

Three Essays on the Economics and Finance of Terrorism

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Abstract

This paper, in its constituent essays, suggests a framework for analytical treatment of terrorist problems and then brings out the importance of financial and socio-economic factors. The framework is discussed in Essay I which classifies the various causes of terrorism into necessary, precipitating, facilitating and perpetuating factors. The presence of a leader is a necessary factor without which terrorism cannot be generated. Poverty and unemployment, however, might only be one out of many facilitating factors which might be rendered redundant without the necessary factor or precipitating factors. Both Essay I and Essay II point out that though poverty is a motivating factor, it might be an inhibitor as far as actual implementation of terrorist acts is concerned. This explains the lack of significance of poverty as a cause of terrorism in some recent econometric studies.

Such important financial aspects, which should be incorporated in any study linking poverty to terrorism, have not been given due importance in the literature. Essay II analyses the implications of the financial side of terrorism for the relationship between the incidence of terrorism and affluence. It is assumed that the number of recruits who volunteer to join a terrorist outfit is declining in the level of affluence. Yet the actual incidence of terrorism does not mimic this relationship. This is because of the financial side of terrorism and its implication that the incidence of terrorism is determined not just by the willingness to terrorize but also the ability to terrorize.

An illustration of economic causes is developed in Essay III. Terrorism has led to immense loss of life and property in North-eastern India apart from destroying the momentum of economic development. The essay reviews the development indicators in the North-Eastern States of India and tries to shed light on the causation which has led to the association between high incidence of terrorist activity and the low level of affluence in this region. The essay concludes that poor infrastructure might be a cause for both outcomes. An imbalance is also created by the high level of literacy which facilitates the creation of discontented politically motivated terrorist groups as a reaction to the mentioned outcomes.

Key Words: Terrorism, framework, causes, economic development, infrastructure, imbalance
JEL Classification: D7, K1

Essay I

A Framework for Analytical treatment of Terrorist Problems

I Introduction

This paper attempts to develop a framework for analysing terrorism. Terrorism is not the same as a typical economic problem. The incidence of terrorism is dependant on the coincidence of several factors. Thus, if one tries to attribute independent effects to each factor one might end up with dubious results. For example, poverty might not be the immediate cause of terrorism. Yet terrorist leaders take advantage of the hopelessness that accompanies poverty to rouse people.

The required coincidence of various factors for terrorism as well as the variety of immediate causes of terrorism implies that tools such as regression analysis might not be useful for an analysis of the underlying causes of terrorism. A framework for studying terrorism and its underlying causes is probably the answer. The framework can be built through introspection but with the help of qualitative and quantitative information. Note that a framework is broader than a model. A framework sets out the relative positions of and relationships between different actors/variables in a phenomenon/exercise and yet allows for incorporation of different sets of behavioural assumptions. Each set of behavioural assumptions corresponds to a different model.

There has been no consensus on a definition of terrorism. However, I think that the following definition would be consistent with most people's perceptions of terrorism:
It is an act or threat of indiscriminate or targeted violence motivated by ideological or political considerations committed by a minority mostly against a much larger majority representing a nation state/group of nation states.
(Derived in part from Terrorism Working Group of 1st U.K. Pugwash Conference at Wadham College, Oxford)

The rest of the paper is structured as follows. Section II sets up the basic framework. Section III looks at the mechanics associated with the framework. Section IV sums up and list directions for future research.

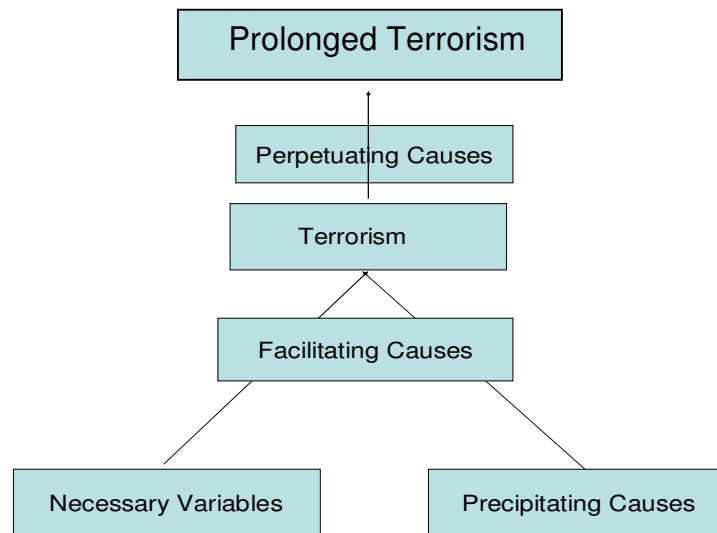
II Framework

Terrorism involves the interplay of different groups of variables: necessary variables, precipitating variables, facilitating variables and perpetuating variables. We define these as follows:

- Necessary variables are those variables which are all necessary for an episode of terrorism to take place.
- Precipitating variables are alternative direct causes of a terrorist episode. These precipitating causes /variables vary from one episode of terrorism to the other.
- Facilitating causes are the mediums through which terrorists operate. They are not the direct or the immediate causes of terrorism. They can thus be looked upon as catalysts of terrorism.
- Perpetuating causes/ variables are those which tend to prolong terrorist activity once it has started.

The relationship among these causes is illustrated by the diagram provided below.

Figure: A framework for analysing terrorism



Necessary Factors

- Leadership - The personal magnetism of a leader (e.g. Osama Bin Laden, Yasser Arafat) for whom his supporters are willing to lay down their lives is essential for terrorist activity. The leader identifies the enemy and the cause and wields together disparate individuals into a coherent unit.
- Finances: In the modern era terrorists use sophisticated equipment such as faxes, computers, bombs and remote controls, to name a few. A terrorist organisation's financial position, therefore, determines its ability to terrorise. Moreover, more sophisticated equipment provides the terrorist with greater immunity from risks. The leading terrorist organisations in the World are remarkably affluent. Napoleoni (2005) estimates the value of the new terrorist economy at \$ 1.3 trillion. Farah (2003) mentions that the U.S. government had frozen \$ 138 million worth of assets between the September 11 attacks and December 2003 , out of which \$ 78 million belonged to Al-Qaeda and the Taliban.

Precipitating Factors

- Poverty, ignorance and unemployment – When extreme these can give rise directly to terrorism but usually these play a facilitating role (see the next subsection on facilitating factors).
- Political freedom- Political freedom is a major determinant of terrorism. Too little political freedom might lead to revolt in the form of terrorism. There is also a problem with too much political freedom or tolerance. Extreme tolerance towards the ideals of individuals in granting citizenship or asylum has caused Britain to be gravely endangered by Islamic fundamentalists who have gained a foothold in that country (see article by Al Rashed, 2005). An intermediate level of political freedom can then be considered least favourable

for the spread of terrorism. Such analytical conclusions are supported by Alberto Abadie's (2004) work.

- Perceived racial/linguistic/religious discrimination: Good examples of these are the *Khalistan* movement in Punjab in India in the 1980s and Tamil terrorism in Sri Lanka.
- Social, ethnic and political heterogeneity may also be major causes of terrorism not just because of discrimination but because different groups think differently. Thus, countries like England and U.S.A might be more prone to terrorism than other countries such as Hungary.
- Revenge for colonialism or interference in one's domestic affairs: The recent episodes of terrorism in the U.K. are being perceived in some quarters as revenge for the American/English occupation of Iraq and Afghanistan. In his recent book Pape (2005) points out that suicide terrorism is always associated with the occupation of one country by another power of a different religion.
- Economic or political dissatisfaction, weak governments
- The cultural threat of globalization: The Al – Qaeda views Western culture as a threat to the conservativeness of Islamic culture and religion. By its own admission this is one of the reasons for its terrorist activity.
- Disorientation caused by modernization: Primitive cultures can feel threatened by modernization. The working class has often been opposed to technological progress. During the Industrial revolution the Luddites (led by their mythical leader Ned Ludd) destroyed many wool and cotton mills in the belief that mechanisation would threaten their jobs (see Wikipedia, the encyclopaedia for more details). The Al- Qaeda likewise is also opposed to the technological modernisation brought about by the West.
- Weak globalisers – Globalization has highlighted the lack of competitiveness of these countries causing their income and employment to fall. The Middle East, which has been responsible for much of the recent rise in global terrorism, has seen an increase in unemployment and stagnation or decline in incomes. An extreme case is Saudi Arabia. In 2001 the unemployment rate in Saudi Arabia was a mind boggling 15% and per capita income had fallen from \$28,000 in the eighties to \$ 8000 around 2000 (see Pope et al, 2001 and Reed, 2001).
- Political transition: Often the confusion caused by political transition might provide potential/existing terrorists a chance to assert themselves.
- Lack of arms control: In general terrorists use unlicensed or smuggled arms. Strict checks on licensing and smuggling might act as barriers to terrorist activity.
- The dominance of capitalism and its marked contrast to other ideologies such as socialism and Islam (see Lacy, 2004) is often the cause of terrorism. For example, the capitalist system is based on the profit motive while the Islamic ideology rules out lending money for interest.

Facilitating Factors

- Totalism - Totalism refers to the capacity to see oneself as “completely good” and another side as “completely evil.”(see Barrie-Anthony for a discussion of totalism). In the case of terrorism, totalism has to apply to ethnic or religious groups. Totalism in this case emerges from the generalization of personal experiences to the level of ethnic or religious groups (eg. Hitler in the case of Jews).
- Unemployment among youth, an age group characterized by immense energy and malleable/ unformed ideals, might be the ideal fodder required for a terrorist movement. Demographic changes, which lead to the predominance of this age group, might act as a positive contributing factor for terrorism, particularly in the absence of suitable employment policies. This is especially true for Middle Eastern countries.
- Mystical Manipulation – Mystical manipulation refers to the distortion of religious teachings to support the terrorist cause. Again the powerful personality of a leader enhances the effect of mystical manipulation. Mystical manipulation is necessary to generate terrorism when the grievances of the terrorists are not genuine.
- Lack of communication – This might be an important factor for the spread of terrorism. When there are linguistic or physical barriers between two groups of people, such barriers can be used by a powerful leader to spread misinformation about the other group. Acts of violence when accompanied by absence of communication further distort the images of opposing groups in each other’s minds.
- Poverty, ignorance and unemployment: Even when they are not precipitating factors these can act as catalysts for terrorism. The hopelessness that they generate can be taken advantage of by a powerful leader to project himself as the Messiah and call for unquestioning obedience in the spread of the terrorist movement.
- Terrorism and terrorists have been rewarded; dialogue has been not. At least three terrorist leaders have been awarded the Nobel Peace Prize. The previous success of terrorism does encourage new terrorist activity (see Dershowitz, 2002).
- Modern media such as the internet, telephones and fax play a vital role in unifying widely dispersed youth. There is consequently a great reduction in the labour costs associated with terrorism. Martha Crenshaw (2005) emphasizes the role of globalizing technologies in spreading terrorism. Information technology has reduced the cost of coordinating terrorism and increased the cost of tracing the source of such coordination and organization (Krug and Reinmoller, 2003)
- Counterproductive retaliation against the community to which the terrorists belong: The U.S. bombings of Iraq and Afghanistan have reportedly not gone down well with the local population there. Such retaliatory attacks, which hurt the general civilian population, only serve to swell the ranks of terrorists.
- High inequality in education status (highly educated leaders followed by uneducated illiterate followers): Such inequality in educational status helps leaders to manipulate their followers and command blind obedience. Poor educational status of women might also be a contributing factor. Educated women have a sobering and soothing effect, reduce violence, strengthen civil

society and reduce birth rates. The last phenomenon might reduce the input of energy that youth provide to terrorist movements.

Table 1: Comparison among China, Saudi Arabia and UAE

		Per capita Income (2000\$ PPP)	Female Literacy	Male Literacy	Overall Literacy	Female youth Literacy	Male Youth Literacy
China	1975	594.91	45.59	73.34	59.86	78.30	93.92
	1998	3372.33	76.14	91.20	83.84	96.01	98.42
Saudi Arabia	1975	21133.53	23.83	57.12	41.71	48.06	80.03
	1998	12495.56	63.91	81.49	74.19	88.40	94.37
UAE	1975	46698.27	47.17	63.54	59.64	72.05	72.43
	1998	19937.65	77.27	73.98	75.00	93.40	86.31

Consider the comparison of UAE and Saudi Arabia (major sources of terror) with China. In 1975 China with a per capita income of around 1/35th of Saudi Arabia and 1/60th of UAE had an overall literacy rate which was eighteen percentage points higher than Saudi Arabia and slightly higher than the UAE. In terms of the female literacy rate, China and UAE were almost on par while Saudi Arabia was twenty-two percentage points below China. The two Middle Eastern countries did make some progress in the period 1975-1998 as far as literacy is concerned. In 1998 Chinese per capita income was as much as 1/4th of the Saudi figure and around 1/6th of the UAE figure. The overall literacy rate in China was around eight percentage points higher than both the countries. Female literacy in China and UAE were comparable and around thirteen percentage points higher than UAE. The above discussion shows that these middle-eastern countries have overall and female literacy rates which are considerably lower than what one would expect at their level of affluence.

- The increasing movement of money and people between national boundaries caused by globalization has meant that movement of money and people across borders to facilitate cross-border terrorism has also increased.
- Policies of appeasement: Active policies by U.S. and the rest of the west to appease resource rich countries like Saudi Arabia through schemes like Visa Express (visas could be obtained entirely through travel agents) have made the lives of terrorist groups much easier. Petrodollars have often been used to finance Presidential campaigns (See <http://www.neoperspectives.com/terrorism.htm>).

Perpetuating Factors

- Leaving a terrorist group can be very complicated. Active measures are needed to promote dissension and facilitate exit from terrorist groups.
- Totalism begetting totalism: When two groups are the subject of totalism by each other then a “vicious cycle of terrorism” results. Each negative experience by one group of the other (say an act of violence) promotes the totalistic view that it holds of the other group. This is used by this group to justify a negative/violent act towards the other group which in turn encourages the totalistic view of this group held by the other group. And so the cycle continues.

- Outright repression might perpetuate terrorism. Meeting terrorist demands halfway might be a good way to counter terrorism.

III The Mechanism

Given these causes, the mechanism that generates terrorism is quite obvious. If the necessary factor in the form of leadership and adequate finances is present (leaders such as Osama Bin Laden) then any one of the precipitating causes acting in conjunction with any one of the facilitating causes might lead to terrorism. If perpetuating causes are absent then terrorism might die down after an initial burst. However, in the presence of any one of the perpetuating factors listed here the nation might be caught in a vicious cycle of terrorist activity.

IV Conclusions and Directions for Research

This paper classifies variables causing terrorism and helps to disentangle the mechanics of terrorist activities. It also explains some results in the academic literature which have confounded us till now. For example, Krueger and Maleckova (2002) show through their econometric study that poverty and unemployment is not a significant determinant of terrorism. However, given the framework here, it is possible that poverty and unemployment often acts as a facilitating factor in the spread of terrorism. Without the necessary emergence of a leader, adequate finances and a precipitating factor it might not lead to terrorism.

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Essay II Sultans of Terror

I Introduction

The financial side of terrorism has often been ignored. Recent studies show that it is extremely important. Loretta Napoleoni (2005) estimates that the terrorist economy is of the order of \$ 1.3 trillion. Victor Comras (2005) reveals that Saudi nationals have pumped \$ 75 billion into the Muslim World League, practically a sister organisation of Al –Qaeda, in the last four decades. Between the September 11, 2001 terrorist attacks and December 2003, U.S. officials froze \$ 138 million in terrorist assets. \$ 75 million of these belonged to the extremely active Al – Qaeda or Taliban. Comras (2005) also discusses the way in which such money is raised- legal business covers, charities, drug trade etc.

Given that the financial side of terrorism is important, this paper tries to construct a model which incorporates the financial side and relates it to per capita income. Implications for the financial side of terrorism are drawn. Section II contains a model where technology is given but capital stock depends on finances. In Section III the model is more sophisticated as technology is assumed to be variable.

II Model with fixed technology

Let us first consider a simple model for the production of terrorism. There are only two factors of production – K (capital) and L (active followers). L is an inverse function of per capita income, y . The contribution of each active follower is an increasing function of y . Total contributions are used to finance K and Y, the personal income and official trappings of the terrorist leader. The allocation between these two expenditure heads is done by the terrorist leader himself. Y is over and above his subsistence which he finances by other means. The utility of the terrorist leader is additive in terror produced and his personal income.

The terrorist leader's maximisation problem is as follows:

$$\underset{K}{\text{Max}} T(K, L(y)) - p(T)V + Y \quad \text{s.t.} \quad K + Y = \delta(y)L(y)$$

where T is the total terrorism produced and is a function of two essential inputs, L and K. $\delta(y)$ is the contribution per active follower and is an increasing function of per capita income, the logic being that a richer follower can contribute more. We denote the probability of the terrorist leader being caught as $p(T)$ which is an increasing function of terrorism produced...V is the terrorist leader's valuation of his own life .

The solution to this problem may be stated as follows:

$$\begin{aligned} T_1[1 - p'V][\delta(y)L(y) - K] &= 0; \quad \delta(y)L(y) - K \geq 0 \\ \text{If } T_1[1 - p'V] > 0 &\text{ then } \delta(y)L(y) - K = 0 \text{ and vice-versa} \\ \text{If } T_1[1 - p'V] < 0 &\text{ then } K = 0 \end{aligned}$$

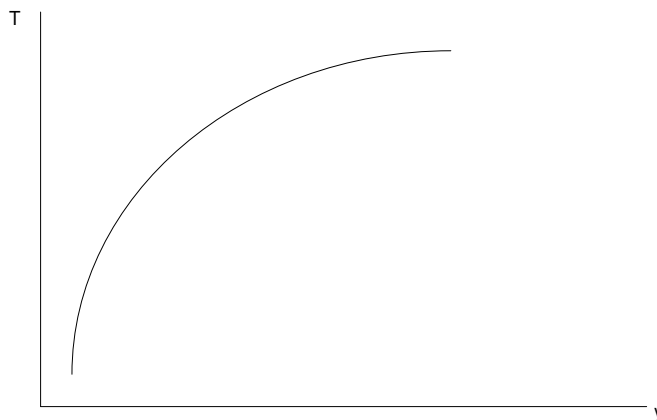
It is important to emphasize the conditions under which contributions would increase/decrease with an increase in per capita income. The latter would be the case when low income is a precipitating as well as a facilitating factor leading to terrorism (i.e. direct cause as well as catalyst) whereas the former case would occur when low income is a facilitating factor only. Thus, the contention made in this paper is that

low income is always a facilitating factor because it leads to hopelessness which is used by terrorist leaders to build their following (see Mitra, 2005). The main cause behind terrorist acts (or the precipitating cause) could be non-economic in nature such as the lack of a homeland or religious persecution. We refer to this as the case of a “non-economic precipitating cause”. On the other hand, the main reason for the terrorist movement could be the poor economic condition of the masses. In that case low income is both a facilitating as well as a precipitating cause. This is referred as the case of an “economic precipitating cause”. It would be logical to assume that a leader’s followers would pull out of the movement quite rapidly with an increase in income in case the precipitating cause is economic but slowly if it is non-economic. Thus, aggregate contributions should decline in the former case but increase in the latter case.

Initially we consider the following cases:

- A. T_1 and p' are both constant: If $T_1[1 - p'V] > 0$ in equilibrium then the terrorist leader spends the entire contributions on capital. If we assume that V is unchanged with per capita income and that total contributions increase with per capita income (non-economic precipitating cause) then we should expect the level of capital to increase with per capita income. Given that our assumption of increasing aggregate contributions is linked to the slow decline of the number of followers with economic growth, it is very likely that terrorism will increase with per capita income (see Figure 1).

Figure1: Terrorism as a function of income – positive initial incidence of terrorism, constant marginal product of capital, invariant valuation of life and non-economic cause



However, if the precipitating factor is economic in nature then contributions decline with increase in income. The financing constraint continues to be binding as income increases and K declines. Therefore, terrorism also declines with increase in income. For the same assumptions if $T_1[1 - p'V] < 0$ then the terrorist leader will not invest in K and no terrorism will be produced. The picture will be unchanged with increases in income.

B. T_1 is declining in K and p' is constant: If $1 - p'V > 0$ then two possibilities arise in equilibrium – a) $T_1 = 0$ (interior solution) and b) $T_1 > 0$ (corner solution). In case of a) K should be unchanged initially as y increases if the precipitating cause of terrorism is economic. However, at a certain level of income the financing constraint becomes binding and therefore any further increase in income is associated with a decline in K . Given that L always declines with income terrorism will monotonically decline with income. However, if a) is associated with a non-economic precipitating cause then contributions increase with income. As a) implies an interior solution the level of K does not change and with a decline in L terrorism also declines.

If sub-case b) mentioned above holds, then an economic precipitating cause should imply that the equilibrium value of K (a corner solution) should decline with an increase in income. With L declining terrorism too should decline. With a non – economic precipitating cause contributions increase and K increases. As L declines slowly there is a very good chance of terrorism increasing with a rise in income. This continues till we have an interior solution for K . Thereafter K is constant and as L declines terrorism also declines. Thus, we have an inverted U shaped trajectory for terrorism as a function of per capita income.

Let us now introduce more realism in our assumptions by continuing to have T as a strictly concave function of capital and assuming that the terrorist leader's valuation of his life is a function of the total financial contributions made by his followers as the latter indicates his money power. We still assume p' to be a constant. Let us assume initially that $1 - p'V > 0$ in equilibrium and an interior solution to K exists (see Figures 2 and 2A) i.e. $T_1 = 0$ in equilibrium. If contributions increase with an increase in per capita income (non – economic precipitating cause) then we should continue initially to have an interior solution as the “value of marginal returns to terrorism” curve (which is algebraically given by $(1 - p'V)T_1$ and denoted by VMRT) swivels inwards but maintains the same intercept on the x-axis as the terrorist leader's valuation of his own life increases. Thus the level of K remains the same at K_0 (see Figure 2). With a decline in the number of followers the incidence of terrorism will decline with per capita income (see Figure 2A). This will continue till $1 - p'V$ equals zero. For any further increase in y , K will equal zero and there will be no terrorism. However, if the value of contributions decreases with per capita income (economic precipitating cause), the decrease in the value of the terrorist leader's life will cause the VMRT to swivel outwards with its x intercept unchanged (see Figure 3). Thus, K remains the same but there is a decline in L . The incidence of terrorism declines. However, sooner or later the constraint imposed by contributions should kick in. From then on the level of capital should decline with increases in per capita income. Therefore, the decline in terrorism is even faster, thereafter (Figure 3A).

Now consider $1 - p'V < 0$ initially, with assumptions remaining the same. Initially there will be no production of terrorism. However, if contributions decline with increase in per capita income (a phenomenon indicative of a economic precipitating cause of terrorism) a positive marginal utility from terrorism will eventually emerge so that the equilibrium value of K and therefore T suddenly jumps to a positive level. If this equilibrium value of K is an interior solution the level of K remains the same for a further increase in y and therefore terrorism declines with increasing per capita

income. However, after a certain level of income is reached the contribution constraint becomes binding. Thus, both capital and labour levels decrease beyond this level of income and so does terrorism. Figure 4 illustrates the path of terrorism as a function of income in the case of an economic cause and an interior solution as the first positive equilibrium value of K . It is easy to see that if the first positive value of K is a corner solution then terrorism will always be declining in income. If the cause of terrorism is non-economic then contributions increase with income. Valuation of life increases and K and T continue to be zero. The table given below summarizes the cases for variable valuation of life

Figure 2: Capital in Terrorism as a function of income – positive initial terrorism, variable valuation of life and non-economic cause

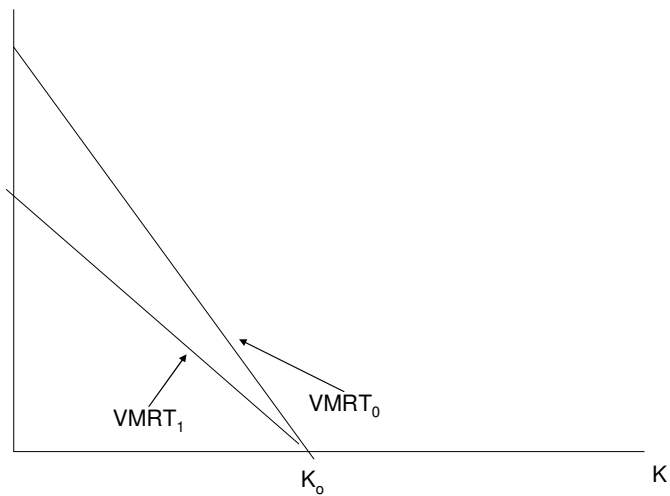


Figure 2A: Terrorism associated with Fig 2 as a function of income

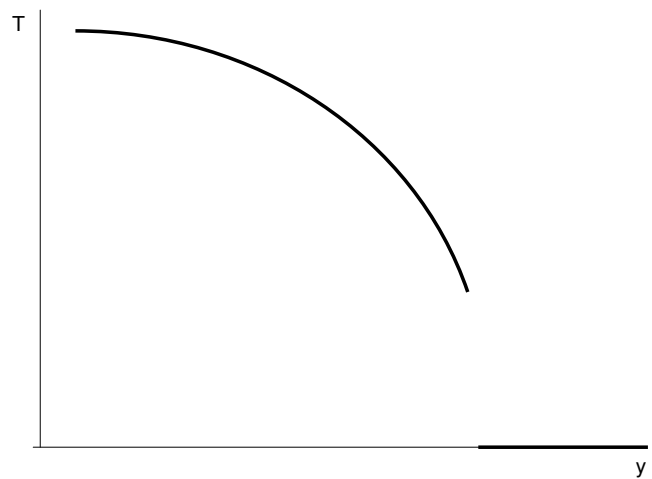


Figure 3: Capital in Terrorism – positive initial terrorism variable valuation of life and economic precipitating cause .

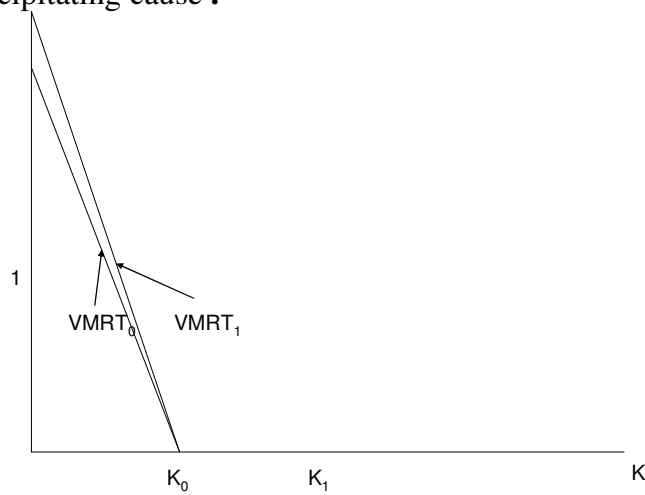


Figure 4 : Terrorism as a function of income – no initial terrorism, variable valuation of life, economic precipitating cause

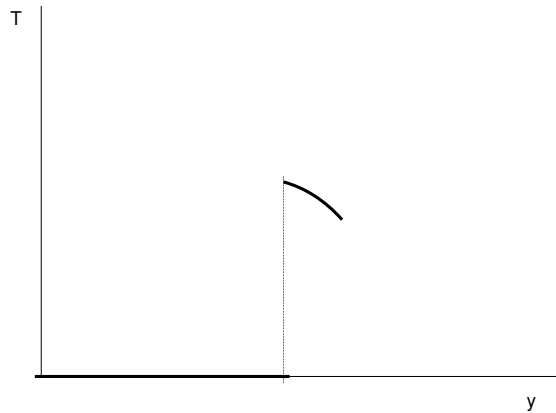


Table 1: Description of relationship of terrorism with income under variable valuation of life

Cause of terrorism	Initial positive marginal utility from terrorism	Initial negative marginal utility from terrorism
Economic Causes	Declining	Zero initially, jumps to positive value and then declines.
Non –economic cause	Declining and then jumps to zero	No terrorism

Thus, we can conclude that if terrorism exists initially (and therefore marginal utility of terrorism to the terrorist leader is positive) then it will always decline with increase in income. The story becomes more interesting when there is no terrorism initially and the potential precipitating cause is economic. In this case an increase in per capita income might lead to a jump to a positive level in an intermediate phase but declining incidence of terrorism later.

III Terrorism with variable technology and capital

Let us consider the terrorist leader to be a producer of terror. He uses capital, technology and labour to produce terrorism. Technology is indexed by t where a higher t denotes a higher quality of technology. However technology with a higher t costs more. The production function for terror is given by

$$T = T(tK, L)$$

where T is the amount of terror produced and the other independent variables have the usual notation. The marginal product of tK is assumed to be positive and constant. L in this case cannot be taken to be a choice variable of the system. It consists of the people who actively volunteer to assist the terrorist leader in the production of terror. Among other things, the level of L depends negatively on the level of income (as leaders can exploit misery and hopelessness) as well as positively on the personal magnetism of the terrorist leader. The marginal product of L is positive and either declining or constant.

The index of technology, t also determines the probability of the terrorist leader being caught. Let the cost of such a capture be V . The terrorist leader then maximises

$$T(tk, L) - p(t, T)V \quad \text{s.t.} \quad P_t t + P_k K = \delta(y)L(y)$$

where $p(t, T)$ is the probability of being caught and is an inverse function of t and a positive function of T . $\delta(y)$ is the per capita contribution made by each follower and is increasing in y . It is assumed that the first derivatives of p with respect to t and T are constant for all values p less than one. The notation P with the appropriate subscript denotes the factor prices.

The constraint gives K in terms of t as follows:

$$K = \frac{\delta(y)L(y) - P_t t}{P_k} \quad \dots(1)$$

Note that K has to be positive for positive production of terror. The terrorist leader's maximisation problem is given by

$$\text{Max}_t \quad T\left(\frac{\delta(y)L(y)t - P_t t^2}{P_k}, L(y)\right) - p(t, T)V$$

The first order condition is given by

$$[1 - Vp_2]T_1 \left[\frac{\delta(y)L(y)}{P_k} - \frac{2tP_t}{P_k} \right] - Vp_1 = 0$$

Given our assumptions about the first derivatives of p and T , the term $[1 - Vp_2]$ is positive by second order conditions. Further, it permits us to write

$$\left[\frac{\delta(y)L(y)}{P_k} - \frac{2tP_t}{P_k} \right] = B \quad \text{where } B \text{ is a negative constant.}$$

Denoting $\delta(y)L(y)$ by A we have

$$t^* = \frac{A - BP_k}{2P_t}$$

where t^* is the optimal value of t . Given input prices, the value of t^* depends upon y . Given the nature of $\delta(y)$ and $L(y)$, it follows that a rise in per capita income can possibly result in both an increase or decrease in A and therefore in t . Substituting in (1) we get

$$K^* = B + \frac{P_t^*}{P_K}$$

This implies that if A is increasing in y (terrorism is due to non-economic precipitating causes) then t^* and therefore, K^* are also increasing in y. As L is not very sensitive to increases in y there is a good chance of the production of terror increasing via the production function. Similarly, given economic causes of terrorism, t and K^* and therefore, terrorism are declining in y.

IV Conclusions and Directions for Research

This paper highlights the importance of the financial side in determining the level of terrorism. An increase in financial contributions affects the level of terrorism in two ways – it increases the capacity to carry out terrorist activities but at the same time make the terrorist leader’s life more valuable. Therefore, it is possible that a terrorist leader who motivates his followers by citing economic reasons for discontent, might decide to indulge in terrorism only after a certain per capita income level has been exceeded. This is because an increase in per capita income in this case leads to a decline in contributions by followers and a consequent decrease in the value of the life of the terrorist leader. Note that a exactly the opposite is true for a non-economic precipitating cause.

This paper also considers the case in which the terrorist leader can not only choose the level of capital but also the technology. If contributions increase with per capita income (a phenomenon which is likely to be associated with a cause of terrorism which is primarily non-economic in nature) the terrorist leader actually finds it optimal to invest in better technology and negate the risks caused by increase in production of terrorism through more capital. This enables him to climb to higher utility levels. Thus, terrorism linked to non-economic precipitating causes (and not poverty) should increase with per capita income up to a point. If the causes of terrorism are economic exactly the opposite result holds.

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Essay III

From Socio-Economic Imbalance to Terrorism – The Case of North Eastern India

I Introduction

There is a debate about the relationship between development and terrorism in North-Eastern India and pertains to the direction of causation i.e. whether terrorism and insurgent activity has led to the poor economic development in this region or whether it is the latter which has caused the former. Statistical theory suggests that the correlation or association might also be due to the presence of a third factor (or set of factors) which acts as a cause for both the above mentioned phenomena. In this paper we try to resolve the mentioned debate and explore the possibility of a third factor leading to the association between terrorist or insurgent activity and the state of economic development.

The North East (the term refers to the seven states of Arunachal, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura) is one of the most important yet neglected regions of India. It is important because long Indian borders with adjoining countries such as China and Bangladesh demarcate these states. Thus, these states could serve as engines of trade as well as carriers of disruptive influences. These states are neglected because of their distance from the Centre and their harsh geographical terrain. This paper compares the performance of the North-East with the Indian mean performance in various indicators of development, links this performance to the mentioned debate and comes up with some policy prescriptions for alleviating the problems of poor economic development as well as terrorism.

II Development Indicators

Table 1 presents the per capita income of various North –Eastern states as a proportion of the national per capita income (see Appendix for actual data on per capita incomes). Only two states, Nagaland and Arunachal have ever enjoyed more than the mean level of prosperity. Currently only the former state enjoys more than the mean level of prosperity. The percentage shown in this Table has shown a monotonically declining trend for Arunachal and Assam. Thus, these states have slipped behind further and further relative to the Indian mean. Manipur and Nagaland have shown a resurgence after 1999 or 2000 after slipping continuously relative to the Indian mean in 1993-99. Meghalaya has fluctuated in a narrow range between 85% and 91%. Tripura is the only success story with the figure climbing from 72% to 95.4% in the course of 1993-2001. Note that all the states except Meghalaya have shown violent dips in the mentioned proportion. These dips cannot be explained by normal random events such as abnormal precipitation, lack of sunshine etc. Further, no major earthquakes occurred in this region in the period 1993-99, which covers all the major dips in the fortunes of North-Eastern states (See www.imd.ernet.in/section/seismo/static/signif.htm for list of major earthquakes in India). With the exception of Assam these states are also not susceptible to major floods. Further, note that the only major dip in this proportion for Assam occurred in 1994-95, a year in which there was no major flood in the state (see Sharma and Kaushik). It is therefore very likely that these sharp dips were caused by serious disruptions of life through terrorism or insurgent activity

Table 1: Per capita income of North-East States as a proportion of National per capita income

Year	Manipur	Meghalaya	Nagaland	Assam	Arunachal	Tripura
New series (Base : 1993-94)						
1993-94	76.0%	89.6%	118.7%	74.3%	113.6%	72.0%
1994-95	68.8%	86.0%	116.6%	71.1%	103.4%	66.5%
1995-96	66.1%	88.8%	113.6%	67.9%	110.2%	67.2%
1996-97	66.8%	84.4%	109.7%	64.3%	95.4%	69.3%
1997-98	69.5%	85.3%	111.3%	62.7%	93.4%	73.9%
1998-99	66.3%	88.3%	94.5%	58.7%	90.3%	76.6%
1999-00	70.4%	89.4%	86.6%	57.4%	88.3%	79.1%
2000-01	66.4%	91.5%	111.3%	57.7%	88.6%	91.2%
2001-02	69.2%	88.5%	108.6%	56.4%	80.5%	95.4%
2002-03	73.1%	88.3%		56.5%	81.3%	
2003-04	74.2%			55.3%		

Source: Derived from www.indiastat.com

As far as growth performance (in terms of per capita income) is concerned these states have lagged behind the rest of India. In the first period, 1994-1998, only Tripura with 6.06% showed a higher arithmetic average of annual rate of growth than India as a whole (see Table 2).

Table 2: Growth Rates of Per capita Income in North-Eastern States

	Arithmetic mean (A.M) of annual growth rate (1994-98)	State A.M./Indian A.M.	Arithmetic mean of annual growth rate (1999-2001)	State A.M./Indian A.M.
Arunachal Pradesh	0.58	0.13	-1.57	-0.42
Assam	-0.16	-0.03	2.27	0.61
Manipur	1.52	0.33	2.70	0.72
Meghalaya	4.38	0.94	3.77	1.01
Nagaland	0.14	0.03	9.67	2.59
Tripura	6.06	1.31	11.57	3.10
India	4.64		3.73	

Source: www.indiastat.com

Four out of the 6 states mentioned here had rates below 2% in this period, far less than the Indian average of 4.64%. The picture was slightly better in the second period, 1999-2001, with three states doing better than India as a whole – Tripura (11.57%), Nagaland (9.67%) and Meghalaya (3.77%). However, the other listed states continued to exhibit a growth performance far worse than the national average. To summarize, even though the prosperity of the North East has been less than the level represented by the Indian mean the growth performance relative to the Indian mean was poor with the exception of Tripura in the first period. In the second period Meghalaya and Nagaland also joined the ranks of good performers in growth

Is the low level of growth and per capita income due to the poor level and growth of human capital?. Apparently that is not the case. Only one state, Arunachal Pradesh, is significantly below the national level of literacy of 66%, whereas Tripura and Mizoram are significantly above the national average (see Table 3).

Table 3: Literacy in North Eastern States

States/Uts	Year	Literacy Percentage			State literacy as a proportion of Indian literacy		
		Male	Female	Total	Male	Female	Total
Arunachal Pradesh	1961	53.37	24.06	47.93	1.32	1.57	1.69
	1971	20.63	4.43	13.26	0.45	0.20	0.38
	1981	33.36	13.39	24.24	0.62	0.47	0.59
	1991	51.45	29.69	41.59	0.80	0.76	0.80
	2001	64.07	44.24	54.74	0.84	0.82	0.84
Nagaland	1961	27.21	13.04	20.43	0.67	0.85	0.72
	1971	39.65	21.56	31.32	0.86	0.98	0.91
	1981	56.2	38.77	48.2	1.05	1.36	1.16
	1991	67.62	54.75	61.65	1.05	1.39	1.18
	2001	71.77	61.92	67.11	0.95	1.14	1.03
Manipur	1961	-	-	-			
	1971	53.7	22.87	38.47	1.17	1.04	1.12
	1981	61.05	33.39	47.45	1.14	1.17	1.15
	1991	71.63	47.6	59.89	1.12	1.21	1.15
	2001	77.87	59.7	68.87	1.03	1.10	1.05
Mizoram	1961	-	-	-			
	1971	-	-	-			
	1981	74.32	64.53	69.66	1.39	2.27	1.68
	1991	85.61	78.6	82.27	1.33	2.00	1.58
	2001	90.69	86.13	88.49	1.20	1.59	1.35
Tripura	1961	-	-	-			
	1971	46.84	24.84	36.19	1.02	1.13	1.05
	1981	58.35	36.28	47.64	1.09	1.27	1.15
	1991	70.58	49.65	60.44	1.10	1.26	1.16
	2001	81.47	65.41	73.66	1.07	1.21	1.13
Meghalaya	1961	-	-	-			
	1971	40.44	29.31	35.06	0.88	1.33	1.02
	1981	44.26	35.41	39.95	0.83	1.24	0.96
	1991	53.12	44.85	49.1	0.83	1.14	0.94
	2001	66.14	60.41	63.31	0.87	1.12	0.97
Assam	1961	44.28	19.63	32.98	1.10	1.28	1.17
	1971	44.31	23.52	34.6	0.96	1.07	1.00
	1981	-	-	-			
	1991	61.87	43.03	52.89	0.96	1.10	1.01
	2001	71.93	56.03	64.28	0.95	1.03	0.98

		Change in state literacy in percentage points			Change in state literacy/Change in Indian literacy		
States/Uts	Year	Male	Female	Total	Male	Female	Total
Arunachal Pradesh	1961						
	1971	-32.74	-19.63	-34.67	-5.89	-2.96	-5.64
	1981	12.73	8.96	10.98	1.70	1.38	1.57
	1991	18.09	16.3	17.35	1.69	1.51	1.61
	2001	12.62	14.55	13.15	1.08	0.98	1.00
Nagaland	1961						
	1971	12.44	8.52	10.89	2.24	1.28	1.77
	1981	16.55	17.21	16.88	2.20	2.65	2.42
	1991	11.42	15.98	13.45	1.07	1.48	1.25
	2001	4.15	7.17	5.46	0.35	0.48	0.41
Manipur	1961						
	1971						
	1981	7.35	10.52	8.98	0.98	1.62	1.29
	1991	10.58	14.21	12.44	0.99	1.31	1.15
	2001	6.24	12.1	8.98	0.53	0.81	0.68
Mizoram	1961						
	1971						
	1981						
	1991	11.29	14.07	12.61	1.06	1.30	1.17
	2001	5.08	7.53	6.22	0.43	0.51	0.47
Tripura	1961						
	1971						
	1981	11.51	11.44	11.45	1.53	1.76	1.64
	1991	12.23	13.37	12.8	1.15	1.24	1.19
	2001	10.89	15.76	13.22	0.93	1.06	1.00
Meghalaya	1961						
	1971						
	1981	3.82	6.1	4.89	0.51	0.94	0.70
	1991	8.86	9.44	9.15	0.83	0.87	0.85
	2001	13.02	15.56	14.21	1.11	1.05	1.08
Assam	1961						
	1971	0.03	3.89	1.62	0.01	0.59	0.26
	1981						
	1991						
	2001	10.06	13	11.39	0.86	0.87	0.87

Source:www.indiastat.com

As Tripura has also grown very fast in terms of per capita income in the recent past it seems that human capital might be an important determining factor of economic growth in this region i.e human capital constraints are binding.

Is the relative poverty of the North Eastern States explained by lack of infrastructure? Five of the States –Tripura, Manipur, Assam, Nagaland and Arunachal Pradesh are in the bottom six in terms of per capita electricity consumption see (see Table 4 below). The economic leader among these laggard states (Tripura) has a per capita annual consumption of 70.1kwh which is 32% of the national average whereas Arunachal

Pradesh (in last spot among the laggard five) has a level of consumption which is only 18% of the National average. The non-laggard states are Meghalaya and Mizoram and consume a more respectable 227 and 138 kwh per capita respectively , although the latter figure is still below the national average. It is interesting to note that Meghalaya has kept pace with the rest of the nation in terms of growth.

Table 4: Total electricity consumption per capita for states and UTs (2002-03)s

State	kwh
Punjab	570.69
Delhi	464.85
Tamil Nadu	416.72
Gujarat	396.31
Maharashtra	378.33
Himachal Pradesh	341.6
Western Region	313.28
Lakshadweep	303.83
Southern Region	291.96
Haryana	282.04
Andaman & Nicobar Islands	253.28
Kerala	251.61
Jharkhand	245.14
Andhra Pradesh	234.4
Karnataka	231.3
Jammu & Kashmir	228.37
Meghalaya	226.63
India	224.19
Uttaranchal	222
Northern Region	195.75
West Bengal	187.71
Chhatisgarh	170.45
Orissa	165.39
Rajasthan	154.38
Madhya Pradesh	152.73
Mizoram	137.54
Eastern Region	132.53
Uttar Pradesh	99.65
Sikkim	99.1
Tripura	70.1
Assam	58.91
Manipur	50.9
Nagaland	50.6
Arunachal Pradesh	41.9
Bihar	28.44

Source: www.indiastat.com

The picture is similar for domestic consumption of electricity i.e. aggregate household consumption of electricity. One cannot help noticing the gap between Punjab at 193 kwh and Assam at 26 kwh. Thus, an average Assamese consumes 2/15th of the amount of electricity consumed by a Punjabi. The industrial per capita consumption of power gives us an idea of the extent of industrialization in the North-Eastern states. Mizoram, Manipur and Arunachal Pradesh are in the 1-5 kwh per annum category; Nagaland and Tripura are in the 5-15 kwh category. Assam consumes around 25 kwh. Meghalaya is the only state with industrial consumption above the national average of 108.96 kwh. We can conclude from these figures that with the exception of Meghalaya, modern industrialization has hardly made any inroads in the North – East.

As far as physical connectivity is concerned the rugged terrain of the North-east rules out certain modes of transport such as rail. The North – East has 8.3% of India’s land area but only 5% of its railways. As much as 95% of the railways in the North –East are accounted for by Assam. Thus, the other states account for precious little. Given the infeasibility of railways the North East depends on roads and airways. However, airways are hardly out of proportion to the surface area of the North –East and do not compensate for the lack of railways. It has 9 (12%) out of the 77 prominent domestic airports in India while accounting for 8.3% of its area.

One needs to note that road density of hilly regions cannot be compared to that of the plains, given the need to go around physical obstacles while building roads in mountainous terrain. Therefore, it is necessary to compare the road density in the North East with other mountainous regions in India such as Himachal Pradesh. The latter has 1010.7 kms of road per 1000 sq km of area (See Table 7). Only two North - Eastern states, Arunachal Pradesh and Assam have more (2414.1 km and 1944.3 km per 1000 sq km). The rest are far behind – Manipur with 566 is the leader and Tripura with 227.6 brings up the rear.

Table 5: Domestic Consumption of electricity per capita per annum (2002-03) for States and UTs

State	kwh
Punjab	192.59
Andaman & Nicobar Islands	155.76
Tamil Nadu	140.05
Uttaranchal	124.64
Jammu & Kashmir	123.77
Maharashtra	123.29
Mizoram	120.03
Kerala	118.53
Himachal Pradesh	113.65
Haryana	108.92
Dadra & Nagar Haveli	108.7
Andhra Pradesh	92.25
Gujarat	86.61
Karnataka	78.96
Meghalaya	78.43
Orissa	66.65
West Bengal	63.53
Sikkim	57.5
Madhya Pradesh	52.91
Rajasthan	51.84
Chhatisgarh	51.09
Uttar Pradesh	50.44
Tripura	43.63
Manipur	38.55
Nagaland	34.67
Arunachal Pradesh	31
Assam	25.99
Jharkhand	19.49

Bihar	12.96
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Source: www.indiastat.com

Table 6: Industrial consumption per capita for states and UTs (2002-03)

State	kwh
Jharkhand	195.01
Himachal Pradesh	194.19
Maharashtra	185.98
Western Region	171.77
Southern Region	137.34
Haryana	128.12
Delhi	123.51
Karnataka	120.79
Meghalaya	119.99
India	108.96
Andhra Pradesh	98.55
Kerala	92.37
West Bengal	88.68
Chhatisgarh	85.94
Rajasthan	80.87
Northern Region	80.8
Orissa	78.09
Eastern Region	70.02
Madhya Pradesh	67.13
Jammu & Kashmir	62.83
Uttaranchal	62.69
Uttar Pradesh	32.75
North Eastern Region	25.75
Assam	23.77
Sikkim	15.36
Tripura	14.72
Andaman & Nicobar Islands	12.3
Nagaland	9.68
Bihar	8.84
Lakshadweep	7.33
Manipur	4.86
Mizoram	1.75
Arunachal Pradesh	1.49

Source: www.indiastat.com

Table 7: Road Connectivity in North –Eastern States

States/Uts	Road length per 1000 square kilometre of total area				Village road length per 1000 km of rural area	Road length per 1000 square kilometre of total area
	Total	Natio nal	State	Major district		
Andhra Pradesh	3.4	37.1	97.0	476.1	3042.07	3388.9
Arunachal Pradesh	2.4	72.7	62.7	1205.3	1197.95	2414.1
Assam	1.9	10.4	26.6	1907.3		1944.3
Bihar	1.5	21.2	26.0	247.5	1236.9	1511.4
Goa	1.3	38.1	13.0	531.1	765.2	1336.7
Gujarat	1.2	22.3	24.0	829.6	312.6	1185.7
Haryana	1.1	11.8	108.0	973.7		1093.4
Himachal Pradesh	1.0	28.9	32.4	392.2	585.0	1010.7
Karnataka	1.0	36.2	23.1	336.8	568.7	958.7
Kerala	0.9	30.4	43.0	849.0		922.4
M.P	0.7	18.6	52.2	565.8	24.9	660.9
Maharashtra	0.6	16.7	32.1	438.3	110.6	595.5
Manipur	0.6	22.0	38.5	505.5		566.0
Meghalaya	0.6	14.7	31.9	512.9		559.5
Mizoram	0.5	30.8	70.9	444.5		546.2
Nagaland	0.5	42.7	50.1	297.3	97.9	487.4
Orissa	0.5	21.3	66.1	373.1	10.1	470.6
Punjab	0.4	13.4	29.4	210.6	131.3	382.8
Rajasthan	0.4	12.6	101.0	263.0		376.5
Tamil Nadu	0.3	32.0	44.2	241.5	27.1	344.6
Tripura	0.2	44.0	16.8	166.9		227.6
Uttar Pradesh	0.2	4.7		145.3		205.6
West Bengal		19.0				19.0

Source: Derived from data in www.indiastat.com

However, it is mobile connectivity which is especially poor in the North –East. The North East because of its mountainous terrain is difficult to govern. This is also the case because people in the hills may be forever on the move. This implies that mobile connectivity has to be good for effective governance. But exactly the opposite is true. In 2003 there were 214 mobile subscribers per million people in the North East. The average figure for India was 12159, 60 times the North Eastern figure. Quite obviously the North Eastern figure needs to be improved for better communication and effective governance. Land line connectivity is better than mobile connectivity but the use of landlines is constrained by their fixity. However, even in 2005 the teledensity figures for Assam, North –East I and North East II were 3.04, 4.65 and 3.97, much lower than the All India figure of 9.37 (see Table 8).

Table 8: State/Circle-wise Tele-Density in Rural and Urban Areas in the North East

State/Circle	2004-05			2005-06 (as on 30.6.2005)		
	Urban	Rural	Overall	Urban	Rural	Overall
Assam	16.75	0.63	2.79	18.22	0.67	3.04
North East-I	14.63	1.22	4.33	15.93	1.24	4.65
North East-II	12.83	1.2	3.66	14.21	1.21	3.97
Total	26.88	1.73	8.95	28.25	1.74	9.37

Source:www.indiastat.com

A good standard of living manifests itself in good human health and human safety. Unfortunately, the North East lags behind the rest of the country on both counts. The life expectancy of Assam (the only North Eastern state with life expectancy data) is around 5.1 and 4.5 years less than the average male and female expectancy for India. AIDS is a major killer in Nagaland. In India the number of reported cases as of 2003 was 52.9 per million. Contrast that with Nagaland with 187.4 cases per million (see Table 10). Health facilities are generally below average. As far as hospital beds per million are concerned only Arunachal Pradesh (1136.5) and Mizoram (1067.1) have more than the national average of 665.2 beds per million (see Table 11). The shortfall is serious for Assam and Tripura at 473 and 446 beds per million.

Table 9: Life Expectancy at Birth by Sex in India and Assam

States/ UTs	1992-96		1993-97		1994-98		1995-99		1996-01		2001-06	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
India #	60.1	61.4	60.4	61.8	60.6	62.2	60.8	62.5	62.4	63.4	64.1	65.4
Assam	56.1	56.6	56.6	57.1	56.9	57.4	57.1	57.6	57.3	58.8	59	60.9

Source:www.indiastat.com

Table 10: Incidence of AIDS in Indian States

State/Uts	Population (2003)	Aids cases per million population
Tamil Nadu	63201	390.3
Nagaland	1830	187.4
Goa	1722	178.9
Maharashtra	93766	126.2
Gujarat	50341	70.8
Andhra Pradesh	78034	55.6
Delhi	15483	53.0
India	1043534	52.9
Mizoram	1031	49.5
Karnataka	53991	33.2
Himachal Pradesh	7120	16.0
Haryana	20670	15.1
Rajasthan	56425	14.6
Sikkim	604	13.2
Madhya Pradesh	84094	12.2
West Bengal	81990	11.3
Punjab	24236	10.2
Kerala	33036	8.1
Assam	27129	6.3
Uttar Pradesh	182329	5.9
Orissa	36749	3.5
Meghalaya	2632	3.0
Bihar	105495	1.5
Tripura	4089	1.0
Jammu & Kashmir	10509	0.2
Arunachal Pradesh	1291	0.0

Source: Population Projections for India and States 1996-2016, Registrar General, Ministry of Home Affairs, Govt. of India. Selected Socio-Economic Statistics, 2002, Central Statistical Organisation, Ministry of Statistics and Programme Implementation, Govt. of India.

Table 11: Hospital Bed facilities in Indian States

State	Beds per million (2002)	Survey date
Kerala	2990.3	1.1.2001
Gujarat	1277.4	1.1.1995
Sikkim	1192.5	1.1.2002
Arunachal Pradesh	1136.4	31.3.2002
Maharashtra	1067.1	1.1.2000
Mizoram	1029.9	31.3.2001
Himachal Pradesh	905.9	1.1.2002
Andhra Pradesh	903.9	1.1.1998
Tamil Nadu	778.0	1.1.1990
Karnataka	721.5	1.1.1998
West Bengal	682.8	1.1.2002
India	665.2	
Manipur	655.3	1.1.2001
Punjab	616.0	1.1.2002
Nagaland	543.1	31.3.2000
Meghalaya	485.9	31.3.2000
Assam	472.7	1.1.1991
Tripura	446.0	1.1.2001
Haryana	330.5	1.1.2002
Orissa	328.8	1.1.2001
Rajasthan	314.9	1.1.2002
Bihar	280.7	1.1.1992
Uttar Pradesh	265.1	1.1.1986
Madhya Pradesh	130.9	1.1.2001

Source: Derived from www.indiastat.com

The same story is repeated for hospitals. Kerala has the highest number of hospitals per million (68.4) in the country. Arunachal Pradesh and Mizoram have a little more than one-sixth the number (12 and 11 respectively). Tripura and Manipur have around one-eleventh the Indian figure at 7.2 and 6.8 per million respectively.

Table 11: Hospital facilities in Indian States

State	Hospitals per million (2002)
Kerala	64.1
Gujarat	50.9
Andhra Pradesh	40.6
Maharashtra	37.1
India	15
Himachal Pradesh	12.8
Arunachal Pradesh	12.0
Mizoram	11.0
Assam	10.0
Nagaland	9.6
Punjab	9.2
Orissa	7.5
Manipur	7.2
Tripura	6.8
Tamil Nadu	6.5
Karnataka	5.5
West Bengal	5.1
Uttar Pradesh	4.1
Haryana	3.9
Sikkim	3.4
Bihar	3.2
Meghalaya	2.7
Rajasthan	2.0
Madhya Pradesh	1.1

Source: Derived from www.indiastat.com

Quality of life is also often perceived through unemployment rates as unemployment leads to not only low income but low self esteem (Sen, 1999). Here it must be remarked that the absolute levels of unemployment rates are not very high. For example Table 12 shows that the highest rank obtained by a North-East State in terms of unemployment is 5 by Arunachal Pradesh in 1993-94. The unemployment rates are also not very high compared to the Indian average which remained at around 2% for the entire period and far below those of the leaders in 1983 (7.9%), 1993-94 (16.9%) and 1999-2000 (13.6%). However, note the steady upward trend in states such as Nagaland and Manipur which is probably responsible for the increasing incidence of terrorism

Table 12: Incidence of Unemployment in North-Eastern States and India
(As a Percentage of Labour Force)

States/UTs	1983	1993-94	1999-2000
	Persons	Persons	Persons
Arunachal Pradesh	-	1	0.9
Assam	2.2	5.6	4.6
Manipur	0.4	1.8	3.5
Meghalaya	1.5	0.5	0.9
Mizoram	0.4	0.8	2
Nagaland	0.3	2.4	3.5
Tripura	3.9	3.4	1.9
India	2	2	2.3

Source:www.indiastat.com

Table 13: Rankings in terms of unemployment rates

	1983	1993-94	1999-2000
Highest	1 (7.9)	1 (16.9)	1 (13.6)
Assam	13	5	4
Tripura	5	8	19
Nagaland	30	11	11
Manipur	28	18	10
Arunachal Pradesh		26	29
Mizoram	29	28	18
Meghalaya	17	31	30

Source:www.indiastat.com. Note: A rank of 1 implies highest rank.. Figures in parantheses denote unemployment rates

III Terrorism and Development

Security of life and property is a major problem in the North-East due to the high incidence of terrorism. The North-East States along with Jammu and Kashmir are marked by the highest incidence of terrorism in the country. In 2000 Tripura experienced highest number of civilian killings per lakh of population (9.52) (see Table 14). However, the good news is that this number dropped gradually and reached 1.5 in 2004. For Arunachal and Mizoram this figure has been less than one. Nagaland has risen from low (0.77) incidence to a noticeable one (2.18).

Table 14: Incidence of Terrorism in North –Eastern States and Jammu and Kashmir

Year	Civilians killed per lakh of population				Terrorist incidents per lakh of population	
	2000	2001	2003	2004	2003	2004
Jammu & Kashmir	7.66	1.23			0.013	0.009
Assam	1.60	0.19	0.67	0.68	0.032	0.017
Meghalaya	0.29		1.33	0.44	0.096	0.047
Tripura	9.52	1.04	5.06	1.45	0.039	0.031
Arunachal Pradesh	0.59	0.25	0.54	0.45	0.060	0.092
Nagaland	0.77	0.12	0.71	2.18	0.003	0.002
Mizoram	0.42				0.089	0.103
Manipur	3.69	0.19	1.84	1.75		

Source:www.indiastat.com

The causes for terrorism are diverse although these are all derived from the need for greater economic and territorial freedom. Moreover, terrorism in these parts is always associated with the poor state of economic development. While there is a certain causative relationship running from terrorism to poor economic development and vice-versa it would probably be correct to say that poor development and poor control of terrorism are both partially a result of poor infrastructure. Poor infrastructure impedes economic development. The discontent which this fans results in terrorism, which again is difficult to contain because of poor infrastructure facilities. High literacy provides people the willingness and ability to organize themselves and gives a further boost to terrorism.

Major Terrorist Groups in North-Eastern India

	Name of Organization	State(s) of Operation	Immediate Demand/Goal	Economic Cause of Terrorism
1	United Liberation Front of Assam (ULFA)	Assam	Establishing Assam as a separate country ruled by a socialist government	
2	United People's Democratic Solidarity (UPDS)	Assam	Increased rights for tribal groups and independence from Indian rule.	Economic discontent
3	National Democratic Front of Bodoland (NDFB)	Assam	Creation of an independent "Bodoland" in the area inhabited by the Bodo Tribe.	Conflict with other ethnic communities (Bengalis and other Assamese) over land rights
4	Bodo Liberation Tigers (BLF)	Assam	Creation of a Bodo State independent of Assam inside the Indian Union	Wanted significant economic aid package for North West Assam and the creation of a Bodoland Territorial Council with some autonomy
5	Adivasi Cobra Force (ACF)	Assam	Protected status for Santhals	Economic rehabilitation of Santhals affected by 1996 riots between Santhals and Bodos
6	United National Liberation Front (UNLF)	Manipur	Independent Manipur	
7	Achik National Volunteer Council (ANVC)	Meghalaya	Establishment of a separate country for the Garo Tribe of Meghalaya	
8	National Socialist Council of Nagaland -Isaac Muivah (NSCN-IM)	Nagaland	Independent country of greater Nagaland consisting of all Naga inhabited areas.	
10	National Liberation Front of Tripura (NLFT)	Tripura	Tripura as independent country	Economic and other kinds of oppression of Tripura's indigenous population
11	All Tripura Tiger Force (ATTF)	Tripura	Expulsion of all Bengali speaking immigrants who entered Tripura after 1956	Wanted exclusive rights of tribals over tribal lands, independent of the Indian Federal government

Coming to the individual states, the Nagas have always considered themselves a separate nation and some consider other Indians as foreigners (see EPW Editorial, 2004). In Meghalaya there was a steady rise in inter-ethnic tensions after 1970 because of a rise in the number of non-tribals and the competition provided them for possession of land and employment (see Lyngdoh and Gassah, 2003 for details). There was a decline in terrorism thereafter following certain favourable developments. In 1979 a Benami Transactions Prohibition Bill was enacted. This

seeks to reduce commercial transactions carried out by non-tribals in the name of tribals and therefore contributes to the economic betterment of tribals. Check posts have been established to arrest the influx of illegal immigrants at the borders of the state.

Mizoram is a good case study of how terrorism can be checked. Terrorism in Mizoram has gone down with indigeneous governance, economic betterment and the availability of local hydro-electric power and employment rights to Mizos.

The mountainous terrain of the North East makes it very difficult to administer this region. Poor physical and telecommunication connectivity does nothing to alleviate the problems caused by the hilly terrain. Compounding these problems is the fact that hill culture, as manifested through practices such as shifting cultivation, imbues life in these regions with a mobile nature (see Baruah, 2002 and Scott, 2000). It is much more difficult to administer a group of people who are on the move. Other aspects of life in these regions are also difficult to manage through conventional methods of modern governance. For the tribal, allegiance to the tribal group supersedes allegiance to the government (Easter, 2000, Baruah, 2002). Therefore, it is not surprising that state government officials belonging to local tribes might form a symbiotic relationship with terrorists.

The policy implications that emerge are the following. Physical infrastructure and mobile and fixed line telecommunication connectivity in these places has to be developed on a war footing. These shall not only make governance easier but also alleviate the causes of economic discontent by encouraging industrial activity, facilitating profitable trade both internally and with surrounding countries like Burma, China and Bangladesh, promoting free movement of labour which might facilitate a better match between demand and supply of labour and by giving an impetus to modern agriculture through the marketing of agricultural produce and the easy procurement of modern industrial inputs. The Central government also has to establish communication channels with the North –Eastern States which do not involve the State government or its officials as intermediaries (see Rammohan, 2002). This would help to bypass the stranglehold of tribal networks on state government activity.

There is some debate about whether insurgency contributes to or detracts from development. It seems that insurgency does cripple current economic activity but it does result in agreements which bring in developmental funds in to the state (See Kamarooopi, 2002, EPW for a debate). Nipping the causes for underdevelopment in the bud might be a good way of avoiding the dislocation from insurgency. Pumping in development funds into viable projects before discontent evolves into insurgency might be a good idea.

IV Conclusion

The North –East illustrates the relationship between poor economic development and the incidence of terrorism. A key finding of the paper is that there is an intermediate factor, poor infrastructure, which tends to be a cause, at least partially, for both phenomena and is largely responsible for the positive association between the two. A high level of literacy facilitates organization of natives (into politically oriented

terrorist groups) and creates the socio-economic imbalance which evolves into terrorism.

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Appendix: Data on Per Capita Income

Year	Manipur	Meghalaya	Nagaland	Assam	Arunachal	Tripura	All-India per capita NNP
New series (Base : 1993-94)							
1993-94	5841	6894	9129	5715	8733	5534	7690
1994-95	5553	6941	9410	5737	8342	5364	8070
1995-96	5610	7537	9646	5760	9352	5707	8489
1996-97	6016	7605	9880	5793	8590	6239	9007
1997-98	6428	7883	10287	5796	8634	6828	9244
1998-99	6395	8517	9118	5664	8712	7396	9650
1999-00	7090	9003	8726	5785	8890	7967	10071
2000-01	6845	9427	11473	5943	9135	9397	10308
2001-02	7445	9514	11674	6066	8654	10255	10754
2002-03	8048	9727	-	6221	8958	-	11013
2003-04	8751	-	-	6520	-	-	11799

Source:www.indiastat.com