHIP BETWEEN MILITARY SPENDING & HUMAN RIGHTS PERFORMANCE IN SOUTH ASIA

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ABSTRACT

The relationship between military spending and human rights is one of the most prominent issues in political economy. Yet, the linkage between the two is empirically underdeveloped. Seeking to fulfill this existing gap in the literature, we examine the effects of militarization on human rights performance in six South Asian economies for the period 1980 – 2006. Our findings demonstrate that an increase in military spending significantly reduces human rights. Acceleration of military spending is also associated with decline in human rights performance. By gauging the effect of military spending on human rights conditions during war and peace years, we found that irrespective of war or peace years, any increase in military spending is detrimental to human rights conditions. Further, we find that the negative impact of military spending on human rights is conditioned by increase in their neighbors' spending.

Given the wide range of socioeconomic and political problems ailing South Asian countries, these results gain significant importance. The study suggests that reduction in military spending could help reallocate the resources to productive purposes, thereby paving way for development and progress. This help reducing social unrest and economic insecurity, thereby increases government's respect for human rights.

Keywords: Military spending; Human rights; South Asia.

JEL classifications: H56; P48; 053.

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1. Introduction

There has been considerable amount of scholarly attention given to area of militarization and security in the past. Studies have paid special attention to militarization and its affect on economic growth, socioeconomic development, deterrence, initiation, conduct and the termination of war. However, the impact of militarization on human rights performance has received little attention in the literature. This study is an attempt to fulfil this gap in the literature. Basically, there are two reasons for a state engaging in militarization. The perceived nature of relations among states being the foremost reason; arms are widely viewed as an instrument of defense from external threat. The international system is said to be anarchic by the realist doctrine. Conflicts among states stem from international anarchy, as states are not subjugated to a higher authority. It is the dynamics of international anarchy – constant insecurity, self-help, and power struggle - that give rise to wars among states (Waltz 1959: 237). States try to protect themselves through the build up of military capabilities (Morgenthau 1965: 5). It's the understanding that coercive military response is required for the state to be preserved. Hence, the collection of arms guarantees the security of states in the anarchic international system. According to this logic, increased militarization affords states increased security. Therefore, states have a strong incentive to build up their militaries. In the present context the incentive for a state to militarize due to external threats is especially pronounced in the developed world.

In the developing world, however, internal threats to the state are far more common. Thus, the second reason for the militarization of a state could be identified as the domestic security situation. The internal security in many South Asian states is unstable. Domestic instability is a clear incentive to militarize. Unstable domestic situations lead to a high level of militarization is exemplified by the case of Sri Lanka. In Sri Lanka, the Liberation of Tamil Tigers Eelam (LTTE hereafter) are currently waging guerilla warfare against the Sri Lankan government. The Sri Lankan government has poured US$1.5 billion in recent years to its military complex to crush the rebel movement. Sri Lanka stands to be the most militarized state in South Asia (Bhatt Semu & Mistry Devika 2006: 12). In Pakistan, militarization has increased due to its alliance with the United States and its infighting against al-Qaeda and Taliban forces on the domestic front. In Burma, the military junta has poured large percentage of its resources to the military to control the revolt for democracy against the activists. Internal disturbances and rise of extreme fundamentalist forces resorting to terror activities forced Bangladesh to beef up its military spending. Since 1996, Nepal has countered the insurgency of Maoists, the defence spending increased drastically.

The South Asian states have also extensively used its military against their own population during the times of unrest. Studies have shown that the relationship between government coercion and political violence depicts an inverted U shaped relationship. At lower levels of violence the dissent tends to grow while at higher levels dissent can be brought down (Moore 1998 cited by Gupta 2003: 24). Thus, the rational for using higher degree of violence against its own citizens could be validated from a view of political expediency. In this regard Lopez (1986) writes, "Governing styles that employ official

violence and terror by ruling elites against segments of their own populations have become all too common place contemporary affair". Stohl (211: 1986) argues that states would engage in state terrorism both when it perceives itself to be in a powerless situation when all other means have been exhausted and when the state is in a position of strength. Gurr (63: 1986) concludes that a state would engage in violence for eight direct reasons viz., external threat, proxy big wars, weakly institutionalized regimes, elite access to and maintain power, political threat by challenges, democratic political cultural institutions, social heterogeneity and peripheral international status.

Studies in literature also point to a higher level of political repression in countries that spend greater levels on its military (Park 1987; Davenport 1995). However, when comparing states that have military governments to states that have civilian governments, Mc Kinlay & Kohan (1975) suggest that military governments are more inclined to violate human rights than civilian governments. This finding is of special significance for this study since some South Asian states, such as Pakistan and Bangladesh, have oscillated between military and civilian rule. Burma's military rule has been absent of any democratic institutions, while democratic countries such as India and Sri Lanka have experienced very high levels of human rights abuses.

Thus, it would be interesting to explore the relationship between militarization and human rights performance in South Asian countries. We examined six South Asian countries for this study for the period of 1980 – 2006. In the process we also examine the impact of military spending on human rights performance during war and peace years. Additionally, we examine whether the negative (positive) impact of military spending on human rights performance is conditioned by the level of military spending of their neighbours. The rest of the paper is organized as follows: Section 2 uncovers the discussion on the direct and indirect effects of military sector growth on human rights performance. The research design and modelling militarization and human rights performance is explained in Section 3. Section 4 discusses the empirical results, While Section 5 concludes the study.

2. Militarization & Human Rights – The Interrelationship

a. Direct Effects

The relationship between militarization and human rights can be captured under direct effects and indirect effects. The direct effects of militarization can broadly be classified in to two factors. Firstly, product of arms races between states that lead to conflict. Secondly, the internal state conflicts, political violence and / or civil war within the state. The study on developing countries by Blandon (1996); support the above arguments she finds that the import of arms contributed to making violent political acts more feasible. Infact, Lewis Fry Richardson's seminal work in the 1960's applicable for countries, such as India and Pakistan, where increasing military expenditure in one country leads to increased militarization in another. The cyclical militarization, as a consequence of the security dilemma, might lead to an outbreak of conflict. The 1999 Kargil war between India and Pakistan could be analyzed from a *Realpolitik* lens as being the product of high

levels of the cyclical militarization. It is evident that the fighting of wars between states is detrimental to human rights performance (Dreher, Gassebner & Siemers, 2007).

The second direct effect of militarization on human rights abuse is due to the internal threats within the state. These threats can be real or simply preconceived by the government. Thus, whenever the government is faced with such internal threats, it would resort to the means of repression though exercising its military capacity (Stohl, 1975; Rasler, 1976; Tilly, 1978; Lopez, 1986; Gurr, 1986; Mason & Krane, 1989; King, 1999; Muller & Weede, 1990; Gartner & Regan, 1996; Franklin, 1997; Loveman & Davies 1997; Poe, Tate & Keith, 1999; Mahoney-Norris, 2000; Poe, Tate & Lanier, 2000; Lee, 2001; and Kaufman, 2001). Types of threats include: violent demonstrations, riots, political violence, civil war, ethnic war and conflicts between regions within the country. To control the internal state disorder, governments sometimes engage in the act of repressing the (take out "the") human rights to bring the situation under control (Mitchell & McCormick, 1988; Blanton, 1999; Apodaca, 2001 and Blanton & Blanton, 2004). There are ample examples in South Asian countries where the military was used to contain the internal threat situations that have led to massive human rights violations. Some of the most prominent examples include: the case of Jammu & Kashmir and North Eastern States in India, Baluchistan, and Waziristan provinces in Pakistan in the recent years, the famous Chittagong hills entanglement in Bangladesh in late 1980s and early 1990s, LTTE rebels in North-Eastern parts of Sri Lanka, Maoists insurgents in the forests of Nepal and anti-autocracy movements in Burma. Thus, we believe that the government's respect towards human rights is lower when it is faced with internal threats, especially in the form of violent conflicts.

b. Indirect Effects

The indirect effects of militarization on human rights performance can be better explained through Figure 1. This is a result of an effort to put in perspective in a model form as to how military spending can influence human rights performance as an indirect cost of lower development and progress. Higher defense spending and the opportunity cost foregone towards spending on development purposes lead to poor socioeconomic conditions. Figure 1 illustrates how military sector growth can affect the socioeconomic development in an economy at the expense of diminishing returns to social development sectors. As larger proportions of a country's productive resources are diverted towards funding the military sector growth, its impact in the long run on development expenditure is expected to be negative. As defense spending increases rapidly, the total government expenditure increases at a faster rate. However, this rapid increase in military spending has a cost associated with it. Because, to fund this ever increasing defense spending, the government would be forced[1] to cut its expenditure on other sectors (most prominently

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[1] Sometimes in Democracies where there is coalition governments face the dilemma of whether to cut the development or non developmental spending. Most of the times, the government would not be in a favorable position to cut the non development spending due to political compulsions. This leaves the government with no other option but to go for a cut in development spending. Also given the fact that this is the era of globalization, where we see decline in rate of both direct and indirect taxes on the name of reforms, it becomes even harder for the government to mop up the additional resources to fund the military

related to development). As defense spending growth increases beyond a point (P2) the development spending will start declining at a much faster rate.

Figure – 1: Opportunity Cost Burden Effect
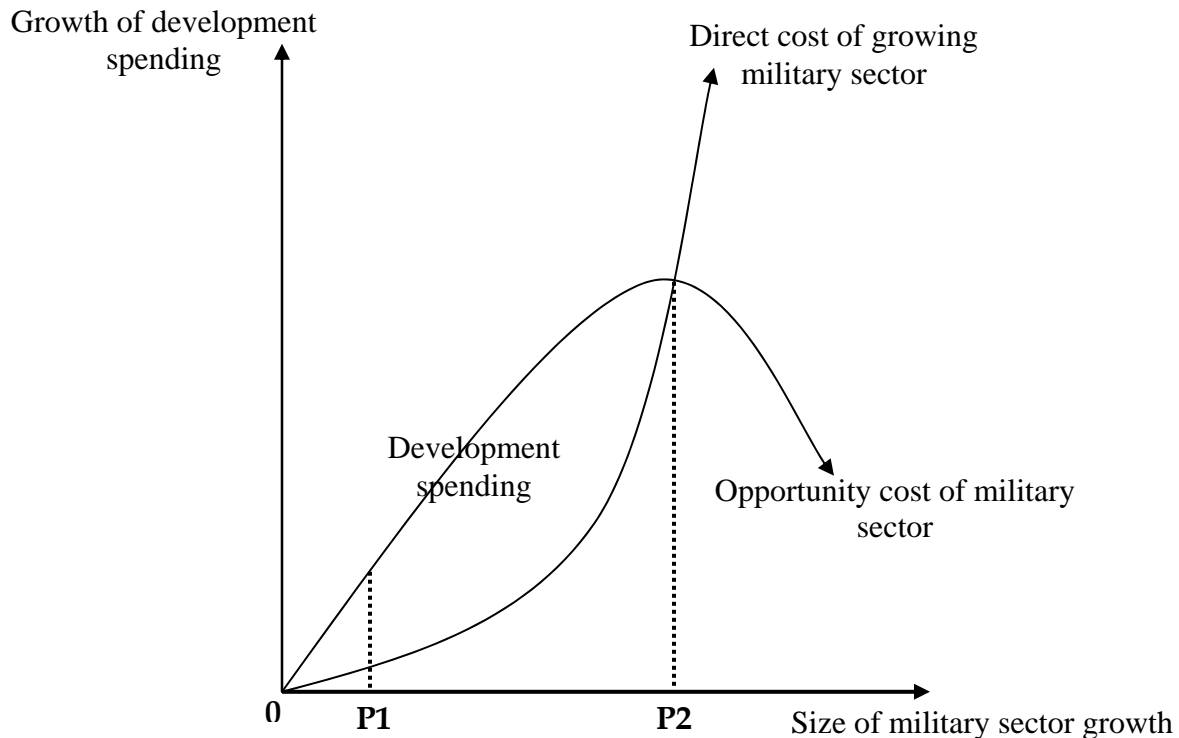
This means that the cost of the next best alternative use (opportunity cost) is forgone by the country as it diverts development expenditure towards funding the military sector growth requirements. Thus, we see two curves, one taking the form of convex which is the total military expenditure and the other taking the form of concave, development spending. Meaning, the net effect on overall socioeconomic development may be positive, if the defense burden is smaller. This would yield benefits in the form of higher human and social development thereby leading to decline in poor socioeconomic conditions. On the contrary, as more of a country's resources are diverted towards military sector growth, the net positive influence on development would decline, which is detrimental to overall progress and development of the poor.

The fundamental responsibility of any government for its people is to provide basic public goods and services. The basic public services include providing education, healthcare facilities, drinking water, sanitation and food which are major constituents of development spending. Van de Walle & Nead (1995) discovered that basic health and education services almost universally yield benefits for the poor. However, failing to provide these services adequately means is a failure of the government. The failure to do

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expenditure. This directly puts the pressure of the governments to cut development spending in order to continue supplying resources for the growth of military sector.

so leads to economic and social dissatisfaction amongst the poor and middle class in the society. This paves way for economic insecurity and social unrest risking political stability and outbreak of conflicts thereby (Boswell & Dixon, 1990; Barbieri, 1996; Rodrik, 1997, Rodrik, 1998; Rodriguez & Rodrik, 2000, Blinder, 2006; Summers, 2006; Krugman, 2007). This scenario is detrimental to human rights conditions.

3. Modeling "Human rights performance & Military Sector growth"

3. 1. Dependent Variables

In order to investigate the impact of military sector growth on human rights performance, it is necessary for us to define what we considered by human rights performance in the present context. In essence it includes: "integrity of people", "empowerment rights of people" and "state terrorism". We believe that there is a very strong and direct impact of military sector growth with respect to state terrorism than empowerment rights. In fact, the correlation between military sector spending and state terrorism indicators is -0.54 in comparison to +0.12 between military spending and empowerment rights indicators. Therefore, the scope of the study is restricted to state terrorism. To capture this broad aspect, we take into account two widely used indicators in literature dealing with state terrorism. These indicators are Physical Integrity Rights index and Political Terror Scale[2]. Similar to Dreher, Gassebner & Siemers (2007) we use these two indices in our analysis.

a. Physical Integrity Rights Index

The Physical Integrity Rights index (PIR) eported in the human rights database (CIRI) contain information about the pattern and sequence of government respect for physical integrity rights in addition to the level. Here, the pattern is defined as "*the association of different levels of government respect for several physical integrity rights with a single, overall scale score*" (Cingranelli & Richards, 1999). Sequence is defined as "*the order in which governments have a propensity to violate particular physical integrity rights*" (Cingranelli & Richards, 1999). The CIRI data are based on the human rights practices of governments and any of its agents, such as police or paramilitary forces. The CIRI measure is an additive index constructed from observations on torture, extrajudicial killing, political imprisonment, and disappearances. It ranges from 0, meaning no government respect for these four human rights to 8, or full government respect for these four human rights. The source of information used for coding these five variables was from the U.S. State Department's annual country reports on human rights practices.

b. Political Terror Scale

Our second measure of human rights abuses measures levels of political terrorism. We use data from the Political Terror Scales (PTS). The PTS data focus on the amount of respect a society gives to personal integrity rights, specifically the freedom from

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[2] See Carleton & Stohl (1987); Gibney & Dalton (1997); Poe & Meernik (1995); Poe & Tate (1994); Stohl et al. (1984); Cingranelli & Richards (1999); Richards (1998); Zanger (2000); Neumayer (2005); Dreher, Gassebner & Siemers (2007) and Eriksen & de Soysa (2008).

politically motivated imprisonment, torture and murder. This scale developed by Gibney (2004), who provides data from 1980 onwards and later extended it back from 1976[3]. The PTS scores include two components. One is based on a codification of country information from Amnesty International's annual human rights reports to a scale from 1 (*best*) to 5 (*worst*)[4]. The other scale is based on information from the U.S. Department of State's Country Reports on Human Rights Practices.

The final codification is as follows:

Score 1 : Countries under a secure rule of law, people are not imprisoned for their view, and torture is rare or exceptional. Political murders are extremely rare.

Score 2 : There is a limited amount of imprisonment for nonviolent political activity. However, few persons are affected, torture and beatings are exceptional. Political murder is rare.

Score 3 : There is extensive political imprisonment, or a recent history of such imprisonment. Execution or other political murders and brutality may be common. Unlimited detention, with or without a trial, for political views is accepted.

Score 4 : Civil and political rights violations have expanded to large numbers of the population. Murders, disappearances, and torture are a common part of life. In spite of its generality, on this level terror affects those who interest themselves in politics or ideas.

Score 5 : Terror has expanded to the whole population. The leaders of these societies place no limits on the means or thoroughness with which they pursue personal or ideological goals.

States are given the scores from 1 to 5; the other major contentious issue is which indicator amongst the two should be used. Before deciding upon the selection, it is worth highlighting the advantages and drawbacks of both these indicators. Poe et al. (2001) points out that the State Department data is biased. They argue that the US State Department reports lower values (1 – best) for the countries that are allies of US on international diplomatic front. This effectively means that the Amnesty International data is unbiased. However, Neumayer (2005) points out that although Amnesty International data is unbiased, it covers only a few countries in the early years, leaving out some countries with little or no human rights abuses. For more accurate results, we take the average score of both State Department and Amnesty International data.

Thus, the effect of military sector growth on human rights abuses is studied using PIR index as dependent variable in the first equation function, while the second equation function considers PTS. Therefore, the two parsimonious models for military sector growth and Human rights abuses are specified as follows:

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[3] We thank Dr. Gibney for providing the data for all the three scores of PTS on request.
[4] The data can be found at http://www.unca.edu/~mgibney

$$\dots\dots\dots\dots\dots\dots\dots (1)$$

Political Terror Scale = α_1 + Ω_2 Military Sector growth $_{it}$ + Ω_3 Economic Growth Rate $_{it}$ +

Ω_4 log (Economic Development) $_{it}$ + Ω_5 War years $_{it}$ + Ω_6 Pace years $_{it}$ + Ω_7

Political Regime $_{it}$ + Ω_8 log (Population)$_{it}$ + Ω_9 Ethnic Fractionalization $_{it}$ + Ω_{10}

British Legal Heritage $_{it}$ + Ω_{11} Socialist Legal Heritage $_{it}$ + Ω_{12} Time $_{it}$ + γ_{it}

$$\dots\dots\dots\dots\dots\dots\dots (2)$$

Where: **i** / **t** = country "i" at time "t"; δ / ϕ = intercepts for the equations; ψ / Ω = regression coefficients for variable "n"; ε / γ = error terms for country "i" at time "t". The description about the key independent variable, military sector growth, along with other control variables is discussed in the next section 3.1. This empirical analysis covers six South Asian economies (see annexure 5) for the period 1980 to 2006.

We ran all the models twice, first using pooled time-series cross-sectional (TSCS) and second using fixed effects methods. The first option was selected because some of the variables like democracy scores and ethnic fractionalization index are time invariant series. However, we also performed fixed effects method because of two reasons. One, the time invariant effects could be controlled by using country-fixed effects. Two, South Asian economies vary in size, political climate and the levels of military sector growth are different. These and other fixed or time varying country attributes like: number of riots, number of political violent events, institutional setups etc., can be correlated with human rights conditions leading to omitted variable bias. Therefore consistent with Beck & Katz (1996) advice, fixed effects method is performed in suspicion that there are other factors than those captured in our explanatory variables affecting the human rights performance and hence country fixed effects method. However, the pooled time-series cross-sectional (TCSC) data may exhibit Heteroskedasticity and serial correlation problems. While these problems do not bias the estimated coefficients as pooled regression analysis in itself is a more robust method for large sample consisting of cross section and time series data. However, they often tend to cause biased standard errors for coefficients, producing invalid statistical inferences. To counter these problems, we estimated for all the models the Huber-White robust standard errors clustered over countries. These estimated standard errors are robust to both Heteroskedasticity and to a general type of serial correlation within the cross-section unit (Rogers, 1993 and Williams, 2000).

3. 2. Independent variables: 'Hypothesis variable'

a. Military Sector Growth

Quantifying military sector growth is a huge task and also subject to availability of the data on certain sensitive items. The best way perhaps would be to capture the military sector growth indicators separately, such as: military expenditure, armed forces growth rate, R&D spending on defense sector, arms possession and arms trade. The other possible way is to construct a unidirectional index of military sector growth which comprises of all these variables mentioned above. Though we would have liked to capture as many indicators as possible out the listed above, the absence of time series data on such items for South Asian countries prevented us to use the traditional set of indicator, the military spending as a proxy for military sector growth in these countries. Thus, our typical main independent variable is the total military expenditure measured in US$ millions, which is logged.

3. 3. Control Variables

Previous research on the violations of human rights has established several key factors that explain why governments violate human rights (McKilay & Cohan, 1975; Strouse & Claude, 1976; Park, 1987; Cingranelli, 1992; Poe & Tate, 1994; Davenport, 1995, 1996, 1997; King, 1999; Poe, Tate & Keith, 1999; Carey & Poe, 2004 and Landman, 2006). Using their arguments, we divide these control variables into two subheads: institutional and economic variables. The variables under latter group include: economic growth, economic development and abundant natural resources. The variables selected under former head include: population pressures, democracy levels, civil war presence, civil peace years, ethnic fractionalization and British/Socialist legal heritage.

The literature shows that there is a positive impact of development and equity on human rights (Mitchell & McCormick, 1988; Boswell & Dixon, 1990; Marks & Diamond, 1992; Davenport 1995; Blanton, 1999; Milner, 2000; Richards, Gelleny & Sacko, 2001; Amartya Sen 1999; Kaufmann 2004; Kaufmann, Kraay, & Mastruzzi 2005; Blanton & Blanton, 2006; Eriksen & de Soysa, 2008; Vadlamannati & Tamazian, 2007 and Vadlamannati & de Soysa 2008). The models control the effects of development and growth by introducing logged value of per capita GDP in US$ PPP constant terms and the economic growth rate. The data for both these variables come from world development indicators of World Bank 2006.

On institutional factors, literature shows that the level of democracy is a key variable associated with human rights. The democracy scores take shape as a discrete variable taking the value 1 if the polity IV, variable polity II, is greater than 6 on the 10-point scale and 0 if not (Jaggers & Gurr, 1995)[5]. The studies show that democracy affects rights only at very high levels (Davenport & Armstrong, 2004). Thus, we take the polity IV scores to capture for democracy levels. Following other prominent studies in literature (Goldstone 1991; Henderson, 1993; Homer-Dixon et al. 1993; Poe & Tate, 1994; Howard

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[5] The data can be accessed from http://www.colorado.edu/ IBS/GAD/spacetime/data/Polity.html.

& Homer-Dixon 1995; Poe, Tate & Keith, 1999; Blanton, 1999; Blanton & Blanton, 2006; Eriksen & de Soysa 2008; Vadlamannati & Tamazian, 2007 and Vadlamannati & de Soysa 2008) we also take into account the log value of total population adapted from world development indicators of World Bank 2006. The countries with higher ethnic fractionalization often face the risk of ethnic wars. To capture this effect, we include the degree of ethnic fractionalization developed by Fearon & Laitin (2003). Prominent studies like Poe & Tate (1994); Poe, Tate & Keith (1999) and Dreher, Gassebner & Siemers (2007) argue that civil war and peace years are important determinants of human rights conditions. Thus, we include the dummy variable 1 if civil war exists in the country and 0 otherwise. We also include number of peace years for each country from 1993 to 2006. The peace years variable is included as the number of peace years since every last civil war occurred in a country. The data for both these variables come from the Uppsala database updated version of 2007. Several studies include a lagged dependent variable to control for autocorrelation (Poe & Tate, 1994 and Poe, Tate & Keith, 1999). A lagged dependent variable is also meant to control for regional diffusion and spill-over effects (Neumayer, 2005). There are two reasons for the inclusion of a lagged dependent variable (LDV). First, a methodological reason, that is to control for autocorrelation, endogenity, and omitted variables (Beck & Katz, 1996). Second, a theoretical reason, that holds that governments tend to use past decisions as a baseline for their present decisions (Poe, Tate & Keith, 1999). Thus, we run both the models of PIR and PTS using with and without lagged dependent variables.

4. Empirical results

4. 1. Descriptive Statistical Analysis

The sample of country-years that we examine in total made up of 162 observations. In annexure 1, we present the summary statistics for this sample for all the variables that we employ in the regression analysis. The mean value for PIR is just 2.35 per country-year with a small standard deviation of 1.90. The sample is also made up of another human rights indicator namely, PTS. The mean value of this is 3.7 with lower standard deviation compared to PRI, 0.90. In fact both these values suggest that during the sample period the human rights regime was poor and marked by greater number of abuses and violations. The median value of military spending is 664,454.5 US$, but the variance in reforms is very high, with a standard deviation of just 4,467,565 US$. This suggests suggesting that the military spending differs widely across these six countries under the study. With respect to GDP growth rate we can find that the median growth rate is 3.51%. Moreover, the variance in GDP growth rates is fairly high, with a standard deviation of 4.61% and growth rates ranging from -12.92% to 12.51%. With respect to percapita GDP, the mean value is log 7.41% with a standard deviation of as high as 0.36%, highlighting that the development process do not vary significantly across these countries. Another indicator which is noteworthy is democracy scores which have very high standard deviation of 6.32 with maximum value of 9 and minimum of -8. This highlights that at least in terms of political regime there is a significant cross country variation.

In Annexure 2 we present the aggregate information about the military spending: arms imports & human rights conditions in South Asia. These values are averages at different

points of time. We classified the points of time from: 1980 – 1984; 1985 – 1994 and 1995 – 2006. In the case of India, both military spending and arms import on an average increase from 1980-1984 to 1985-1994. During the same period there human rights performance (PIR score) decreased from 3.00 to 1.00. In the period 1995-2006 though average arms imports declined compared to previous period, the average military spending kept increasing. On the other hand, the human rights performance worsened further from 1.00 to 0.17. Overall, during the period 1980-2006, the average score of PIR was 1.00 which is higher human rights abuses. Similar such trends can be observed in the cases of Pakistan and Bangladesh as we see that increase in military spending is coincided with decline in human rights performance. The average human rights score for Pakistan during the whole study period was 2.31 and 3.12 for Bangladesh. The case is somewhat different for Sri Lanka as there was a massive increase in both average military spending and arms imports during 1985-1994 period due to intensifying of internal conflict with LTTE rebels. During the same period, Sri Lanka recoded one of the worst human rights performances ever with average PIR score of 0.70. For Burma and Nepal, we find that in all the three periods there is remarkable increase in average both military spending and arms imports. This is exactly coincided with significant drop in PIR index during the three periods. One thing which clearly emerges from this information presented in annexure 2 is that there is a very strong inverse relationship between average military spending and human rights performance. For all the countries we saw that there was remarkable increase in military spending which is coincided with drastic fall in PIR index values. Further, the negative correlation of -0.54 between the two confirms this inverse relationship.

4. 2. Regression Estimates

The results of regression estimates in assessing the impact of military spending on human rights performance viz., physical integrity rights and political terror scale in South Asian economies are presented in Table 1 and 2. While Table 1 deals with models related to PIR, Table 2 focuses on PTS. Each table consists of 10 models each, measuring various permutations and combinations of military sector growth and human rights conditions. Every model is run using both pooled regression and fixed effects methods. Additionally, sensitivity analysis is carried out using the index of civil liberties of freedom house. We control for Heteroskedasticity using White Heteroskedasticity-consistent standard errors & covariance.

In Model 1 (see Table 1) we find that military spending has 1% significant negative impact on basic human rights. The physical integrity scores are measured on a scale of 0 to 9, zero represent worst human rights abuses and 9 highest represent respect for human rights. Therefore the negative effect of military spending suggests reduction in government respect for human rights. Every 1% increase in military spending leads to 0.60% decrease in government respect for basic human rights. In other words, holding at its mean value, increase in military spending by its highest value (17.10) would decrease the respect for PIR by 0.60%.

Table 1: Human Rights Performance & Military Expenditure Equation Function

Dependent Variable: Physical Integrity Rights Index

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Regression Method	Pooled OLS	Fixed Effects	Pooled OLS	Fixed Effects	Pooled OLS	Fixed Effects	Pooled OLS	Fixed Effects	Pooled OLS	Fixed Effects
Constant	-2.87 (4.96)	-4.69 (6.54)	1.78 (4.54)	0.12 (5.45)	-2.90 (6.31)	-4.67 (7.38)	-3.64 (6.35)	-5.75 (7.27)	8.53 ** (3.66)	7.62 *** (4.04)
Log (Military Expenditure)	-0.60 * (0.16)	-0.62 * (0.22)	-0.23 *** (0.14)	-0.24 + (0.19)	-0.61 * (0.17)	-0.62 * (0.22)	------	------	------	------
Military Expenditure Squared	------	------	------	------	$-1.28E^{-17}$ $(1.18E^{-15})$	$-1.41E^{-17}$ $(1.47E^{-15})$	------	------	------	------
Military Expenditure * War Years	------	------	------	------	------	------	-1.44 * (0.40)	-1.48 * (0.51)	------	------
Military Expenditure * Peace Years	------	------	------	------	------	------	-1.35 * (0.45)	-1.36 ** (0.58)	------	------
Log (Military Expenditure * Neighbor's Military Expenditure)	------	------	------	------	------	------	------	------	-0.57 * (0.15)	-0.62 * (0.22)
Log (Economic Development)	0.91 *** (0.58)	0.93 (0.70)	0.15 (0.52)	0.22 (0.58)	0.92 + (0.66)	0.93 (0.75)	0.95 *** (0.60)	0.98 + (0.70)	0.79 + (0.55)	0.89 (0.67)
Economic growth rate	0.05 (0.04)	0.05 (0.05)	0.05 (0.04)	0.06 + (0.04)	0.05 (0.04)	0.05 (0.05)	0.05 (0.04)	0.05 (0.05)	0.04 (0.04)	0.05 (0.05)
Log (Population)	0.49 * (0.17)	0.50 ** (0.24)	0.14 (0.15)	0.16 (0.20)	0.49 ** (0.21)	0.50 *** (0.27)	0.50 * (0.18)	0.52 ** (0.24)	0.36 ** (0.15)	0.41 ** (0.21)
Democracy	-0.05 ** (0.02)	-0.05 ** (0.03)	-0.03 + (0.02)	-0.03 (0.02)	-0.05 ** (0.02)	-0.05 ** (0.03)	-0.05 ** (0.02)	-0.05 ** (0.03)	-0.06 * (0.02)	-0.06 ** (0.03)
Civil War	-0.94 * (0.35)	-0.89 ** (0.36)	-0.67 ** (0.31)	-0.61 ** (0.32)	-0.94 * (0.36)	-0.89 ** (0.36)	-0.39 (2.93)	-0.16 (2.84)	-1.00 * (0.36)	-1.01 * (0.37)
Civil Peace Years	0.03	0.04 +	0.02	0.02	0.03	0.04 +	0.04	0.04	0.04	0.03

	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)
Ethnic Fractionalization	-0.67 +	-0.68	-0.26	-0.21	-0.67 +	-0.68	-0.64 +	-0.65	-0.90 **	-0.86 ***
	(0.47)	(0.56)	(0.43)	(0.48)	(0.47)	(0.56)	(0.46)	(0.56)	(0.46)	(0.53)
Time Dummy	-0.11 *	------	-0.06 *	------	-0.11 *	------	-0.11 *	------	-0.08 *	------
	(0.02)		(0.02)		(0.02)		(0.02)		(0.02)	
Dependent Variable (t-1)	------	------	0.46 *	0.49 *	------	------	------	------	------	------
			(0.07)	(0.08)						
R-squared	0.549419	0.586124	0.655121	0.700211	0.549419	0.586124	0.549593	0.586412	0.551122	0.589198
Adjusted R-squared	0.522740	0.475323	0.631336	0.615973	0.519579	0.471159	0.519765	0.471526	0.524543	0.479219
S.E. of regression	1.312297	1.375943	1.132409	1.155763	1.316635	1.381392	1.316380	1.380913	1.309814	1.370825
Log likelihood	-268.7352	-261.8525	-235.0490	-224.1200	-268.7352	-261.8525	-268.7039	-261.7962	-268.4285	-261.2487
F-statistic	20.59 *	5.29 *	27.54 *	8.31 *	18.41 *	5.098261	18.43 *	5.104307	20.73 *	5.357383
Number of countries	06	06	06	06	06	06	06	06	06	06
Number of Observations	162	162	156	156	162	162	162	162	162	162

Note: * Significant at 1% confidence level; ** Significant at 5% confidence level *** Significant at 10% confidence level; + Significant at 15% confidence level. The models are controlled for Heteroskedasticity. White Heteroskedasticity-Consistent Standard Errors are reported in parenthesis. **PIR** = Physical Integrity Rights Index.

The coefficient value further moves up to -0.62% under fixed effects method. As discussed earlier, in Model 3 and 4 we introduce lagged dependent variable. We find that the negative impact on military spending on PIR still remains at significant level. We also find that there is significant positive impact of lagged dependent variable on PIR, suggesting that there is an impact of past decisions. The interesting finding however is the curvi-linear effect of military spending. We find 1% significant negative effect of current level of military spending, while accelerating the military spending also has a negative effect on basic human rights (models 4 & 5; table 1). This confirms non existence of curvi-linear relationship between the two. In models 6 and 7 we introduced interactive effect of military spending during war and peace years.

We find that irrespective of war of peace years, increase in military spending is detrimental to basic human rights. Both remain statistically significant at 1% confidence level. However, in both the models, the coefficient values highlights that the negative affect is higher during the war years to peace years by almost 0.10% in model 7 and 0.12% in model 8. In the final models 9 and 10, we interact the military spending of X country with the military spending of its neighbors. This is done to see whether the negative effect of military spending on human rights performance is conditioned by increase in military spending of their neighbors. We find substantial proof for this argument in our results. In both Models 9 and 10, we find that this interactive variable has 1% significant negative impact on human rights performance. The coefficient values are almost equal to that of the military spending variables placed in baseline models 1 and 2. Consistent with the findings of Vadlamannati (2008), this proves that increase in military spending is also triggered by neighbor's increase in military sector growth, which inturn is harmful for basic human rights performance of the state.

In table 2 we enter PTS as dependent variable which is rated on the scale of 1 to 5, with 1 symbolizing respect and 5 symbolizing abuses of human rights. The 1% significant positive sign of military spending suggest that increase in military expenditure help increase human rights abuses in the form of state terrorism (see models 11 & 12; table 2). For the largest military spending value (17.10%) would raise PTS by 0.60% and 0.62% in models 11 and 12 respectively. This is around 18% of the mean value of the PTS. The results remain consistent in next two models 13 and 14 even after introducing lagged dependent variable. We also found that lagged dependent variable is a very good predictor of PTS. Consistent with our previous findings we could not find any curvilinear relationship between military spending and PTS. Rather, both military spending and its squared values remain positive and statistical significant. The models 17 and 18 shows that increase in military spending is insensitive towards human rights abuses in both war and peace years. In the final models 19 and 20, we again find that the positive impact of military spending on PTS is conditioned by increase in military sending of its neighbors. These results of military sector growth confirms that using either of the dependent variable PIR or PTS, which is a proxy for basic human rights conditions, the results are similar and very much consistent. The results also remained stable irrespective of pooled regression method or fixed effects method.

Table 2: Human Rights Performance & Military Expenditure Equation Function

Dependent variable: Political Terror Scale

Variables / Method	Model 11 Pooled OLS	Model 12 Fixed Effects	Model 13 Pooled OLS	Model 14 Fixed Effects	Model 15 Pooled OLS	Model 16 Fixed Effects	Model 17 Pooled OLS	Model 18 Fixed Effects	Model 19 Pooled OLS	Model 20 Fixed Effects
Constant	9.39 * (2.15)	7.15 * (2.51)	3.52 *** (2.12)	3.45 (2.38)	6.76 * (2.50)	4.56 *** (2.73)	8.20 * (2.47)	5.77 ** (2.84)	3.01 *** (1.91)	2.62 (1.74)
Log (Military Expenditure)	0.34 * (0.07)	0.23 ** (0.09)	0.15 ** (0.06)	0.12 *** (0.08)	0.30 * (0.06)	0.19 ** (0.09)	------	------	------	------
Military Expenditure Squared	------	------	------	------	$1.50E^{-15}$ ** $(7.10E^{-16})$	$1.60E^{-15}$ * $(5.89E^{-16})$	------	------	------	------
Military Expenditure * War Years	------	------	------	------	------	------	0.70 * (0.19)	0.43 *** (0.23)	------	------
Military Expenditure * Peace Years	------	------	------	------	------	------	0.84 * (0.16)	0.59 * (0.21)	------	------
Log (Military Expenditure * Neighbor's Military Expenditure)	------	------	------	------	------	------	------	------	0.31 * (0.06)	0.23 * (0.08)
Log (Economic Development)	-0.47 ** (0.24)	-0.18 (0.26)	-0.09 (0.23)	-0.05 (0.25)	-0.28 (0.24)	-0.0001 (0.27)	-0.42 *** (0.25)	-0.12 (0.27)	-0.39 *** (0.23)	-0.16 (0.24)
Economic growth rate	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.02)	-0.02 *** (0.02)	-0.02 + (0.01)	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.02)
Log (Population)	-0.41 * (0.08)	-0.30 * (0.09)	-0.18 ** (0.07)	-0.16 *** (0.09)	-0.32 * (0.09)	-0.20 ** (0.11)	-0.39 * (0.08)	-0.27 * (0.10)	-0.34 * (0.06)	-0.26 * (0.08)
Democracy	0.01 ** (0.00)	0.001 (0.01)	0.005 (0.00)	0.003 (0.01)	0.01 + (0.00)	0.0003 (0.01)	0.01 ** (0.01)	0.001 (0.01)	0.02 ** (0.00)	0.004 (0.01)
Civil War	0.49 * (0.10)	0.33 * (0.12)	0.31 * (0.11)	0.24 *** (0.13)	0.52 * (0.11)	0.37 * (0.12)	1.34 *** (0.80)	1.29 (0.88)	0.52 * (0.11)	0.38 * (0.13)
Civil Peace Years	-0.01	-0.02 **	-0.001	-0.01	-0.01	-0.02 **	-0.01	-0.02	-0.01	-0.02 **

	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Ethnic Fractionalization	0.08	0.26	-0.02	0.05	0.19	0.38 ***	0.12	0.30	0.22	0.33 ***
	(0.18)	(0.20)	(0.15)	(0.16)	(0.18)	(0.20)	(0.18)	(0.21)	(0.17)	(0.18)
Time Dummy	0.03 *	------	0.01 ***	------	0.03 *	------	0.03 *	------	0.01	------
	(0.00)		(0.00)		(0.00)		(0.01)		(0.01)	
Dependent Variable (t-1)	------	------	0.49 *	0.48 *	------	------	------	------	------	------
			(0.08)	(0.08)						
R-squared	0.511442	0.593450	0.611573	0.669611	0.525465	0.608848	0.514648	0.597202	0.512819	0.595900
Adjusted R-squared	0.482514	0.484610	0.584785	0.576775	0.494039	0.500195	0.482506	0.485314	0.483973	0.487715
S.E. of regression	0.494993	0.493990	0.436704	0.440896	0.489450	0.486464	0.494997	0.493652	0.494295	0.492499
Log likelihood	-110.7868	-95.90291	-86.40495	-73.78176	-108.4278	-92.77546	-110.2535	-95.15184	-110.5581	-95.41340
F-statistic	17.68 *	5.45 *	22.83 *	7.21 *	16.72 *	5.60 *	16.01 *	5.34 *	17.78 *	5.51 *
Number of countries	06	06	06	06	06	06	06	06	06	06
Number of Observations	162	162	156	156	162	162	162	162	162	162

Note: ***** Significant at 1% confidence level; ****** Significant at 5% confidence level ******* Significant at 10% confidence level; + Significant at 15% confidence level. The models are controlled for Heteroskedasticity. White Heteroskedasticity-Consistent Standard Errors are reported in parenthesis. **PTS** = Political Terror Scale.

We see significant positive relationship between economic development and both types of human rights suggesting that improvement in quality of life through higher development process help reduce economic insecurity thereby reducing social tensions and unrests in the society (see table 1 & 2). However, the findings of economic growth rate though remain on the same lines, but are not statistically significant. We find that an increase in population levels exerts pressure on human rights abuses. This effect is significant and consistent across all forms of human rights displayed in all models. The results related to ethnic fractionalization are mixed. Surprisingly we find positive sign for PIR and negative sign for PTS (see table 1 & 2).

The other most significant finding of the study is the effect of political regime on human rights performance in these countries. Contrary to the conventional wisdom, we find that increase in democracy levels is leading to significant decline in government respect for human rights in these countries. These contrary results can be attributed to various reasons. First, these results are found consistent to the arguments of Davenport (1994) who argue that the positive impact of democracy on human rights is found only after reaching at a threshold point. Second, usually autocratic governments frequently engage in imprisoning people without trial, torture, and kill citizens, while democracy ought to preserve from such abuses. However, in the case of India, which is world's second largest democracy, it is found contrary. For example, the Amnesty report of 1999 report says the following about India:

…….thousands of political prisoners, including prisoners of conscience, were detained without charge or trial. Torture and ill treatment continued to be widespread, and hundreds of people were reported to have died in custody. Conditions in many prisons amounted to cruel, inhumane, or degrading treatment. "Disappearances" continued and hundreds of extrajudicial executions were……. (Amnesty International, 1999)

This is echoed by the findings of Beer & Mitchell (2006) who found India as an "outlier" in their study on 179 countries. This means this is a specific case where both democracy scores and human rights abuses are on higher side. It is also noteworthy that there could be difference in the "quality of democracy" which according to Heller, (2000), might significantly vary across the countries and its different set of elements have different impact on human rights conditions. Finally, our simple analysis of average scores of polity IV on these six countries during our study period shows that expect India, rest of them are either partially democratic or autocratic countries. The average polity IV score for India during the period 1980 – 2006 is 8.44, followed by Pakistan -1.15; Bangladesh 5.15; Sri Lanka 1.31; Burma -7.33 and Nepal 0.48. This perhaps could also be another reason why our results show significant negative impact of political regime on human rights conditions in South Asia.

When we introduce civil war year dummy, we find a 1% significant negative relationship with basic human rights. On the contrary, the number of peace years helps reduce human rights abuses. These results are statistically significant and consistent across the models at both PIR and PTS. The coefficient value for a civil war dummy is higher than peace

years, suggesting that the risk of civil war is always detrimental to basic human rights. All these results are robust as they are consistent across all the models.

4. 3. Marginal Effects of Military Spending

To further analyze the quantitative importance of military spending during war and peace years for both PIR and PTS, we calculate the marginal effects of both types of interactive variables using the two model specifications. We introduce the partial derivatives of PIR and PTS with respect to each of the interactive effect variables (with civil war and civil peace years) to assess the short-run effects of trade military spending dependent on the extent of civil war and civil peace years respectively. This is simply to test the marginal effect of each interactive variable on human rights performance in South Asia.

$$\frac{\textbf{PIR / PTS}}{\textbf{Log (Military Expenditure)}} = \psi_2 + \textbf{(Military Expenditure * Civil War years)}_{it} * \psi_5$$
.... (3)

$$\frac{\textbf{PIR / PTS}}{\textbf{Log (Military Expenditure)}} = \psi_2 + \textbf{(Military Expenditure * Civil Peace years)}_{it} * \psi_6$$
.... (4)

In cases, where the estimated parameters are not significant either at 1%; 5%; 10% levels, zero value is assigned to the parameter. Results of this exercise are presented in Tables 3. In addition to short run effects, we also calculate the long run effects by dividing the short run values by one minus the estimated coefficient of the lagged dependent variable.

Table 3: Marginal Effects of Military Spending

	PIR		PTS	
Variables	Short run Effects	Long run Effects	Short run Effects	Long run Effects
Military Spending * Civil War years	-0.75 %	-1.40 %	0.68 %	1.34 %
Military Spending * Civil Peace years	-0.61 %	-1.11 %	0.34 %	0.67 %

The results suggests that there is a significant negative effect of both military spending in civil war and civil peace years, either in the short run and long run on PIR in South Asian countries, conversely, there is a significant positive impact of the same on PTS in both the short run and the long run. Military spending during civil war has a negative contribution of about 0.75% in short run and 1.40% in the long run on PIR. While the

18

same during peace years has negative contribution of about 0.61% in short run and 1.11% in long run on PIR. A different conclusion emerges when examining the same on short run versus long run and war versus peace years. We find that the impact is higher in long run to short run. In the case of war and peace years, the impact is higher with respect to war years, showing that the impact of war is detrimental to human rights conditions.

4. 4. Robustness Check

We ran several tests of sensitivity. First, we ran all the results again by dividing the total sample group into two. Each set includes only three countries, India, Pakistan and Sri Lanka in one set and Burma, Bangladesh and Nepal in second set. We do not find any significant changes in both the results. We then ran the results for all six countries in sample but this time cutting short the study period into two halves, 1980-1993 and 1994-2006. Despite this bifurcation, the results largely remained consistent across the board[6]. Third, we decompose our political terror scale variable which is an average of State department and Amnesty international scores and ran the results for both separately. The results for both state department and amnesty international once again confirm that military sector growth lead to decrease in government respect for human rights. We also could not find any curvi linear effect relationship in both the models. Also the results about war time spending and peace time expenditure of military sector remains the same as found earlier. The theory of neighbor's effect also found consistency[7].

Finally, we perform sensitivity tests for our models by replacing all both PTS and PIR indices with freedom house scores. We compute the average of civil liberties and political freedom scores, which becomes our dependent variable. The results are displayed in annexure 3. The results show that military spending lead to decrease in government respect for civil and political rights. The coefficient value is remains same as we found in our baseline models for PIR and PTS. Holding at its mean value, increase in military spending by its highest value (17.10%) would decrease the government respect for political and civil liberties 0.59%. This result remains consistent in model 22 when we introduce lagged dependent variable. Also, the curvilinear effect relationship is not found statistically significant. This apart, both war time and peace time military spending effects are negative and same on human rights conditions. Finally, the results are also consistent with respect to condition effects of neighbor's military spending. We also ran another set of two models separately with civil liberties and political freedom scores as two dependent variables. We obtain identical results of both.

5. Conclusion & Summary

The relationship between military spending and human rights has been one of the most prominent issues in political economy, but the linkage seems to be empirically underdeveloped. This work gains prominence as it gauges the effects of military sector growth on human rights abuses in six South Asian economies for the period 1980 – 2006. The conventional wisdom posits that increase in military sector growth is detrimental to

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[6] Due to space constraints, the results are not shown here. They will be provided on request.
[7] These results are also provided on request.

human rights abuses. Our overall findings show that an increase in military spending, for military sector growth would in fact lead to a decrease in a government's respect for human rights. By gauging the effect of overall military spending on human rights during war and peace years, we found that irrespective of the level of conflict, any increase in military spending is negative on human rights conditions. However, on most occasions, we found a higher coefficient value for negative effects of military sector growth during war years. Though we could not find any conclusive evidence on curvi-linear relationship between the two, we found that in fact acceleration of military spending would further deteriorate the human rights conditions in these countries. Consistent with with other studies, we also found that the negative impact of military spending on human rights is conditioned by increase in its neighbors spending. We strongly believe that given the range of socioeconomic and political problems ailing South Asian countries, these results gain paramount importance. The study suggests that a reduction in military spending could help reallocate the resources to productive purposes, thereby paving way for economic development and progress. This in turn would help reduce income inequality and poverty levels in South Asian that leads to civil peace due to lower social and economic unrest, and may increase government respect for human rights.

What Next?

While we have focused on one of the most contentious topics in political economy, the linkage between military sector growth and human rights taking the case of six South Asian economies, our study suggests avenues for further research on this most interesting topic. First, having found significant relationship between the military spending and human rights, the second step would be to expand on this topic, a larger sampling size of countries should be examined, particularly developing countries. The findings would be of interest to academia and policy makers. It seems inappropriate to only proxy military spending for overall military sector growth, which is the major drawback of our study. Rather, different elements related to military sector should be included, such as: armed forces; Research & Development (R&D hereafter) spending; arms procurement; arms trade and procession of large scale weapons. Another possible way could be to construct military sector growth index which could be unidirectional by taking into account all these indicators listed above. This would ensure a much more clear and comprehensive picture on interrelationship between the two. Future empirical work might also focus on gauging their impact on human rights performance by breaking up the military spending into recursive, capital and R&D. This would actually highlight the fact that mere (I don't think "mere" works here, maybe "a small") increase in current military spending on wages; salaries and other administrative purposes might not be as destructive as capital spending which is directly related to procurement of weapons and engaging in arms trade.

Annexures

Annexure 1: Descriptive Statistics

Variables	Mean	Median	Maximum	Minimum	Standard Deviation	Observations	Cross Sections
Military Expenditure (US $ Mn)	2707964	664454.5	24322948	22000	4467565	162	6
Log (Military Expenditure)	13.51	13.41	17.1	9.99	1.81	162	6
Physical Integrity Rights Index	2.35	2	7	0	1.9	162	6
Political Terror Scale	3.7	3.5	5	2.5	0.69	162	6
Civil Liberties Index	4.59	4	7	3	1.27	162	6
Log (Percapita GDP)	7.41	7.35	8.32	6.72	0.36	162	6
GDP growth rate	4.21	4.61	12.51	-12.92	3.23	162	6
Log (Population)	18.13	17.98	20.83	16.51	1.34	162	6
Democracy Levels	1.32	5	9	-8	6.36	162	6
Civil War Dummy Years	0.64	1	1	0	0.48	162	6
Number of Civil Peace Years	4.15	0	33	0	7.97	162	6
Ethnic Fractionalization	0.53	0.56	0.89	0.01	0.28	162	6
British Legal Heritage	0.83	1	1	0	0.37	162	6
Socialist Legal Heritage	0.17	0	1	0	0.37	162	6

Annexure 2: Military Spending; Arms Imports & Human Rights Conditions in South Asia

Study Period	INDIA			PAKISTAN		
	Military Spending	Arms Imports	Physical Integrity Rights	Military Spending	Arms Imports	Physical Integrity Rights
1980 – 1984	5490165	1898.2	3.00	1844400	549.9	2.20
1985 – 1994	8198800	2558.3	1.00	2850200	618	3.30
1995 – 2006	15841402	1421.3	0.17	3562470	492.7	1.42
Total (1980 – 2006)	**11093913**	**1941.90**	**1.00**	**3035759**	**551.58**	**2.31**

Study Period	Sri Lanka			Bangladesh		
	Military Spending	Arms Imports	Physical Integrity Rights	Military Spending	Arms Imports	Physical Integrity Rights
1980 – 1984	68682	10	4.00	199245	69	4.60
1985 – 1994	428454	43.2	0.70	313263	110.1	3.80
1995 – 2006	740016	67.7	2.00	624038	75.5	2.08
Total (1980 – 2006)	517960	41.2	1.73	440557	84.6	3.12

Study Period	Burma (Myanmar)			Nepal		
	Military Spending	Arms Imports	Physical Integrity Rights	Military Spending	Arms Imports	Physical Integrity Rights
1980 – 1984	218000	15.6	5.40	28800	0.60	5.00
1985 – 1994	807315	95.6	2.10	36158	0.50	4.60
1995 – 2006	1895148	120	1.25	95415	5.50	1.83
Total (1980 – 2006)	1219343	91.48	2.19	62637	2.75	3.42

Notes:
1. Military Spending is in US$ Millions average
2. Arms Imports are average number of weapons imported
3. Source for Military Spending is World Development Indicators, 2006
4. Source for Arms Imports is SIPRI database
5. Source for average Physical Integrity Rights Index is CIRI Group

Annexure 3: Sensitivity Analysis

Human Rights Performance & Military Expenditure equation function

Dependent Variable: Average of Political Freedom & Civil Liberties Indices

Variables	Model 21	Model 22	Model 23	Model 24	Model 25
Constant	17.05 * (2.91)	4.35 * (1.63)	16.06 * (3.46)	17.10 * (3.01)	5.95 * (2.14)
Log (Military Expenditure)	0.59 * (0.09)	0.12 ** (0.06)	0.57 * (0.09)	------	------
Military Expenditure Squared	------	------	-5.63E^{-16} (5.78E^{-16})	------	------
Military Expenditure * War Years	------	------	------	1.35 * (0.20)	------
Military Expenditure * Peace Years	------	------	------	1.35 * (0.24)	------
Log (Military Expenditure * Neighbor's Military Expenditure)	------	------	------	------	0.48 * (0.09)
Log (Economic Development)	-0.99 * (0.33)	-0.37 ** (0.15)	-0.92 ** (0.36)	-0.99 * (0.32)	-0.74 ** (0.32)
Economic growth rate	-0.02 (0.02)	-0.008 (0.02)	-0.02 (0.02)	-0.02 (0.02)	-0.02 (0.02)
Log (Population)	-0.71 * (0.10)	-0.15 ** (0.07)	-0.68 * (0.12)	-0.72 * (0.10)	-0.54 * (0.09)
Democracy	-0.11 * (0.01)	-0.003 (0.01)	-0.11 * (0.01)	-0.11 * (0.01)	-0.11 * (0.01)
Civil War	0.50 * (0.15)	0.15 *** (0.09)	0.52 * (0.16)	0.47 (1.02)	0.52 * (0.16)
Civil Peace Years	0.005 (0.01)	0.002 (0.01)	0.005 (0.01)	0.004 (0.01)	0.001 (0.01)
Ethnic Fractionalization	-0.68 * (0.23)	-0.08 (0.16)	-0.64 * (0.24)	-0.68 * (0.23)	-0.41 *** (0.23)
Time Dummy	0.01 (0.01)	0.006 (0.00)	0.01 (0.01)	0.01 (0.01)	-0.02 ** (0.00)
Dependent Variable (t-1)	------	0.88 * (0.05)	------	------	------
R-squared	0.695329	0.907075	0.695910	0.695330	0.682267
Adjusted R-squared	0.677289	0.900666	0.675772	0.675154	0.663454
S.E. of regression	0.720920	0.400203	0.722612	0.723301	0.736211
Log likelihood	-171.6963	-72.78879	-171.5415	-171.6958	-175.0965
F-statistic	38.54 *	141.54 *	34.56 *	34.46 *	36.26 *
Number of countries	06	06	06	06	06
Number of Observations	162	156	162	162	162

Note: * Significant at 1% confidence level; ** Significant at 5% confidence level *** Significant at 10% confidence level; + Significant at 15% confidence level. The models are controlled for Heteroskedasticity. White Heteroskedasticity-Consistent Standard Errors are reported in parenthesis.

Annexure 4: Countries under Study

Sl. No.	Countries under Study	Study Period
1	Bangladesh	1980 – 2006
2	Burma (Myanmar)	1980 – 2006
3	India	1980 – 2006
4	Nepal	1980 – 2006
5	Pakistan	1980 – 2006
6	Sri Lanka	1980 – 2006

Annexure 5: Data Sources

Variables	Sources of Data
Military Expenditure (US $ Mn)	World Development Indicators 2006 (World Bank)
Physical Integrity Rights Index	CIRI Group (http://ciri.binghamton.edu/)
Political Terror Scale	Dr. Gibney (2007) http://www.unca.edu/~mgibney
Civil Liberties Index	Freedom House (http://www.freedomhouse.org)
Log (Percapita GDP)	World Development Indicators 2006 (World Bank)
GDP growth rate	World Development Indicators 2006 (World Bank)
Log (Population)	World Development Indicators 2006 (World Bank)
Democracy Levels	Polity IV, (http://www.colorado.edu/IBS/GAD/spacetime/data/Polity.html)
Civil War Dummy Years	Uppsala Dataset, 2007
Number of Civil Peace Years	Uppsala Dataset, 2007
Ethnic Fractionalization	Fearon, James D. & David D. Laitin (2003)
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