THE IMPACT OF ARMS:
A STUDY OF MILITARIZATION IN THE DEVELOPING WORLD

by

© Zachary Shawn Zimmer

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ABSTRACT

The developing nations of the world spend an astoundingly high proportion of their central government budgets on military expenditures. These high levels of spending have led to a number of studies which attempt to draw the link between militarization and development but with inconclusive results thus far. Conflicting views of the function and consequences of militarization may manifest itself in the complexity of the problem and the value laden ideological perspectives that the issue is apt to lend itself to. This thesis begins with an examination of these views which leads to the development of a model focusing on two different types of militarization. A cross sectional path analysis, linking these and the determinants of militarization, reveals that each has its own unique influence on development.

I- THE PROBLEM

A Starting Point

It is ironic that while the human race revels in the accomplishments of great women and men who have envisioned and fought for peace, it has, at the same time, developed such that its largest economic activity promotes its own destruction. The billions of dollars spent on the military and weapons of destruction stand in sharp contrast to both the amount spent on projects of peace and the poverty and hunger that grips much of the world today. It may be true, as David K. Whynes (1979) postulates, that every society, from the earliest of times, found the need to possess some form of institutionalized arrangement whereby it could defend itself from enemies through the use of force. It is, however, the techniques of force implemented today, so refined and advanced, so capable of mass obliteration and so costly to produce and maintain, that have led some to question its merit. Yet, as we annually award a Nobel Peace lauriet, we continue to provide the ammunition for war, improve our means of destruction and indeed, manifest an atmosphere that provides justification of award for those who seek otherwise.

Militarization, hereby defined in terms of military expenditures and arms imports, is, and always has been, connected to economic and social conditions. This century's two world wars and the concurrent scramble for colonial outposts are evidence of the extent of this

connection. Thinking even further back in history, there can be no doubt that the expansion of the British empire, which was aided by their military strength, helped fuel the industrial revolution which elevated Europe to the economic power that it became. Similarly, the subsequent loss of these colonies through independence occurred in temporal sequence with Britain's decline as an economic and military force and the rise of the United States. A war whereby territory can be acquired, a concerted effort to protect one's territory and resources, the acquisition of regional or global dominance, or any other display of force, carries with it economic and social ramifications. Yet, it is not clear whether the social and economic conditions provoked by increased militarization universally aid in the development of society. More specifically, militarization may have a positive influence on society if the military is the one institution most able to provoke societal modernization or a negative influence if the military is a mere puppet of some larger hegemonic power. A coup d'etat may benefit society if it is seen as a liberating affair, or the opposite if it is seen as a continuation of repression. And, increased militarization would have a positive effect on society if military spending in today's world is interpreted as a stimulant to growth or rather a negative effect if it is a means of diverting resources away from more productive uses.

As a starting point, then, it is necessary to recognize increasing militarization as first, a paramount concern since through its existence, and the form around which it is organized today, war and violence have become commonplace in much of the developing world

despite surmountable costs of maintaining a competitive military establishment, and second, a socioeconomic determinant and an influencing factor to the kind of world we live in. Having said this, it is the billions of dollars being spent on militarization, and particularly in developing nations, that clearly establishes the issue as a legitimate matter for social science inquiry.

Militarization and the Impact of Arms

Militarization has been a topic for the social sciences for many years. Numerous historical works have traced wars, war-like activities and the modern build-up of forces. Vagts classic, History of Militarism (1937), for instance, begins by describing the 'mounted warrior' but traces the history of the military through 'the development of militarization and mass armies'.

The societal effects of militarization and armamentation in developing countries is a more recent concern for economists, political scientists and sociologists. Paul Baran (1957) begins the debate by noting that developing nations are "compelled to devote considerable parts of their countries' national income to the building up and maintenance of large military establishments... Indeed, in most, if not all of these countries military spending is equal to or exceeds their total productive investment!" (Baran, 1957;256). The supposed danger of Soviet aggression serves as the justification for this 'wholesale destruction of resources'. Baran sees this form of spending as a "prodigious waste of the underdeveloped countries' resources" (Baran, 1957;258).

Later, in the early 1960's, John J. Johnson wrote about the role of the military in underdeveloped nations (1962) and in Latin America in particular (1964). Morris Janowitz (1964) edits and contributes to a work describing the 'new military' in developing countries and the related prospects for societal change. Literature dealing with the economic and developmental effects of militarization in developing countries increases in the early 1970's with the inquiry into more specific issues, such as the influence that military spending has on growth and savings.

It is interesting to note, however, that although the term 'militarization' has often been refered to, it is rarely specifically defined. Generally, militarization refers to some type of expansion of the military establishment and/or its related functions. Hence, militarization can refer to the size of the armed forces, the strength of the military in terms of destructive power, the prevalence of the military in political society, or the prevalence of the military in civilian society. Much of what has been written and researched in economics has refered to military spending and the size of the military budget. Since the military budget is influenced by the importation of armaments from abroad, militarization can also refer to military imports or the proportion of imports directly related to the military. With the present world situation of ever increasing sophistication of military goods, the cost of maintaining a competitive military establishment with modern, up to date weapons is extremely high compared to years past. As costs continue to rise, the impact of military spending and arms imports in the developing world

becomes a more crucial issue. In the present analysis, militarization generally refers to the growth of the military budget for both maintaining a military establishment and buying, producing and maintaining arms. The multitudes of definitions for the term 'militarization' and the various concerns over the specific impact of arms refered to by authors who have discussed the topic, will, however, become apparent in the chapters to follow.

Militarization in Today's Developing World

The developing nations of the world spend an astoundingly high proportion of their central government budgets on military expenditures. The 1986 United Nations Arms Control and Developing Agency reports that in 1982 $769 U.S. billion was spent on military expenditures on a global level. Although $165 U.S. billion of this was spent in developing nations, this represents a higher proportion of their income directed into this activity than in the industrial countries. In fact, the lowest income nations of the world report the highest military burden (i.e. ratio of military expenditures to GNP) at almost 9%. The increase in spending is equally dramatic. In the developing nations alone, $22 U.S. billion more was spent on the military in 1982 than in 1978. Arms imports rose from almost $20 U.S. billion to over $33 U.S. billion in developing countries during the same time period, an increase of almost 61%. Consider the following; over 90% of arms transfers go to developing nations while only 14% of the world arms trade originates in these countries. It is easy to pinpoint the role of the developing countries in the world arms trade: they are the buyers. With the tremendous costs of sophisticated

weaponry, one might conclude that the developing world is allowing the proliferation of the arms race since they contribute so much to it.

To make a crude comparison, 92 developing nations listed in the United Nations Arms Control and Development Agency report of 1986 spent $74.17 U.S. per person on military programs in 1982 and only $24.25 per person on health related programs (United Nations Arms Control and Development Agency, 1986). In fact, any comparison between military related and health related programs, crude though they may be, shows the irony of priorities and the great expense of maintaining a military establishment. Military expenditures in 92 developing nations in 1982 averaged over $950 million US per nation, while health expenditures averaged only $274 million US. These same nations house an average of almost 15,000 doctors compared to an armed forces average size of over 98,000 troops.

In the 30 lowest income nations of the world where developing problems appear more acute, comparisons between health and the military gain even more meaning. The lowest 30 income nations spent an average of $9.25 US per person on the military in 1982 compared with $3.07 on health related programs. Between 1978 and 1982 health expenditures per capita rose 6.9% in these 30 nations. Military expenditures rose over 55% in the same time period. The average number of troops to doctors in these lowest 30 nations is 89,000 to 17,000 - all this in nations with an average life expectancy of 47.9 years compared to over 70 years in all developed nations, an average infant mortality rate of over 127 deaths per 1,000 births compared to less than 10 per 1,000 in developed nations and an average of 25.6% of

the population who have access to safe water compared to nearly 100% in all developed nations. As a final note, 30% of the least developed countries of the world were directly at war in 1982 compared to 0% of the developed world.

The Task

Very simply, development can refer to a process whereby nations increase their status in terms of various indicators of progress. Hence, development can refer to economic growth in terms of GNP, growth of the education or health budget, an increase in the literacy rate, etc. But, normally, a nation attempts to move from being classified as 'developing' to 'developed' status where their standard of living increases to that which is experienced in the richer nations of the world. Considering the levels of spending quoted above, militarization would appear to be a priority in nations where development remains an issue and a goal. But, are the two concepts, militarization and development, necessarily contradictory? Although more is spent on the military than on health in developing nations, and although more soldiers than doctors are employed in these countries, does the existence of one necessarily negate the other? Or, as the question has often been put in the literature, is there a trade-off between gun and butter?

The high levels of military expenditures in developing nations have led to a number of studies that attempt to establish the link between this form of government activity and development. (See, for example; Deger, 1986; Deger and Sen, 1983; Faini et. al., 1984; Lim, 1983;

Nabe, 1983; The United Nations, 1986.) Yet, what has surfaced through these efforts is a set of literature quite diversified. Theoretically, authors have either justified, (see, for example; Benoit, 1973; Kolodziej, 1985), or criticized, (see, for example; Ball, 1983; Eide, 1977) these massive levels of spending. Quantitatively, results have ranged from displaying a positive association between militarization and development, (Benoit, 1973, 1978), to a negative relationship, (Deger, 1986; Faini et. al., 1984), and anywhere in between. In short, the results of these studies have been inconclusive.

This thesis represents an attempt to respond to some of the questions posed above. The association between militarization and development in developing countries will be analyzed on a macro level while the contradictions that arise in existant literature will be clarified. Although militarization may take various forms, the aspect of militarization that will be concentrated upon is military spending and arms imports. The task will be completed in two ways. First, a review of previous research will sort out the differences in the findings of these studies. This part of the thesis demonstrates the reasons alternate views of the association appear, and critically evaluates literature dealing with the issue in order to formulate a comprehensive model to study the interaction between militarization and development. Second, the model will be tested using appropriate methodological techniques. In the end, it is hoped that a clearer understanding of the relationship will surface.

II- PREVIOUS APPROACHES TO THE STUDY OF MILITARIZATION

Introduction

Literature dealing with militarization in developing countries covers a variety of topics and perspectives. For example, Kende (1977) reviews the extent of war and war related activities that have taken place since the Second World War. Klare (1982), in analyzing the political economy of arms sales, discusses the motivations behind the increase in the export of arms to the developing world in recent years. Needler (1971) and Lovell and Kim (1971) provide opposing views on civil war in developing countries. Wolpin (1978, 1983) compares military versus non-military regimes in terms of economic and social achievements. The United Nations (1978b) links disarmament and development. The International Peace Research Association (1978), Rosh (1986) and the United Nations (1978a) discuss militarization in conjunction with the fulfillment of human needs. Of particular interest for the present purpose is the body of literature which analyzes the determinants of military spending, (Deger 1986; Deger and Sen, 1983; Lotz, 1970; Maizels and Nissanke, 1986) and that which discusses the socioeconomic effects of militarization and military spending on development. It is the latter issue which has gained the most attention. Despite the amount of research conducted in the area, evidence, in terms of the association between spending and development, remains inconclusive. Conflicting views of the function

and consequences of military spending may manifest itself in the complexity of the problem and the value laden ideological perspectives that the issue is apt to lend itself to. Much of the debate over the developmental effects of militarization follows from the assumptions put forth by theories of development.

Positive Influences: The Military and Modernization Theory

Social Modernization theory and those who have espoused the views of the paradigm, has made a significant contribution to the literature dealing with the military and military spending, first as a basis and justification for policy, and second, as a vehicle for criticism of counter perspectives, such as dependency. These writers, (see, for example; Janowitz, 1964; Levy, 1971; Pye, 1968), hold that the military serves as the primary agent for the dissemination of social change. The level of bureaucratization characterized by the military (Levy, 1971), the ease of transfering Western values through the institution (Bienen, 1971; Levy, 1971; Pye, 1968), the ability of the army to provoke a sense of nation building (Benoit, 1978, 1973), etc., are examples of the ways in which the military can play an important role in the modernization of society. The military is seen to encompass a progressive change towards a higher stage of development since its modern formation supposedly mirrors that of the Western world.

Although determining the exact roots of the modernization theory is a complex task, there is no doubt that it is a modern outgrowth of evolutionary theory since stages in societal growth are necessarily

accounted for, while modern man is placed at the apex of the evolutionary cycle. In fact, Darwin's Origin of Species originally gave birth to the idea of philosophical evolution and that man progresses to ever higher stages of development. The link between Darwinism and modernization is clarified by Mazrui (1972), who claims that in modernization Darwinism has been 'debiologized'. In short, Mazrui argues that there has been a shift from biological to cultural determinism. Within the biological determinist paradigm, a biologically inferior race could not hope to rise to the level of the more advanced. With cultural determinism however, the thought of 'catching up' to the more advanced societies becomes plausible. Thus, similar to Darwinism, an evolutionary perspective of development proclaims that there is a progression in evolution of social forms towards greater complexity and enhanced sophistication of the system.

The modernizationist approach to development, assuming a linear pattern to growth and human evolution, must, by definition, presume that development takes place along prescribed routes. Rostow's Stages of Economic Growth for example, presents not only the typical evolutionary position but serves as a good example of how smoothly increased militarization fits into the modernization model. Economic growth is divided into five stages through which every society must pass. According to Rostow, "men must come to be valued in the society not for their connection with clan or class or, even, their guild; but for their individual ability to perform specific, increasingly specialized functions." (Rostow, 1965;19) Reaching the 'take-off' stage in Rostow's evolutionary matrix should be the goal of the

underdeveloped nations. This stage is characterized by increasing industrial and manufacturing activity which proceeds hand in hand with technological and financial development. Where traditional societies are described as ones, "whose structure is developed within limited functions", a modernized society is one which provides 'unequivocal joys' (Rostow, 1965;4).

The 'take-off' stage, involving greater technological capabilities, higher levels of bureaucratization and specialization and rational forms of behaviour, parallels the forms of social relations typical in the modern army and those which permeate the techniques of force utilized in modern weaponry. As Kaldor (1976, 1978) aptly emphasizes, the mere operation of modern weapons requires the adoption of a western hierarchical social relational system. Weapon importation then adds to the diffusion of the western value system. The military is seen to encompass a progressive change towards a higher stage of development since its modern formation supposedly mirrors that of the Western world. Since the endogenous notion of change predicted contact with the West functions to speed up the modernization process, the possibilities of incorporating western technology, values, etc. through increased militarization is seen to further promote the development process.

The cold war between the USA and USSR provided further impetus to promote military growth through the modernization perspective. Rostow appears to make a conscious effort to display communism as the evil in the world. He explains that, "societies in the transition from traditional to modern status are peculiarly vulnerable to such a

seizure in power." (Rostow;1965, 163) The colonialist empires removed themselves from the developing world, which left these nations in a transition phase with no effective centralized government to provide leadership. They were left vulnerable. To assure that communism did not spread to these areas, he suggested partnerships with non-communist politicians, "which will see them through into sustained growth on a political and social basis, which keeps open the possibilities of progressive, democratic development." (Rostow;1965, 164) Thus he labeled communism the 'disease of the transition' and arming the developing world became a critical pursuit of the modernizers.

In positively assessing non-Western military capacity to promote nation building programs, the Draper Report (1959) (Report of the President's Committee to Study the U.S. Military Assistance Program) was the first to suggest that the military in developing nations could provide a legitimate initiation to modernization. "Armies existed, they would not go away, and they often were the only institution available to make head-way in economic and social development programs" (Bienen, 1971;9).

Of the first theorists to recognize the modernizing capabilities of 'emergent' armies was Lucien Pye. Dividing action into traditional and rational, Pye foresaw the impact of armies in provoking societal development toward the rational side of his behavioral dichotomy while, at the same time, championing 'responsible change'. Indeed, the army, being the most modern institution, represents the most likely organization to provoke a state of modernization. The military

functions as an ideal type of industrial society, bringing about rational behaviour and are less 'emotional' about accepting their subordinate position to the West. The infiltration of contemporary technology into the military forces undertakes to create a structural organization which was previously peculiar to the industrialized world. Pye proclaimed that the advanced technology gives the military a distinctive role in the modernization process. The values and lifestyles adhered to by the military are caused, to an extent, by the prescribed technological advancements within the military institution. Even the impersonal organizational nature of the military, coerced by such technological advancements, represents a move away from the traditional elements in society. Hence, the very presence of more modern technology within the military necessitates a change of beliefs towards a more 'advanced' value system. In this way, army personnel become sensitive to their own underdevelopment and aspire to transform their society into a Western facsimile and thus play an essential role in the process whereby, "traditional ways give way to more Westernized ideas and practises." (Pye, 1968;388)

Halpern's (1963) theme is similar. He saw the military as forming a 'new middle-class' committed to social and economic reform and modern technology. The new values created by the military would provide the driving force for a modernized economic and political structure. To him, "the more the army was modernized, the more its composition, organization, spirit, capabilities and purpose constituted a radical criticism of the existing political system." (Halpern,258) *

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* Later, the middle-class argument was criticized by Marxists such as

The works of Levy (1971), Lovell and Kim (1971) and Janowitz (1964) represent perhaps the strongest statements regarding the military as the most suited institution to foster growth and progressive change while at the same time incorporating the primary assumptions of diffusion and Westernization of the system. As stated by Lovell and Kim,

> "the military may be viewed as one of the key mechanisms which a nation possesses for receiving and sometimes amplifying, signals from its external environment- these signals include ideas, values, skills, techniques and strategies of political change... An obvious case in point is the great number of Asian military men who came to the United States for instruction at various American institutions" (Lovell and Kim, 1971;109).

They assume that the military acts as an external body which is uncorrupt, (unlike civilian leadership), and has the ability to run the government efficiently, and in the end will do so for the political and economic advancement of the nation.

According to Janowitz, the training of military personal, coupled with the contribution of the military as an economic enterprise, create an atmosphere of modernization within the institutional infrastructure, placing the military in a position to readily eliminate the conventions and traditions which thwart economic development. Its training functions began as a result of military mobilization during World War II whereby developing countries, that is, the poorer nations of the world, provided technical training and organizational discipline. For example, "most (military personnel)

Mary Kaldor (1976) who claimed that class means little if it is not defined in terms of its participation in the production process. "To argue that the army is middle-class because it stands between landed property on the one hand and the labouring classes on the other, is tautological. It tells us nothing about why it is so" (Kaldor, 1976;461)

were given rudimentary training appropriate for modernization and a minority received technical training dealing with motor vehicle maintenance, sanitation and simple technical skills" (Janowitz, 1964;76). These skills, infiltrating the society, provided an impetus for improved societal organization by providing a pool of trained managers available for public or private industry.

The economic functions of the military contribute to the developing of public works, roads, engineering projects etc., later refered to by Benoit as the spin-off effects. Furthermore, "because its orientation is not profoundly religious, it (the military) presses for the elimination of religious conventions which thwart economic development" (Janowitz, 1964;78). The military is, hence, predisposed to deal with issues such as birth control, an essential goal since improvements in civilian agriculture gain only moderate success in countries which experience an increasing population.

Because of the training and economic functions, the military serves as a viable agent of social change. "At a minimum, this implies that the army becomes a device for developing a sense of identity - a social psychological element of national unity - which is especially crucial for a nation which has suffered because of colonialism and which is struggling to incorporate diverse ethnic and tribal groups" (Janowitz, 1964;80).

Marion Levy's major thesis expounded in Modernization and the Structure of Societies presents a number of ingredients of the modernization recipe best exemplified by the military, later

highlighted in an essay dealing directly with the topic. Levy concentrates on the inevitability of the modernization process. Note the following conviction:

> "Modernization is the problem par excellence for the vast majority of the world's population. The members of relatively nonmodernized societies are not faced with a choice of whether to modernize or not. They will modernize to some extent whether they like it or not. Leaders who feel that total resistance is possible or that only superficial elements of change are involved will fail foolishly" (Levy, 1971;735).

Yet, emphasis is also placed on contact between developed and developing worlds. Whenever contact is made between modernized and nonmodernized societies, change takes place and the direction is always towards the modernized society.

Contact, then, allows for the diffusion of bureaucratic and specialized social structures and institutions which, though inescapable, push the world toward modernity. Bureaucratic systems involve levels of rationality essential for modern societies, and evolve around equally significant universalestic criteria which neglect strong religious and familial ties which endanger the modernization process. Specialization operates to decrease self-sufficiency while increasing interdependency which leads to a maximized rationality in regards to the allocation of goods and services.

Enter the military, explicitly organized around certain functions, incorporating planning which creates an efficient organization. Here Levy concentrates on the level of bureaucracy, the isolation within which the military operates and the technical superiority of the

modern weapons systems. The bureaucratic nature of the military allows emphasis to be placed on specialization, hierarchical organization, respect of authority and, most of all, rationality of the system.

> "The emphasis on rationality may be especially high relative to that characteristic of the rest of society. To some extent there is always an explicit emphasis on rationality in the action carried out in terms of armed force organization, no matter how traditionally oriented general relationships may be in general in a society",

and furthermore, "in some relatively nonmodernized societies the armed force organization may be the major precedent for a bureaucratic or semibureaucratic experience" (Levy, 1971;56,57).

The isolation within which military personnel find themselves, allows a full and rapid transformation to a modernized set of values. Hence, "armed force organizations may be modernized well in advance of the extent of modernization elsewhere in the social contexts in which they are found" (Levy, 1971;49). Because of isolation, the army is modernized in lieu of negative feedback existing outside the system. Finally, "no matter how isolated the members of the armed force organization may be kept, the spread of the impact of modernization beyond the membership of the armed force organization can never be eliminated" (Levy, 1971;72).

Perhaps the most crucial connection between Levy's modernization theme and the role of the military within that framework can be seen in the ease with which Levy believes the army slips into the modernization process. The military is interested in only the most sophisticated weaponry. Hence, Levy sees the importation of modern

techniques of destruction as a pivotal starting point to the road to progress. Those sentiments are summed in the significant statements below:

> "No one contemplating an armed force organization wishes less than the most modern weapons... When I hear those who deal with problems of modernization in relatively nonmodernized societies complain about the difficulty of getting certain ideas across with regard to modern technology, I wonder why we have not capitalized on the much greater ease of getting across these ideas in the military sphere... The easy recognition of the importance of modernization in weaponry and logistic in general means... that there will in general be an emphasis on the maximum amount of modernization as fast as possible in the development of the new armed force... (In modernizing nations), vested interest in the older technologies are so hopelessly out of date as not to pose a serious barrier to modernization" (Levy, 1971;66,67).

At this juncture a neat connection can be made between Levy and Nettl and Robertson (1968) and their notion of global equivalence. "To a considerable extent modern aspirations (consist) of self-conscious awareness and a willingness to adapt in terms of such awareness both technologically as well as intellectually" (Nettl and Robertson, 1968;44). This goal orientation involves governments of nations striving for a state of equivalence based on information about other nations. Nations therefore choose the aspects of modernity they wish to emulate. For example, a developing country can choose from the variety of sophisticated technology available. "Those countries who concentrate on a disproportionate expenditure on military technology will almost certainly define modernity in reference to the armed forces of other selected nations" (Nettl and Robertson, 1968;54).

Kennedy (1974) analyzed the impact of war on development, concluding that conflict facilitates the freeing of resources conducive to growth. Kennedy's logic guides him to posit a positive role for armamentation by explicitly downplaying the necessity for disarmament in the development process. In fact, demilitarization would allow skilled and unskilled labour to be released into the market, aggravating an already unfavorable employment condition. Written in 1974, Kennedy's work is in temporal sequence with a growing body of literature which criticized increasing levels of world military spending. His theme therefore appears as a justification for the new trend in militarization. Divergence from recent trends, he claims, is a contradictory policy since it results in increased tensions. Militarization, on the other hand, allows a nation to develop without lawless interruption and therefore represents a key element of growth.

Peculiarly, Kolodziej (1984) revitalizes the modernization argument in his recent article. Recognizing certain economic growth benefits associated with increased military spending, Kolodziej defines the army's role as a principal vehicle for nation-building. "Militarization and modernism, like Siamese twins sharing a common circulatory system, are viewed as so mutually dependent that most leaders of the developing world can hardly conceive of them as ever being separated" (Kolodziej, 1984;26). This argument which highlights the incentives of militarization places the effects of arms exports in modern context. As a means of balancing payments and enhancing technological advancement, arms production seems justified. Indeed,

Kolodziej readily accepts this position and appears concerned by its implications. Rather than condoning arms production, he merely reports its function and concludes that there are overwhelming incentives that tie militarization to the modernization process.

> "If the upward increase in global military spending especially on the part of developing states is any guide, and if reference to specific case studies of behaviour of national leaders in Israel, Brazil and India is any indication, the argument that one must sacrifice welfare for military prowess and vise versa is by no means universally accepted. Many go beyond the guns - butter tradeoff and argue that a nation gets more butter 'because' of guns" (Kolodziej, 1984;30-31).

Perhaps the most influential of those who have expounded the modernizing potential of militarization was Emile Benoit. Benoit's book, published in 1973, and subsequent article, are based on a quantitative analysis which supports the notion of military spending as a prime force in development. The absorption of resources, claims Benoit, are often negated by the positive effects on the economy which include the training provided by the military, the contribution of the military to the security needed to create a healthy economic environment and the raising of aggregate demand which leads to the utilization of underused resources, all of which combine to have a net favourable effect on growth that cannot be dismissed a priori. Military activity coerces a number of spinoffs that serve developmental purposes even though the initial plans were not intended as economic programs.

Yet, it is the hypothesized inculcation of modern attitudes and behavioral patterns associated with increased military spending that puts Benoit firmly within the modernization tradition. To him, the

military induces modernizing attitudes and can therefore be credited with breaking down traditional patterns of life which impede development. Ways of life are modernized, "in part because the value which justifies its activity - national security - exercises a strong influence on most individual consciences and appears to justify imposing difficult and often painful adjustments to the individual" (Benoit;1978, 278). The absorption of modern attitudes includes, "following and transmitting precise instructions; living and working by the clock; noticing and reading signs; spending and saving money," etc. (Benoit:1973,17). Since the military is assumed to be a prime catalyst of social change, these newly absorbed values filter through to the general population, creating a general state of modernization and hence development.

In conclusion, as patrons of Modernization rose to the fore in the post World War II era, so too did evolutionary theories of militarization begin to permeate the discourse. And, as development strategies in the West began to take the form of the Western experience, the military was increasingly hypothesized to function in the role of a modernizing force. Its emphasis towards rational behavior, its commitment to technological progress and its obsession with modernization in general would provide the impetus for change in the direction of the Westernly defined conception of progress. For Benoit, as with other proponents of the modernization viewpoint on military spending, increased militarization truly acts as a disseminater of western ideals, which, introduced into a society and an economic structure, serves as a mechanism for development. The

assumptions are clear: militarization provokes Westernization, and Westernization represents a more 'advanced' stage in the evolutionary cycle.

Negative Influences: The Military and Opportunity Costs

In discussing the increasing number of coups in Latin American nations using the assumptions of the modernization theory, Lovell and Kim empathetically alleged that such uprisings and the subsequent militarization process and leadership successfully eliminated corrupt and inefficient government, hence promoting the economic and social development of previously nonmodernized cultures. It is interesting that at the same time Needler (1971) conducted an analysis of coups in Latin America, and with equal virility concluded that such action generally took place as an intervention technique when progressive social change was imminent. Surely, Allende's overthrow in Chile provides ample justification of this view. To Needler, coups take place in an attempt to maintain the status quo, usually by forestalling general elections and are directed against elected heads. Needler's study merely points to the fact that as easily as the composite notions which form the modernization theory can be ingested can they be contested and indeed, critics of the perspective have leveled convincing counter arguments.

Theories of militarization which postulate military spending results in negative effects on developing societies fall into two general categories. First, there is the view that military spending diverts resources away from other productive programs. This notion

stands in opposition to Benoit for the following reason: by preempting resources that might otherwise be invested in social and economic programs geared towards the purchase of technical service or increasing the foreign exchange base, military spending imposes a substantial burden on the economy. While Benoit believed that this diversion depended upon the extent to which a) defense absorbs investment and b) a decrease in investment affects output, and equated these effects to be minimal when the eventual productivity result is determined, the 'opportunity costs' argument suggests that both money and manpower diversion serve to retard development. Next is the view adopted by the neo-Marxist school, typified by Frank and the dependency perspective, stating that militarization is merely another form of dependence. Dependency chooses to discuss the phenomena of militarization in terms of an international sphere of analysis. Thus, it accounts for the global matrix and the exploitative international relationships that cause the development of underdeveloped economic structures. Included under this general categorization is Mary Kaldor who views the relationship primarily in terms of the modes of production characteristic in both peripheral and advanced economies, and Miles Wolpin, who maintains that the problem is not one of the military per se, but rather revolves around the capitalist world economy in general. The present section deals with the former argument, however, since both perspectives hold similar views some issues are interchangeable and dealt with in both perspectives. Opportunity costs and dependency are then not necessarily mutually exclusive.

The main themes of the opportunity costs argument center around criticisms of Benoit's findings and state that military spending causes a redirection of investment often manifest in the depletion of resources available for other social programs. Nabe (1983), in his analysis, found that products imported by the defence sector of developing economies fail to contribute to the supply of goods or services for the non-military economy. Or, as Luckham states, armies, unlike industry, do not create surplus. "It is a serious matter to divert resources from schools, hospitals and welfare services to guns, tanks, jets, aircrafts and most probably can only be done by governments which are prepared in the final analysis to repress the discontent it brings about" (Luckham, 1978;44). The qualifications of the arms industry cannot readily be used in the civilian sectors. Because of this, the training of manpower does not necessarily spill over to create new jobs outside the military market. First, skills and infrastructure developed for the army, "may not be transfered at all. In career armies... soldiers do not return to their villages" (Kaldor, 1976;464). Second, military personnel are trained in capital intensive and highly qualified occupations, which are not readily conducive to the employment situation in underdeveloped nations. To quote Palme, "the military employs skilled people, often in and around large cities and ports; the people who are unemployed tend to be unskilled workers and people living in the countryside" (Palme, 1982;19). The capital intensive nature of the military produces less jobs in nations where labour intensive production is necessary. Hence, a United Nations report documents the discrepancy in real numbers.

> "According to the U.S. government estimates... a billion dollars of military expenditures creates 76,000 jobs. But if the same amount is spent for civilian programs of the Federal government it creates an average of over 100,000 jobs and many more than this if channelled into activities that are particularly labour consuming... Thus the proposition that military expenditures generates employment at least as, if not more, effectively that non-military expenditures is demonstrablly false. " (United Nations, 1978a;141).

Dabelko and McCormick (1977) attempted to test the impact of military spending on government spending in areas of health and education. These authors believe that governments must select one option over another and therefore do so at the expense of alternate expenditures. A high military burden (that is, a military budget that utilizes a high proportion of the total government budget) would lead to lower budget allocations in these alternate areas.

Dividing their sample into lower and higher income nations, the authors found that, in general, the opportunity costs diversion influence is greater in the lower income nations and greater in the area of health than education. Though the results were fairly weak and relatively inconclusive, the importance of this analysis goes beyond the opportunity costs argument and are implicit in any analysis of this nature. Investment into education and health can be considered an investment into human capital. What needs to be established then is the subsequent societal effects of spending in various areas such as health or education. In terms of economic growth, the benefits of an increased military budget could be weighed against that of education. Perhaps of greater importance is the social effects of each expenditure. The development of human capital

through education and health programs may certainly add to the societal development and reach a greater majority of the population than any benefits accrued through an increased military budget.

Deger confronts the issue of the development of human capital through education spending in her 1986 article. The following comment expands on the opportunity cost trade-off argument used by Dabelko and McCormick:

> "If the military is independently providing services in these areas, there may be less need for government agencies to spend large amounts of resources for education and so forth. The military establishment might take on some of the roles of civilian authority in human resource development and ease the task of the state education sector. In the absence of such factors, however, there may be considerable negative effects on human capital formation due to high defense spending, provided the major agency in LDC's responsible for both these activities is the government. Given the upper limit to national budgets, an increase in military burden could be at the expense of education or health spending and thus may also have adverse consequences on the human capital of the nation (Deger 1985;39).

Thus, the argument goes deeper than the mere trade-off hypothesis in that defense may influence other types of spending in a positive or negative manner. Positive influences may appear through military spin-offs in the mobilization of labour, or in the formation of skilled position programs. Negative effects could be the result of government revenue constraints, or the scarcity of labour through military utilization. In addition, growth in national income influences the association since faster growing countries can better afford to divert resources to longer term development, typically the development of human capital.

To sum, the opportunity costs argument states that, in general, the military's overall contribution to employment, resource utilization and civilian sector spinoffs remain in doubt in the less developed nations and instead military spending diverts resources away from other more productive activities. As a share of the national budget, military expenditures often equal or exceed shares spent on forms of health or education, "let alone the much smaller sums spent on most of the basic needs of the poorer section of the population" (Jolly, 1978;107) and therefore these basic needs and other productive areas suffer. Added to this is the belief stressed by the International Peace Research Association (IPRA, 1978) that military spending hinders the ability of a developing country to import inputs into agriculture and other essential industries due to their overrepresented share of military imports. Faini et al. (1984) found, in their study of the effects of military spending, that such activity leads to decreases in the production of agriculture. Military spending, by decreasing the GDP share of agriculture, may decrease domestic food production, 'a clear social welfare loss'. Such a loss is of particular importance in developing nations that can be classified as agrarian, since a large part of their economic activity takes place in this sector. Hence, the following comment by Eide sums well the opportunity costs argument:

> "The present third world militarization represents a process of waste and maldevelopment. It is wasteful in the sense that the military hardware cannot be put to productive uses. It represents a formidable waste because weapons imports have to be paid for out of exports, largely taken from agriculture, which should have been used to satisfy the basic needs of the population" (Eide, 1977;99).

Negative Influences: The Military and Dependency Theory

The dynamics behind the ideological formation of modernization are, in general, vehemently opposed by both Frank (1969,1972,1973) and Amin (1976), two economists writing from a dependency perspective. Frank, for example, believes development is not a linear evolutionary process. "It is fruitless to expect underdeveloped countries of today to repeat the stages of economic growth passed through by modern developed societies, whose classical capitalist development arose out of pre-capitalist feudal society" (Frank, 1969;preface). In an earlier essay Frank writes, "since the historical experience of the colonial and underdeveloped countries has demonstrablly been quite different, available theory therefore fails to reflect the past of the underdeveloped part of the world entirely and reflects the past of the world as a whole only in part" (Frank, 1973;94). Ahistorical laws of development must therefore be unceremoniously rejected and be replaced by specific historical mechanisms that structure the distinct dynamics of the relationship between underdevelopment and the world economy.

The preceding argument leads to the assumption that all nations must be regarded as being within a single, integrated, causal system. As Baran (1957) once observed, the question of whether or not there is meat in the kitchen is rarely decided in the kitchen. Underdevelopment can only be understood by examining the positions of nations in a world system within which operates an international division of labour and specific forms of incorporation into the system which affects the internal structures of each nation. In direct opposition to modernization theories, Frank views the

interrelationship of national economies, and not the nation itself, as creating the forces that breed an underdeveloped economic structure.

Dependency theory is in direct opposition to the modernization notion that diffusion between the developed and the underdeveloped nations leads to development of the latter. The flow of aid, technology, and innovation will not lead to cumulative development, but, rather, to a further reappropriation of wealth. Historically, as an indication of this, when the bonds between the metropolis and satellite have loosened the peripheral nation has experienced its greatest economic surge. "The economic depression in Spain in the 17th century, which reduced the shipping tonnage between the mother country and New Spain to one-third of what it had been in the 16th century, made possible a significant development of local manufacturing" (Frank, 1972;24).

Frank's position contradicts modernization's emphasis on the role of the State as a provoker of development. To Frank, the relationship between the nation in the underdeveloped world and the advanced world is one of dependence. The peripheral economy thus becomes exploited by the center. Surplus is constantly being drained out of the periphery to benefit the core. Yet, they are dependent upon the West as an importer of their goods and a financeer of their own manufacturing. Unlike McClelland who wrote in 1969 that underdevelopment is caused by a population being non-achievement oriented, Frank believes underdevelopment is caused rather by the nation's economic structure and its ties to the West.

Samir Amin takes Frank's argument further by suggesting that exchanges between the core and the periphery are unequal. The core benefits from this relationship while the periphery is hindered by it. Thus, aid in the form of loans or finance inevitably results in a net outflow from the peripheral nation. Amin explains that the dependent nature of the peripheral economy creates periods of apparent growth where no development actually takes place. Historically speaking, the advanced economy developed, from the start, an integrating structure. In other words, market trading began internally, within the national borders, in such a way that the sectors of the economy traded with each other, leading to a diffusion or spreading of the progress throughout the organism. The center nations were then economically structured to become exclusive and expanded internally. To this day, the bulk of the center's transactions are conducted within the system; that is, the advanced nations do most of their trading amongst themselves. In the periphery, the spread of capitalism occured through an external market, or trading abroad. To this day, the peripheral countries do the bulk of their transactions outside of the system, or with the advanced countries but not amongst themselves. Their progress is thus not diffused but transported abroad resulting in a 'disarticulated' or deunified economic structure. For example, "any progress in the oil industry will, for instance, be without the slightest affect on the economy of Kuwait since nomad stockbreeding sells nothing to and buys nothing from the oil sector" (Amin, 1976;238). As Amin explains, "whereas at the center, growth <u>is</u> development, that is it has an integrating effect- in the periphery growth is <u>not</u> development, for its effect is to disarticulate.

Strictly speaking, growth in the periphery, based on integration into the world market, is the development of underdevelopment" (Amin, 1976;18).

In compliance with the dependency criteria outlined by Frank and Amin, supporters of the military dependency model claim that the military institution's prime function is to channel resources from the periphery to the center and to promote the domination of the world by the West. The so called Hamburg group, led by Albrecht et al.(1974) are the leading proponents of this perspective. Albrecht points to the colonialist era as initially creating a particular economic infrastructure which resulted in a dependency for western military goods. This dependent bond becomes essential for the West's continued domination for three reasons. First, military links successfully aid in repressing those who would work towards loosening the bonds and by doing so, alter the structure of the status quo. Second, these associations serve to expropriate wealth from the periphery both in their purchasing of military goods and technology and in their securing the supply of resources for the West's own expansion. Finally, the militarization of the developing world allows for their integration into the system of international division of labour. Thus Albrecht states, "the role of armamentation in the process of developing underdevelopment is underestimated" (Albrecht, 1976;178). Or, as Lock has noted, "armaments have to be considered as a determining factor for the continuation of uneven development and underdevelopment" (Lock, 1980;135).

Albrecht et al. begin their significant 1974 article by explaining that armaments can be credited with providing Europe the wealth they obtained during the epoch of industrial growth. "The ongoing transfer of surplus product from non-white colonies required the continuous application of force and violence in these areas in order to secure an increasing flow of resources via Britain to benefit the white settlements" (Albrecht et al., 1974;173). Violence and plunder of colonial states was responsible for a destruction of social systems that proceeded with an integration into the capitalist world market. The legacy of imperialism succeeded in 'opening up' peripheral nations to the trade and capital of the metropolis which secured the domination of the latter. The military thus has global dimensions based on the historical outgrowth of dominance and dependence that makes irresponsible a view of the military as a pure national unit.

The historical development of dependency, through the use of force, has guaranteed the hegemonic position of the West. "The penetration of the present underdeveloped countries by a production sector totally dependent on and determined by outside powers was only made possible by the use of arms, sometimes for many decades" (Albrecht et al., 1974;176). In spite of changes in form of dominance over time, the military and arms remain necessary for the preservation of the metropolis - periphery structure. Armaments are still used for enforcing power, even though colonial armies have been reshaped into national military apparatuses. Today, instead of troops landing from the West and metropolis direct involvement, the transference of counter-insurgency techniques, arms and military aid serve similar purposes.

> "One important condition for the present capitalist expansion in the periphery is the existence of huge military apparatuses in these states, an expansion with hitherto unknown rates of growth. The task of these forces is not just to implement 'national' foreign policy but they are predominantly an instrument to repress the majority of the population, thus enabling further modification and more sophisticated penetration by the capitalist mode of production" (Albrecht et al., 1974;174).

The Hamburg group goes on to relate the experience of the rise of Japan to an industrial power through the use of force in order to exemplify their position. Here, Japan's success in two major wars (the Japanese-Chinese was {1894-1895} and the Japanese-Russian was {1904}) is termed responsible for allowing the nation's penetration and accumulation of resources and the expansion of the Japanese market. This was preceded by a concerted effort to substantially upgrade the Japanese military establishment. Of note, however, is the insistence that the example given cannot be recapitulated today by peripheral countries due to their already subordinate integration into the capitalist world system. Japan's bourgeoisie expanded independently and without interference. When attempting to develop their own resources, today's periphery becomes increasingly plundered, through force, whereas Japan, untouched in their accumulation process, was able to join in on the exploitation of others for their own well-being.

The Hamburg group introduces an additional issue characteristic of the dependency approach to militarization in the role of repression and the viscous cycle of militarization inherent in such behaviour. The removal of wealth made possible by armamentation leads to the perpetration of impoverishment and pauperization for the majority in

dependent nations. Such conditions demand increasing military resistance against 'the rising tide of social conflict' initiated by those who come to realize their subordinate position. Arms and training to fight or subvert general uprises absorb more available resources, leading to more unrest, etc. The important element for the metropolis and the elites in a given society is to preserve their position, justifying the increase in military spending. Hence, Albrecht et al. predict a considerable expansion in systems and technologies suitable for the subversion of the masses and effective control of the state. In the end only a change in the existing social systems and class relations can fundamentally alter the process of militarization in peripheral regions since the type of integration into the capitalist world system historically produced necessitates the use of force for its maintenance.

A 1978 publication by the IPRA echos many of the themes laid out by the Hamburg group. Here, the hierarchical nature of global military structures is accentuated to the point of noting the subregions of hegemony that have more recently come to the fore. Brazil, India and Israel, for example, are countries whose military institutions have been formed and trained by industrial nations in order to serve the purpose of regional policing to favour the strategic interests of the advanced world. International history has seen the super powers forming the apex of the hierarchy while the subordinate and dependent peripheral armies function to serve the needs of the core. Repression, again, is often paramount to benefit the elites who wish to maintain a division of labour that guarantees cheap and profitable

labour and conditions for investment. In short, the continual expansion of capital into third world nations and extraction of profits by multinationals require the military for the perpetration of this environment, leading to underdevelopment of those abused. So, "militarization and the proliferation of weapons must be considered a decisive factor in the continuation of unbalanced development or underdevelopment on a global scale" (IPRA, 1978;174).

Mary Kaldor (1976, 1978) asserts a distinction regarding the social relations imposed by military transfer, hitherto relatively untouched by other neo-Marxist theorists. To Kaldor, the 'form of force' typical in modern armies results from a combination of the 'techniques of force', characterized by the hardware itself; and the 'relations of force', meaning the organization of the military unit. The forms of force being implemented today have a built in tendency for expansion, resulting in an arms race. The reasoning here is that the armed forces typical today proceed hand in hand with the arms industry, which reflects in whole the industrial tendency in the advanced world. In other words, it is erroneous to divorce the arms race from the mode of production of which it is a product. Hence, even the relationships between military units resembles that apparent in the structure of society which parallels industry in the advanced world, since it is there that the arms are produced. The inclination of industries to expand and find markets abroad does not stop at the arms industry which merely reflects the mode of production in the metropolis.

Now, these arms produced in the West are transfered to developing societies where the advanced mode of production does not exist. The

'techniques of force' implemented will then, no doubt, have an effect on the social relational system. The technology imposes a pattern on the third world which reflects the structure of the metropolitan industrial centers. So, the function of arms parallels industrial goals in the core from which the arms are a product; the extraction of resources, the protection of liberalized policy, or whatever. These relations seep into all related structures, including political policies which reflect the willingness to carry out the roles cited above. Recall that these types of economic behaviours were viewed as benefitting growth from the modernization standpoint. Pye, for instance, proclaimed that the introduction of advanced technology coerces advanced forms of behaviour and organization which leads to the westernization and hence progression of the system. To Kaldor, and to other dependency theorists, the restructuring of the social relations in the third world provides the mechanism for the channeling of resources from the periphery to the metropolis. Viewed in this light, modernization theory may then represent a justification for this reappropriation of resources. Therefore, "the impact of western-type armies into modern third world countries could have very important political implications for the transformation of the prevailing social formations" (Kaldor, 1978;68).

The social formations inaugurated via militarism are not conducive to development in the broader, neo-Marxist sense of the term. Commodity exports produced in the countryside are generally used for the supply of funds necessary to import military goods. These goods are then not of value to the hinterland from whence they were

attained. Countryside products are spent in the metropolis, all translating into a further development of underdevelopment.

Kaldor's theme is echoed by a number of theorists. Lock and Wulf mention that the biggest difference between metropolis and peripheral modes of production is the intensity of labour necessary in each to promote development. Advanced technology requires the capital intensive techniques which are subservient to the needs of industry in those countries. In other words, higher wages in the West promotes the development of weapons which need a small but experienced force. In the developing world, these transported techniques require the use of foreign experts for training and operation. Luckham utters similar sentiments by stating that technological dependence has successfully shaped the developing world such that the division of labour necessary for an army has spread throughout. The complex hardware brought in from abroad accentuates the complexity of the military establishment and, "once set in motion, this process of professionalization on the one hand and absorption of external technology on the other tends to be self-perpetuating" (Luckham, 1978;37). Finally, Eide reports that the infiltration of alien technology disallows for local creativity thus stunting local development. Complex technology, and the operationalization they employ, represents an exact negation of development since the patterns they create equally negate the ability of these nations to develop naturally, placing a barrier on local creative design that would parallel their own formation.

Wolpin's theme is generally more dramatic. Here is a theorist who fully assimilates the paradigm by announcing that no change in

military strategy can benefit the Third World since it is the entire state of the interaction between the metropole and the periphery that creates underdevelopment. Removal of armaments from the core would simply leave the developing nations vulnerable on a different front. Therefore, Wolpin suggests that an entire break from the system is necessary for advancement. Radical militarism, so visible in today's developing world, is a sign of the growing class consciousness evoked by years of domination by the West.

To Wolpin, a nation connected to the capitalist world economy but not involved in arms importation would use savings for luxury goods or other imports or investments that would not necessarily advance the social good. In any case, the dependency existing in the arms industry, like any form of dependence and domination is associated with a chronic balance of payments problem and spiraling debt burdens which are increasingly unsupportable. Furthermore,

> "most of these considerations would not be applicable to cases where the transfer of such technology was integral to a state capitalist directed strategy of development... It is worth pondering that only Marxist-inspired mobilizational systems in the underdeveloped areas seem to be closing the gap with the advanced capitalist societies... Eventually, both the democratic elements in Marxist ideology along with the rise in mass-cultural levels will create a propitious environment for those committed to furthering socialist democracy" (Wolpin, 1977;141).

Tying military spending in developing nations to accumulation of wealth in the West, the dependency authors have necessarily linked the world into a global matrix wherein each nation takes their place on a hierarchy where those further down reap the least benefits and are in fact the target of exploitative policy. Military spending can

therefore serve no beneficial purpose since it represents a further dependence. On the contrary, military importations typically serve the core's need to expand their arms market to fuel the arms race. The emphasis on this integration into the world market places the onus for change on global dimensions, leaving the developing nation no option in terms of their own future.

The Determinants of Military Spending

Research into the determinants of military spending has, for the most part, taken place in isolation from both the theoretical discourse over the forces of development and the association between military spending and development. As Maizels and Nissanke state, "almost all quantitative analysis of the impact of military expenditures on the economic growth of developing countries has taken such expenditure as exogenously given" (Maizels and Nissanke,1986;1127). This separation may be justified if the factors which influence militarization represent a different issue from the nature of development. Yet, if an association exists between military spending and development, then the determinants of spending have at least an indirect effect on development since they serve to increase or decrease levels of spending in the first place.

There have been several studies, all of the quantitative variety, which attempt to ascertain the determinants of military spending. The first quantitative analysis of the determinants of military spending in developing countries was provided by Lotz who, using regression coefficients, claimed a negative relationship exists with per capita

income and positive relationships with the existence of natural resources, urbanization and government expenditure as a percentage of GNP. The negative association between military spending and per capita income exists because; a) a military establishment must maintain a certain minimum size despite income level therefore creating an unproportionally high ratio of military dollars to income in poorer countries, and b) spending in poorer countries may be forced to rise due to potential aggression from wealthier nations. The relationship to natural resources occurs because of the need of sophisticated forces to protect these goods. Urbanization is seen to be a proxy for social change. The government budget is seen as an income constraint on spending. In addition Lotz does recognize the potential effects of foreign aid on the military establishment, claiming that such inflows relegates the income constraint negligible. In general, viewing a number of areas of spending individually, Lotz concludes that trade-offs do exist due to budgetary constraints on the central government. Governments may then choose between different spending policies. Lotz adds, "it remains a question, however, as to whether these choices are made in such a typical way that an analysis will show that a high level of spending on one function is typically associated with a lower spending on other functions" (Lotz, 1970;138).

Lotz' study is revealing in his analysis regarding trade-offs between types of spending. Very little in the way of a concrete association is, however, established. Lotz mentions the possibility of trade-offs, yet wonders how they occur and in what format, or, if indeed any typical trade-offs occur. The trade-offs that exist

between military spending and other forms of spending are therefore still in doubt. His individual analysis of military spending is only partially substantial. Although indicators such as per capita income are no doubt a question in the determinants of military spending, Lotz does not examine factors that are directly related to the military establishment such as its function within and outside of the nation, a potential threat, the existence of conflict etc. Hence, spuriousness is a potential problem in this analysis.

Deger briefly examines the present issue on a number of occasions (1981, 1985, 1986). These analyses exist in conjunction with equations that test military spending's socioeconomic effects, therefore Deger does not completely examine the issue since her main focus is not on the determinants of spending itself. Yet, it may be useful to summarize the findings.

The regression formulas found significant positive associations between military spending as a dependent variable and government expenditures, per capita income, a dummy variable for oil-exporting and non-oil-exporting countries, and a dummy variable for war or non-war economies. Deger, as well, found a significant negative relationship with the degree of international integration. Although this variable is left relatively unexplained, the suggestion that those nations who are more integrated globally spend less on the military is an important one. This may suggest that nonaligned nations who wish to remain excluded from the global matrix of trade and diplomacy either need to protect themselves by increasing spending, or, perhaps, they receive less in the way of international military aid.

The positive effects of government expenditures and oil exportation parallel the findings of Lotz. Oil, for instance, can be considered a valuable resource which may urge nations to build up their military establishment in order to protect their wealth. But, there is a second possibility. Oil-exporting nations, being wealthy and fast growing economically, have more to spend, have larger budgets etc., and thus spend large sums on weaponry importation. This is further evidenced by the positive association found between per capita income and military spending, in direct opposition to the findings of Lotz.

Now, Deger's most significant variable is a war economy, urging her to conclude that war or the threat of it represents the most essential determinant of military spending. The countries classified as war economies are Israel, Jordan, South Vietnam, Egypt and Syria. Deger explains,

> "the determinants of military expenditure in any LDC, however, are largely autonomous from my point of view. Benoit has given ample evidence of this, and independent investigation seems to support the contention. Defense burden may depend on the production of 'security', which in turn is related to whether the country is at war or not, as well as its size, population, integration with the international economy, or ownership of natural resources like oil. Therefore, the explanatory variables in the defense equation are relatively exogenous" (Deger, 1985;43).

Deger claims a war economy is the single most important predictor of the military burden and mentions five such economies. But, Deger, by her classification scheme, seems to be isolating a certain type of war economy while ignoring other related factors such as the internal war that goes on in,say, El Salvador, or the highly militarized establishments of a number of other developing nations. In conclusion,

Deger's finding advance those of Lotz, but she is primarily interested in the effect of the military on growth and therefore oversimplifies the determinants of the military burden, which in themselves may be interrelated, a possibility refuted by Deger in her exogenous hypothesis.

The most comprehensive analysis into the determinants of military spending was completed by Maizels and Nissanke (1986), who separated various political, military and economic determinants and constructed a matrix of effects based on the national, regional and global function of these effects. The authors argue that previous research falsely assumes military spending to be autonomous. In other words, there are a number of factors which determine levels of spending. For example, the State itself is rarely a neutral body, serving the interests of the entire society, in developing nations, and often, particularly where the military serves as the ruling elite, may seek to maintain their status in the face of internal opposition. The existence of internal opposition may then increase levels of spending. War, or the threat of war, may serve a similar function in terms of determining levels of spending, but considering these two forms of opposition, war must be viewed from both an internal perspective, considering the existence of civil war, and an external perspective, considering relations with neighbouring countries. The magnitude of the military force is therefore controlled by both internal social conflicts and the potential aggression from neighbouring countries. Other factors, such as the degree of involvement in either USA or USSR power blocs in terms of a global geopolitical strategic partner, may

determine the extent of foreign aid, foreign involvement in military facilities, assistance in providing military equipment and training and pressure to expand the establishment and should be considered as separate determining factors. Maizels and Nissanke go on to introduce a range of determinants which can generally be classified as global or national, such as the adherence to a global power bloc and the size of the government budget.

Five factors result in positive and significant effects on the military burden. Both interstate or civil war and military use of violence prove to be related to military spending. As far as economic variables are concerned, central government expenditures and growth of foreign exchange availability are the determining factors. Finally, the global alliance factors, represented by an arms supplier concentration scale is positive and significant. It would be further beneficial to subdivide this alliance into Western, Eastern and non-alliance to note the individual influence of the connection to the different power blocs. Generally, Maizels and Nissanke have demonstrated the importance of geopolitical factors as well as the nature of military activity in determining levels of military spending.

The differences between these analyses make it difficult to arrive at any definite conclusions except to say that aggression and the threat of it is a major factor in the determinantion of the military burden, whether this aggression be internal or external. Further analysis must no doubt expand on the Maizels and Nissanke model accounting for the nature of the state, the military orientation and

the individual alliances of each nation, factors omited by the authors. In addition, no previous analysis has considered the subsequent socioeconomical effects of these types of spendings on the society in general. Although Deger hinted at such an analysis, a more complete study would utilize the Maizels and Nissanke model in relation to the determinants of development.

Conclusion

The above review has indicated that a number of splits exist in previous research dealing with militarization and development. There is, for example, a split between theory and research which attempts to draw the link between militarization and development and that which attempts to ascertain the determinants of militarization. Now, one might assume that because the modernizationists discuss militarization in terms of the endogenous notion of change that levels of militarization and military spending naturally increase as a nation moves up the evolutionary scale. In contrast, dependency, viewing the interrelationships between nations, would suggest that levels of militarization are decided upon in the advanced nations according to geopolitical and economic criteria, in board and conference rooms thousands of miles from the government house of the developing country. In both cases militarization is an autonomous variable. Its level is decided by forces which cannot be controled.

Studies which have looked at the possible determinants show that the view of militarization as an autonomous variable may be misconceived. Universally, studies show that war and the threat of

war serve to increase military spending. If so, then war would at least indirectly increase development if the modernization paradigm is to be accepted, or decrease development or proliferate dependence if dependency and the opportunity costs arguments are valid. Degers finding that international integration plays a part in deciding levels of militarization suggests that there are global political and economic conditions and connections related to militarization.

The second split in previous research obviously occurs in the different theoretical perspectives used to discuss the issue. Those who see militarization in a positive light have developed an argument which justifies that result. The same is true for those who see the connection in an opposite way. It is clear from a review of studies which attempt to assess the effects of the military burden on economic growth, that Benoit's initial formulations are, at least, inaccurate. In fact, much support for the modernization approach has not surfaced since Benoit's publication. This would seem to suggest that it is the interassociations between nations which play the key role in determining the influence of militarization, an approach favoured by the dependency theory in opposition to modernization. Yet, research proceeding Benoit has not provided conclusive evidence of this opposing view. Despite searching for a negative association, some researchers still find any quantitative result to present inconclusive evidence as to the association between militarization and development, (see, for example, Rosh, 1986). Hence, weaknesses must exist in the dependency framework as well.

In conclusion, there is yet no definitive answer to the question of militarization and development. There are, however, possible directives suggested by previous research that could lead to a more comprehensive approach to studying the problem. Specifically, amalgamating the laudable aspects of previous work may lead to a discussion devoid of the splits and confusion in the past years of inquiry.

III- A NEW APPROACH TO THE STUDY OF MILITARIZATION

Polarized Views

The review of the literature has demonstrated, to some extent, the complexity of the military spending - development interaction. On the one hand, the issue of militarization includes both factors that determine levels of spending and military activity plus their subsequent effects on development. There has yet to be an analysis completed, much less a comprehensive model created, which link these two phenomena. On the other hand, the debate over the effects of militarization is dominated by divergent perspectives which follow the general developmental theory of which it is a product. Now, in its broadest context, developmental theory is dominated by two virtually diameteric ideologies of progress. On the one hand is the view that the forces which bring about a state of underdevelopment, and consequently the onus for change lie internally within the nation itself. Out of this perspective rose the modernization paradigm, a theory that primarily underscores internal workings of the State and the stages of development characterized by the various nations of the world. Opposing this view is the notion that underdevelopment is inherent to the relationships within a global matrix, that is, interrelationships between nations. Out of this tradition grew the dependency paradigm, a theory which, at its focal point, considers the associations between the less developed and the advanced world.

The review of the past approaches of the study of militarization and development demonstrated that theories of militarization generally fall into one of these broadly defined categorizations. In a sense these themes represent polarized views of the world since their assumptions about development and progress are completely contradictory. Since each theory attempts to ascertain the determinants of underdevelopment with tools of dichotomic reasoning, the conclusions arrived at by viewing militarization through these opposing lenses necessarily differ greatly, and hence the hypothesized effects of militarization differ depending upon the particular perspective under focus. Whereas modernizationists see militarization in a positive light, dependency theorists view militarization as proliferating a dependent situation favouring the already advanced nations. To the modernizationists, increased militarization may in fact represent a move towards increased westernization, therefore promoting economic progress. Conversly, dependency views military spending as facilitating the international division of labour, thus functioning to increase the dependency of the developing world.

The urgency of determining the laudable aspects of each perspective is apparent. The perpetuation of underdevelopment in third world countries, coupled with the present epoch of increasing military budgets, advocates the need to define the determinants of the militarization - development model. It is through an examination of the web of theoretical assumptions created by these two polarized views that a better understanding of this interaction can be obtained. And, since neither theory has been found to satisfactorily explain the

socioeconomic effects of militarization in whole, nor define and fully account for all the determinants of militarization itself, it is through this examination of the intricacies and finer points of each theory that a clear view of the interaction can be obtained. Granted, one perspective may hold more explanation power over the other. However, since the perspectives under scrutiny represent polarized views, it may be that each benefits and is hampered by its radical viewpoint in similar ways. A meeting of the two, or choosing the middle path so to speak, may therefore be able to benefit from both. Or, if one perspective is better equipped to view militarization this should also surface from an analysis of both sides of the issue.

Modernization and Dependency Revisited: A Critique

In discussing the military in developing nations, modernizationists generally focus on the ability of the army to train personnel, diffuse rational behaviour, provoke nation building etc., which leads to economic and societal growth because of the impending westernization of the underdeveloped culture. Increased military spending, as a process of militarization, is generally tacitly implied in these arguments, and only occasionally explicit. The works of Pye, Janowitz and others are important in that they clearly assimilate the theory in the context of militarization. Levy, and more directly Benoit, serve as salient illustrations of how these notions relate to military spending. Levy's conviction that nonmodernized states are most easily coerced into incorporating advanced technology by way of military weapons not only translated into the importation of armaments but truly combined the theory of diffusion and westernization and the

practical of increased militarization. Benoit dealt directly with military spending and found that economic growth and spending is positively related. His explanation of this result is primarily based on the economic effects of increased investment occuring in an atmosphere of security and the boosting of aggregate demand and therefore utilization of resources and the spin-off effect of training, but also the psychological effects of the internalization of modern attitudes and the congregate sense of nation building. His justification of the statistical result then, parallels the themes presented by other modernization theorists, particularly those of Janowitz.

Of significance, however, is the proposed role of the State in the above mentioned works. Military spending, and the consequences of such policy, take place solely within national boundaries. Hence, boosting utilization of resources benefits the individual state, modern attitudes are diffused to citizens of the nation, etc. To Levy, the decision to import weapons takes place in the houses of government of the individual state. As Nettl posed, each nation decides, without influence, which faction of the society they will choose to modernize. Similarly, Pye, Janowitz and the rest proposed arguments which centered on the individual nation's ability to modernize. The onus for change lies within national borders.

It is this emphasis on the internal and the role of the State, which forms the basis for much criticism of the modernizationist viewpoint. Modernization, being so internally oriented, is unable to view the existing international associations. Dependency theory,

concentrating on the international connections within which underdevelopment manifests itself, attacks the view that the State alone is responsible for its own development. Further, a host of other writers, (see, for example; Arlinghaus, 1983; Jolly, 1978; Klare, 1981; Sanger, 1982) maintain and have demonstrated that there are international factors which influence both levels of military spending and spending's influence on development. According to Luckham (1978), arms spending by developing nations serves to draw them into the global matrix and into international associations which favour the developed, not the developing, world. The trade in arms favours the producers whose industries are fueled by third world buyers. In turn, these inputs have little productive value for the buyer nation. Furthermore, military spending adds to the pressure to increase and conserve hard currency and therefore the need to attract foreign enterprise through investment increases, perpetuating, according to Luckham, a further repatriation of wealth. Relying on the advanced nations as a source of its technology and military hardware, the developing world relies on international purchasing power earned on the world market, interconnecting them into the global matrix.

Luckham concentrates on the level and inevitability of third world integration into the capitalist world economy when militarization is involved, as well as opening the door to a discussion of the effects of the American versus Soviet struggle for domination on the developing world. To quote,

> "the accumulation of armaments in peripheral countries is linked to the accumulation of capital in the central capitalist countries: both directly in that military

> spending in the Third World creates markets for the arms industries of the industrialized countries and indirectly in that it increases pressures on the Third World countries to earn the hard currency for their military purchases by trading in the world market or encouraging the inflow of foreign investment" (Luckham, 1978;51).

The supplier - receiver dialectic implies a certain integration into the capitalist world economy which increases the hegemonic position of the West since this integration is characterized by economic dependence. Added to this is the contradictions brought about by the socialist versus capitalist arms race. The need of these two sides to continue the technological and complex production further pressures for the marketing of arms in order to balance the budget. Thus, Luckham concludes, "competition among the capitalist arms suppliers and the struggle for hegemony between them and socialist suppliers are both responsible for an increased transfer of military resources to the Third World" (Luckham, 1978;55).

In short, Luckham conveys the idea that military spending primarily supports a maintenance of the status quo, be it the elites within a developing nation, or the core - periphery relationship. The latter association is reiterated by Klare (1982), a political scientist, who has mapped out the political and economic factors influencing the United States arms export program. Basically, arms sales are used to lend support to strategic interests abroad and to economically fuel domestic arms production which is driven by the need to advance the arms race. To quote,

> "although strategic considerations are cited as the principal motive for increased military sales, Pentagon officials acknowledge other compelling reasons: to help secure a favorable balance of trade; to insure full production (and thus full employment) in the ailing aerospace industry; and to extend the production run of U.S.

> weapons and thus to reduce the price Washington pays for its own military hardware" (Klare, 1982;35).

It is the desire to increase its own military capacity that pressures western arms production agencies to market abroad. The increase in military spending in the developing world thus serves the purpose of the core suppliers as opposed to those who actually buy the arms. Similarly, the strategic functions further complicate the matter when one considers some of the more intricate associations involved in development assistance which is often tied to militarization. To quote Luckham, "military spending and high measured growth in non-military GNP may both be the product of other influences, such as the tendency of the major powers to pump economic development assistance as well as military aid into countries in which they have strategic interests" (Luckham, 1978;44). Thus, some have emphasized that arms transfers are determined by the geo-political circumstances surrounding the individual third world nations. Luckham, for example, points to the cold war as a key mechanism in the military matrix. Smaldone found that; "although U.S. transfers to Africa are designed to serve a multiplicity of policy objectives, historically the magnitude and distribution of U.S. security-assistance programs in Africa have been determined principally by political and military-strategic importance of the recipient to U.S. global and regional interests" (Smaldone, 1983;213).

This view of the interaction between the developed and developing world suggests that the suppliers of arms have a stake in the continuation of the arms race and the maintenance of the present world order. Consequently, Jolly (1978) anticipates that only wholesale

changes in international relationships and practices will allow developing countries to become self-reliant and gain fuller control of their own economic direction. Yet, given the circumstances surrounding today's global arms industries, the extent to which nations can control their own military destiny is moot. Luckham has explained that, to a degree, the flow of arms is determined in the producing nations where high resource and development costs create pressures to market abroad. Such pressures can often be connected with subsidies allowed to the buyers intending to alleviate some of the financial burdens associated with arms sales. This allows arms industries to continue increasing their production which, in turn, increases the resource flow from the periphery to the arms industries, maintaining the technological pace, increasing military forces in developing countries and in the end, perpetuating the link between the producer powers and the developing military market.

Arlinghaus (1983) specifically sets out to explore these international links in his article, "Linkage and Leverage in African Arms Transfers". To him, the phrase 'linkages and leverages' refers to the implicit and explicit links that are granted to supplying nations for arms trades. These links include trade benefits, foreign exchange transfers, foreign aid, etc. Such arms transfers can be used as an instrument of policy, yet, considering the positions of the nations involved in the transfers, the benefits often overwhelmingly favour the advanced nations. Says Arlinghaus: "that the foreign policies of those countries, especially in relation to the developing world, should so focus on the supply of weapons as an instrument of

international diplomacy should be equally unsurprising, since world military expenditures annually exceed $450 billion while economic aid totals only $20 billion" (Arlinghaus, 3). The theory of linkages and leverages not only assumes a general advantage to the suppliers in international arms transfers but also insinuates that present relationships are maintained by an acceptance on the part of the developing world to trade military goods for provisions that allows encroachment into their economy. But, Luckham warns that the economic benefits which might accompany military involvement do not exceed the costs for developing nations who must, by virtue of their entering the arms dialectic, succumb to the pressures leveled by the hegemonic states and the arms producer industries thereof.

Such realizations have urged developed nations to heed the advice of Jolly and attempt to develop an arms industry for both domestic purposes and external export. Now, even though Kolodziej (1985) outlines the incentives involved in an enrollment into the arms industry, production is virtually impossible without continual ties to the production industries in more advanced nations. According to Luckham, 85% of military resource and development still takes place almost exclusively in the U.S.A and the U.S.S.R. Countries like India and Brazil, which develop some weaponry, still do so under licence. With the technical arms race taking place in the supplying countries, hardware patterns tend to fit in with the production techniques used in the advanced nations. Says Sanger, "however much a developing country hopes to become self-reliant in domestic arms production, it finds it has to continue to import military technology." (Sanger,

1981;50) Or, as the Hamburg group noted, the only items produced in developing nations tend to be sub-systems, leaving the complicated components to the production facilities in the metropolis. "In this way, the technical know-how necessary for partial production is transfered to the developing countries, while the technical capacity required for complete weapons systems remain in the countries of origin" (Albrecht et al., 1976;334).

The expense of research and development and sophisticated technology transfers results in joint ventures and co-production projects being established which effectively uphold the advantage of the developed nation's arms industries. And, as Varas and Bustamante explain, a good majority of the export of production does not include the most advanced techniques being developed by the rapid advancements in research and development.

> "Manufacture under licence is one of the most important forms of transfer of military technology to the Third World. It is by this method that a system for the manufacture of a specific type of armament previously developed by the arms industry of the industrialized countries is exported. This process derives essentially from the need of the science and technology industry itself to prolong the useful life of a particular military technology and maintain the profitability of equipment which is already obsolescent in the supplier country" (Varas and Bustamante, 1983;146).

The need for establishing joint ventures and co-production projects underscores the fact that, in some form, a developing country must continue to import military technology due to the difficulty involved in developing the substantial innovative capacity needed to compete in the global arms industry.

Lock and Wulf (1977) add to the argument already outlined by presenting the notion of the dependency chain introduced when advanced weapons systems are incorporated either through production or mere importation. Supplementary inputs have become indispensable for support of a weapons system such as spare parts, foreign experts for training, subsequent purchases needed to garnish proficiency, right down to land needs. These chains of supplementary imports seem endless, according to the authors. "Large proportions of future import bills are drained to keep the military imports operational, since military technologies reflect the confrontation of highly industrialized countries and thus cannot be serviced from the limited industrial base of the developing country without large imports of hardware and software" (Lock and Wulf, 1979; 130).

The above comments support the notion that militarization is often tied to the global political arena and the possibility of a nation determining its own needs, as far as military spending is concerned, is limited by their connection in the global matrix. Hence, Albrecht and others have postulated that modernization, as a theory, was constructed primarily as a justification of policy objectives of western governments. Militarization served both economic purposes as well as strategic needs brought about by the division of the world into East and West. Modernization research such as that by Rostow was often funded by the U.S. Administration and was meant to "enable politicians to make effective decisions on how to preserve noncolonial forms of dependence and exploitation" (Albrecht et al., 1974;179). Frank points out that Rostow himself wrote under the auspices of the

U.S. government while, in fact, being a member of the State Department. Says the Hamburg group, "it is needless to stress the point that these military-sociological (modernization) 'theories' do not explain much, but the certainly do function to legitimize and justify the expansion of the military in the periphery" (Albrecht et al., 1974;180).

The arguments of modernization and Benoit's results are also generally not fully supported by past quantitative analyses. For example, two studies by Fredriksen and Looney conclude that military spending has both positive and negative effects, depending upon certain conditions. The aforementioned conditions are based on the 'resource constraint' versus the 'resource abundant' situation that exists in each nation whereby those who experience 'resource abundant' conditions, or those nations with more wealth, can afford to maintain a military establishment and, indeed, prosper by doing so. The other nations, those with limited resources, are hampered by their military.

Rothschild (1973), performed a limited analysis using Spearman correlations. In his analysis military spending is negatively related to growth but insignificant. With a sample of only fourteen it is difficult to generalize from these results in any case. What is interesting though, is that Rothschild has shown that Benoit's correlation of +.55 between growth and military spending may alter depending upon the size of the sample and the classifications of nations analyzed; that is, Rothschild has selected nations with lower levels of growth than did Benoit.

Lim (1980) shows that the effect of spending on growth may differ depending upon the region under scrutiny. Faini et al. (1981) conclude that this effect is negative, except in already developed regions. Deger and Smith (1983), point out that although military expenditure and growth may be positively related, this result is reversed when it is mediated through savings. In other words, military spending serves to deplete savings which has a detrimental effect on growth and thus there are indirect negative effects of military spending on growth of the economy.

These studies point to the likelihood that the incorporation of 'Western' values such as increased bureaucratization, working by the clock, etc. do not necessarily lead to development. Modernization states that such 'westernization' allows a nation to recapitulate the development of the advanced nations. Yet, the development of the West took place under different circumstances than exist today in the developing world. In addition, it is not definite that all developed nations would want to rehash the western experience if an undisputed opportunity did present itself. Believing that the western experience can be repeated, represents the pinnacle of evolution, or that it will be repeated due to the endogenous notion of change, translates into pure ethnocentrism.

In any case, the positive correlation found between militarization and development by Benoit is not a universal finding and Albrecht goes so far as to outline several explicit purposes served by projects similar to those conducted by Benoit which insist that there is a positive relationship between military spending and development.

First, they are used to outline the pros and cons in securing dominance of the capitalist mode of production, "while analyzing socioeconomic reality only partially" (Albrecht et. al.,1974; 181). Next, they serve the elites in the developing states who utilize arms for securing dominance. Third, their exposure facilitates raising the ceiling on defense expenditures by justifying the same. Finally, they serve to justify an increase in military activities which enables the elites to subdue the masses who may grow weary of this described exploitation. In fact, Albrecht sees modernization as a theoretical viewpoint which legitimizes the expansion of the military. Such an outlook brings about a compulsion for increased military spending in hopes of transplanting with it some sort of economic growth. "What counts more often than real economic benefits in determining resource allocations favoring arms production is the 'perception' of economic and technological gain" (Kolodziej, 1985;30).

Wolpin (1977), as well, makes some derogatory statements regarding U.S. involvement in the militaries of developing countries, particularly in terms of training of personnel. Since World War II the U.S. has trained 400,000 third world military men (as of 1977), 2/3 of which were officers, and 80% of which have been socialized in the U.S. itself. According to Wolpin, this socialization has intentionally protected military dependence through the following themes: legitimizing 'civil' rather than civilian government; promoting development through corporate investment and its protection from the state; liberalizing of trade; denying exploitative capitalism; promoting faith in western and American leadership;

'diabolical conspiratorial and anti-military portrayals of communism'; controling exposure to U.S. society; and finally, promoting social activities meant to create deep rooted personal relationships (Wolpin, 1977;139).

Notwithstanding modernization's role in the justification of military spending, the above arguments show that military economic activity generally benefits the supplying nations, typically the West. As a U.N. report states, "the trade in arms has opposite effects on the economies of importing and exporting countries. What is involved is a highly unequal exchange, detrimental in particular to efforts to close the gap between poor and rich countries" (United Nations 1978a;142). This unequal exchange resembles that which was hypothesized by Amin. The dependence of the poorer nations on the producing countries for arms and military aid results in a transference of resources so emphasized in Frank's discussions. Furthermore, the ability that the State itself has in determining policy with regard to militarization can now be questioned in light of the above arguments. The important point to be made is that there are indeed global factors which must be considered to be operating. These factors, be they strategic alliances or dependency on advanced nations, influence the developing nations in terms of militarization. A critique of modernization thus revolves around an assault of its assumptions of the role of the State. Dependency, on the other hand, assumes that development manifests itself within an historical and interglobal framework. Exploitation takes place between nations where one holds a distinct advantage over another. The wealth of the West

is, by no small degree, determined by their parasitically feeding off the resources of the less developed world. There is therefore no transcending laws of development but rather, the laws of economic power become the focal point.

A glance at Kende's (1977) survey of wars and warlike disputes shows that well over 100 conflicts can be characterized by the threat or use of violence in the 30 years proceeding World War II. Albrecht (1976), noting this figure, adds that some 10 million people have perished by the use of armaments in the same time period. What is interesting, however, (if the sum quoted above does not provoke interest enough) is the extremely high percentage of these conflicts that took place between and within borders of developing nations. Moreover, all of these disputes involved at least one industrial nation either directly, in terms of actual military presence, or otherwise, as a supplier of arms, military assistance, etc. This evidence can easily be worked into a criticism of the modernizers, since it affirms the integration of the world and the involvement of the West in the militarization of third world nations, while at the same time adds merit to the dependency theory for the same reasons. The fact that the advanced world has a stake in the militaries of and the geopolitical and strategic conditions of the developing world is evident by this fact. It does not, however, completely absolve dependency from all censure. When the military spending - development interaction is specifically considered a number of weaknesses must be brought hither if a testable comprehensive model is, in the end, to be formulated.

Indeed, the methodological testability of dependency is an area of concern. Rates of growth are easily detected, but dependency involves a much more conceptual formulation. Gunder Frank, and others, have thus used an historical analysis to show how developing nations were initially coerced into the capitalist world economy. Hence, the determination of levels of dependency are distinctly descriptive and occasionally tend to be vague. A step must then be taken when assuming that these associations represent 'dependent' relationships. A further complication arises when attempting to measure the effects of military spending specifically. Since dependency theory is tied to a Marxist theoretical approach it does not consider militarization to be a problem per se, but points to world capitalism in general as being the root cause of underdevelopment. Paralleling a dialectical approach to methodology, dependency begins with the core idea (capitalism) and attempts to draw connections between it and all other areas of concern in the developing world. Militarization, being only part of the problem, has thus not attracted the attention of those who wish to test hypotheses related to the perspective.

A second problem occurs when one notices that dependency writers rarely, if ever, include socialist nations in their analysis. Dependency involves domination by the West, but what of the East? It is possible that the effects of military spending on developing countries differs depending upon the subordinate nation's affiliations. Luckham mentions the contradictions that arise in the Soviet - American struggle for hegemony. Yet, little is said about the role of military spending in those nations who receive weapons from the East and are aligned with the Soviet Union.

Dependency rarely mentions the Soviet aligned states, yet advocates a move towards a utopian form of socialism if a nation is to break the bonds of domination and progress towards a state of development as opposed to underdevelopment. This particular policy implication can be moderately criticized. First, although dependency theorists advocate a break from the capitalist world market, they present no guidelines as to how this might be accomplished, nor do they outline what the economic structure of a progressive socialist system would look like. It can only be assumed that the present examples of Eastern Europe or China are not adequate since few of the dependency writers reviewed for this analysis even mention these economies. Second, it is difficult to imagine that a developing nation could break away from such an intertwined global matrix. It has been shown that in terms of militarization, such a move would be impossible due to the already established geopolitical and production interconnections and unreasonable since a break would leave a nation defenceless against other regional and global powers. Finally, it is questionable as to whether development would occur in a closed economy. For example, in a developing nation, where resource and investment are particularly scarce, a shutting of its borders would leave the nation without even the initial tools to begin a developmental process.

Domestic production poses another problem for dependency writers who assume that dependent relations exist even when a nation exploits its own industrial capacity for the use of armament production. Although it is true that production in developing nations is usually

through joint ventures and co-productions, and breaking into the armament market is difficult due to the costs involved, recently a number of third world nations have begun producing and exporting weapons abroad. Like the benefits achieved by western nations who export arms, domestic production of this nature must surely be examined for the possibility that such activity alters the militarization - development model.

Perhaps the greatest limitation lies in dependency's mirror image of modernization; that is, being directly opposed to modernization, dependency is methodologically able to view the associations between nations, but its assumptions disallow for the inclusion of any internal mechanisms that affect the relationships. If it is supposed for a moment that the State does play at least a minimal role in a dependent nation's development, the following propositions could be considered: do the arms imported serve the function of internal policing or interregional conflict? Where are the arms imported from and what is the orientation of the nation buying military goods? Given the international connections and environment peculiar to a developing nation, there is a wide variety of reactions to militarization depending upon the internal circumstances of each nation. The State then has at least a limited role, given their situation, of producing, buying or utilizing militarization and military inputs. This can be easily seen in the regional confrontations that exist throughout the world. As Kolodziej states, nations can and do benefit at times from building a large armed force and maintaining regional superiority in terms of strength. This

military strength can spill over into economic domination and hence the incentive to arm. Whether or not the benefits from armamentation outweigh the costs, nations can choose at least a limited course of action, given their geopolitical ties, and can work within those limitations. Thus, internal determinants in the militarization - development model are not without importance. Furthermore, certain internal conditions may be present which can alter a nation's ties with others, or alter their internal position. For example, dependency fails to recognize the form of government that exists in a third world nation. Not only may this have an impact on a nation's level or condition of dependency, but the relationship between them and an industrial arms supplier and indeed, the effects of militarization itself.

This discussion seems to suggest that militarization is a global problem, but includes internal constraints and mechanisms that can play a determining role in the relationship between it and economic and social development. Given the analytical and methodological limitations of dependency theory, it can be concluded that a more comprehensive model include both internal and external determinants. In other words, it must recognize that each nation is surrounded by certain conditions that may construct its course between militarization and development. It must also recognize that some nations may have greater power in determining their own fate than others depending upon geopolitical ties, resource constraints, regional and global economic connections etc. Yet, the importance of interassociations and the dominant position of the advanced nations

cannot be forgotten. Hence, the concern should be to formulate a model that would be internationally comprehensive enough, yet would be able to view the potentialities of internal determinants within and without borders. Such a model would not only incorporate the finer aspects of the theories mentioned above, but may also allow itself to be tested and verified with greater ease.

Internal Versus Global Militarization

In order to emphasize certain aspects of each perspective the above criticisms and the following creation of a model utilizes a simplified version of modernization and dependency. The simplification is based on emphasizing the concentration of each theory on the internal versus global views of the world. Now, of the most interesting aspects of any comparison between modernization and dependency and their views of militarization is the very different assumptions about development that each carries. Viewing change as endogenous, westernization as ultimate and inevitable, moderization only considers development to be a national issue with each nation having the capability to promote change towards further sophistication. Militarization then is seen in a similar fashion. If, for example, military spending leads to spin-offs in terms of training of personnel or building of infrastructure, this occurs internally, within the nation. Viewing the underdevelopment of the developing world in conjunction with advanced nation development, dependency only speaks about this association between nations. A review of the assumptions and major arguments of each theoretical position then, and its relationship to the topic of militarization shows that, in essence, each is basing its

discussion on different aspects of the connection between militarization and development. In a sense, both theories talk past each other since they are really dealing with completely different ideas. Modernization deals with the role of the State itself in promoting development while dependency deals with the role of global associations in promoting militarization and development. Subsequently, the split in the theoretical reasoning of the effects of military spending on development arises out of the differing assumptions of theories of development. Now the influence of the theoretical polarization that was discussed earlier can be seen. The split in developmental theory leads to a split in the hypothesized result of increased militarization due to a polarized view of the forces of development and underdevelopment. That is, modernization places the onus for change internally while dependency sees change occuring only through global associations or externally. Considering this split, it is possible then that militarization can be viewed from two different perspectives, each looking at different associations. The first, that supported by the modernizationists, deals with the internal effects of the military or how the internal workings of the military affects development. The second, that supported by dependency, deals with global effects or how the integration of the military into the world system affects development.

Indeed, the arguments of Luckham, Smaldone, Klare, etc., which is refered to as support of the dependency perspective, dealt solely with topics such as the arms trade and global strategic alliances, arguments which consider the military connections of two or more

nations involved in an intricate web of associations. Benoit, on the other hand, regards the military within the system only and never introduces outside nations as possible factors penetrating the model. Militarization is, to modernizationists, a purely national issue. Change occurs through functions of the military which can be classified as internal. A military establishment which promotes a psychological sense of nation building, builds up the infrastructure of a nation by supplying roads and communication networks, or through contact with the population diffuses 'Western' values, provokes development due to processes which take place inside national borders. It is clear that the the two arguments used to construct the present model differ in their very essence.

Considering these two perspectives, and the assumptions that prevail over each, one might now assume that the separation of militarization into that which functions to integrate a nation into the global military matrix and militarization that affects the nation itself, have different relationships with development. In other words, if a particular form of militarization serves internal purposes similar to those refered to by Benoit, such as promoting nation building within borders or training personnel, then its relationship to development resembles the internal associations stressed by modernization, that is, aiding in the growth of the economy. If, however, militarization includes global ties then its association is dependent upon the global matrix, as proposed by the dependency authors. To advance further, these two types of militarization relate to two types of military spending; that is, global militarization

relates to spending that leaves a nation and therefore connects a developing country to another by way of military imports. Internal militarization relates to spending that is used to upkeep the establishment and build the infrastructure. If Benoit and the modernizationists are correct in assuming that militarization adds to the social and economic base of a nation, this will mean that a positive association exists between the form of militarization refered to by the modernizationists, or internal military spending and development, since modernization as a theory deals with the internal forces within a nation. And, since dependency theorists outlined the negative results of joining the world system, the association between militarization that includes global ties, or global military spending and development, would be negative. It is possible that, because both theories deal with what is, in essence, very different functions of the military, one nationally based and the other internationally based, these opposing associations theoretically exist when subdivided in the above described fashion. That is, military spending may be positive or negative depending upon to which function it is being referred, supporting both theoretical perspectives.

As a final note, it should be mentioned that the development of the comprehensive model considers the theoretical formulations of dependency and modernization and ignores the opportunity costs argument although the latter was discussed in the review of the previous approaches to the study of militarization. Since opportunity costs assumes that spending on the military reduces the ability to put resources into other programs, the argument is in part represented by

the dependency perspective in the model since it hypothesizes that the military results in a reduction of social development. In fact, a number of the advocates of the dependency view of militarization argue from both a dependency and opportunity costs framework and hence the two theories are not mutually exclusive. It is for this reason that the opportunity costs argument was reviewed earlier.

The Internal and Global Determinants of Militarization

Now the problem turns to the determinants of internal and global militarization. Earlier it was argued that because levels of militarization are not autonomous their determinants must be included in any comprehensive model. A theoretical basis for measuring the determinants of military spending, as well as an initial framework for viewing these determinants, was well established by Maizels and Nissanke (1981). Their comprehensive model attempted to integrate local, regional and global functions in conjunction with political, economic and military determinants. They introduced the importance of factors such as global alliances and internal use of violence in addition to the most commonly refered to determinant of war and the threat of war. Maizels and Nissanke can be credited for recognizing that military spending itself is affected by various phenomenal events and occurances both internal and external to the State. These factors can be said to be exogenous to the military spending - development interaction. That is, levels of military spending are not autonomous or inherently decided, but are affected by those international and local criteria. The determinants, on the other hand, affect both levels of spending and hence, the development of a nation, the next

step in the interaction not considered by Maizels and Nissanke. Political alliance, for instance, may have an influence on levels of spending, but it is possible that these affiliations, because of strategic, aid related or other factors, affect social development both independently and through military spending indirectly. Unfortunately, the Maizels and Nissanke model falls short on two fronts. First, the step they take from theory to practice is slightly disappointing since they reduce a number of essential items regarding political and military activity to a small number of dummy variable indicators. For example, inter-state or civil war and military government use of violence is used to indicate the nature of the state, the vested interest of the military establishment, the existence of internal repression, civil war and regional war. On a global level, adherence to a global power bloc and foreign military aid is represented by a five point scale that they constructed representing the proportion of arms coming from the principal supplying country. The complex theoretical development is somewhat simplified in operationalization, but their indicators are nonetheless revealing.

Next, Maizels and Nissanke fail to complete the picture by ignoring the subsequent influences on development. In addition, the Maizels and Nissanke model can be discussed in terms of the two types of militarization and military spending introduced above.

Maizels and Nissanke divide their determinants into those that exist on a national, regional and global level. Influences at the national level involve those events, situations or conditions that

exist within the nation itself, such as the existence of civil war or the nature of the State. In other words, these political, economic and military factors do not involve a connection between the State and other nations and therefore if a determining factor exists on a national level, it is likely that it influences internal spending as defined in the modernization sense. One example of a national determinant is the domestic production of arms. A nation harbouring or wishing to begin domestic arms production may increase military spending in order to establish the industry, build the production facilities, hire workers and generally run the production unit. Spending here involves a building up of the infrastructure in terms of creating an industry, while at the same time the benefits accrued relate to those hypothesized by modernization, that is, the training of personnel needed to organize and run the production facilities, the inculcation of 'Western' attitudes by the workers involved in the industry, diffusion of western technology associated with the arms industry, etc. Hence, there is a theoretical connection between the determinant of internal military spending and development.

If a determining factor exists on a regional or global level in accordance with Maizels and Nissanke's model, it is likely that it influences global spending as defined in the dependency sense. Regional and global influencing factors are those which involve both the State itself and other bordering (regional level) or non-bordering (global level) nations. These are factors which determine military spending based on circumstances that exist between the nation and other nations, such as regional war or global alliance. The

existence of war with border nations is one example. Countries engaged in war will increase their arms imports in order to maintain or increase their military strength relative to their opponent. Since spending of this nature leaves the nation in exchange for arms, it involves nations in the international military matrix. A nation buys arms from an industrial nation in exchange for funds earned on the world market, integrating them into the world system, a process which, according to dependency, favours the more developed countries. Such activity hampers development.

From this description it can be seen that the determinants of spending can not only be divided into those which affect internal militarization and those which affect global militarization, but also influence the military spending - development interaction, hence, the importance of developing a comprehensive model which combines the determinants of military spending with spending's affects on development.

In total, nine factors are to be considered as determinants of militarization. These variables are derived from the original theorization by Maizels and Nissanke, but altered somewhat for the purposes of the present analysis. These exogenous factors, (exogenous because they are seen to be the ultimate determining factors of militarization, instead of militarization itself being exogenously given), relate to political, economic and military factors. They are also subdivided into those which deal with internal functions of the State and those which deal with the interrelationships between nations and therefore are global determinants. Below is a chart which

displays the exogenous variables following which each determinant will be individually discussed in terms of its theoretical connection to the model being developed in the present chapter.

	INTERNAL DETERMINANTS	GLOBAL DETERMINANTS
POLITICAL FACTORS	1. nature of the state	6. global alignment
ECONOMIC FACTORS	2. wealth of the nation 3. domestic production	7. foreign military base 8. supplier nation
MILITARY FACTORS	4. internal military activity 5. orientation of the military	9. existence of war

Maizels and Nissanke included the nature of the State in their original formulations, hypothesizing that, "a military dictatorship can be expected to maintain a larger military establishment...than would a democracy...the more powerful the military in relation to the civil power, the greater the chances that the military can increase its share of the government budget" (Maizels and Nissanke, 1980;1129). On a developmental level, Wolpin attempted to judge the performance of military versus non-military regimes in terms of development. The allocation of resources in various state structures is determined by different means. In parliamentary systems where leaders maintain power through the acceptance of the population, programs put in place must deal with the present wants of the group. Goals which aim at reelection may therefore differ from either military or despotic regimes which maintain power through other means. The performance of these state structures in terms of social and economic conditions may subsequently differ. It may be expected that parliamentary regimes receive higher grades in terms of development, whereas non-parliamentary structures would maintain a higher level of infrastructural spending.

Nations with greater wealth have greater resource availability and may spend higher amounts on various programs, from the military to education and health. As income increases, so too does the tendency to spend greater amounts on the military, such that military spending may be considered an indicator of economic development in itself, as Benoit showed with his coefficient of .55. "If real income is stagnating, the resource constraint is likely to place a real limit on additional military expenditure in the absence of foreign military or financial aid" (Maizels and Nissanke, 1980;1130). Yet, wealth of the nation will be viewed as a cause and not an effect of military spending. The present analysis will attempt to control for the 'trickle down' effect by measuring levels of development that directly account for the well-being of the general populace (discussed in the forthcoming section on defining development). The wealth of the nation then, besides determining internal military spending, also influences levels of development.

The debate over the effects of domestic production was touched upon earlier. It is still unclear whether such activity promotes development, or whether this promotion is nullified by enhanced dependency on supplier nations for technological inputs, and if both occur, what is the final effect on development. Even the dependency school appears divided on this question. Luckham has recognized the possible benefits of domestic production on an economic structure, whereas Kaldor, for example, or the Hamburg Group, stress that such activity merely leads to other forms of dependence. Hence, this factor is, one way or the other, important in any analysis of military

spending. It is likely that domestic production serves the purpose of leveling balance of payments in cases where exports are used to offset the production and import costs of maintaining a production base. However, in third world nations, this effect will have less of an influence on the economy as it does in the main supplier nations whose outputs create huge profits and who control the majority of the technology. Further, the domestic production of armaments should no doubt cause increases in GNP. The key question for the analysis to follow should center around whether this type of economic activity increases development. If increases in GNP and other economic factors merely obscure the increasing dependent relationships, then development will in general decline due to increased domestic production of armaments. If, however, domestic production allows for a nation to break somewhat from the dependent bonds of military import then development may be bolstered by this activity. Still, domestic production and employment, training industrial supports and technology are accompaniments and therefore it is likely influence spending in the infrastructure.

Maizels and Nissanke recognize that internal military activity may differ from war in its impact on levels of militarization. Now that militarization has been divided between internal and global this factor has greater significance. Civil war, for instance, being an internal military function, would be expected to influence internal militarization greater than global militarization which would more likely be affected by global war. It would be expected that the existence of civil war or repression is accompanied by a larger

military apparatus and therefore higher internal spending budgets. In addition, internal control by way of policing may be used in order to maintain an economic status quo therefore affecting levels of wealth and subsequently levels of development.

Orientation of the military can either be external, if the main army mission is to police borders or be involved in other global activity, or internal, if the main army mission is based on policing within borders. Involvement with outside threats often involves more extensive and sophisticated forces since defending or aggressing against outside sources includes attempts at equalizing or increasing the forces strength in order to deter or conquer, hypothesized as causing arms races. Internal orientation requires less sophisticated weaponry such as guns and rifles instead of fighter planes and missiles. The concurrent influence on spending levels is apparent. Militaries which are oriented both internally and externally no doubt utilize the greatest amount of resources.

According to Maizels and Nissanke,

> "to the extent that a developing country adheres to a global political/strategic alliance, provides facilities for foreign military bases, and depends on a super power or its allies for its military equipment and personnel training, it may also come under pressure to expand its own military establishment, partly to enhance the potential of a foreign military base, and partly as an instrument in support of power bloc regional policy. This last point may also be relevant to a number of regional conflict, including wars, where contending countries are each supported by arms and finance from a different global power bloc" (Maizels and Nissanke, 1980;1129).

Yet, Maizels and Nissanke do not go so far as to introduce a controlling factor for the source of the military inputs arriving in a

third world nation. Furthermore, most previous research considers only American influences, whether positive or negative, in the militaries of developing nations, neglecting alternate influences that may occur in cases of Soviet alignments. The source of the military inputs may however influence both levels of spending and the subsequent effects on development. As dependency understands, American military allegiances may be accompanied by conditions which either serve the purpose of socializing the personnel in a particular manner which facilitates the internalization of Western goals, or the opening of borders to Western investment which could have adverse effects on an economy by way of the expropriation of surplus. Similarly, Soviet involvement usually accompanies Soviet strategic influence in areas, such as the Middle East.

Like the source of military inputs, alliance has never been considered in a model of military spending, with the exception of Maizels and Nissanke, even though it may have tremendous implications if nations are considered to exist within a global matrix. Alignment can indicate the strategic interests of the super power hegemonies. Countries which are aligned with the West may receive aid, both socially and militarily, in exchange for support of strategic interests, whether these conditions are integrated through coercion or otherwise. Military aid from the West may in the end lessen the import burden experienced by these nations, as opposed to those who are, say, non-aligned. External militarization would be consequently affected. The introduction of political alignment will succeed in controlling for these possibilities.

Whether a country is at war or not, or whether there is an imminent threat of war being felt, is logically a key determinant of levels of military spending and development. In terms of spending, it is expected that those nations at war would need to invest higher proportions of their governmental budgets on the military. In addition, this expenditure would be directly utilized in war representing arms spent. Hence, a number of previous studies dealing with the determinants of military spending have recognized the tremendous influence the threat or existence of war has on levels of spending. Deger (1986), for example, states that this factor is the most important ingredient of levels of military spending. Where she went wrong, however, was in not considering related influences. Nevertheless, if war exists, it is likely that the money spent on the military would not only increase, leaving less for other types of expenditures, but any positive effect the military might have in terms of the protection of the economic environment, or the development of a secure atmosphere for investment, would be more or less nullified. If spin-off do occur as a result of military spending, it is hard to imagine that these would have an affect in an unstable war climate where resources are being quickly used. The global nature of this determinant is apparent. Besides conflict on a regional and global level, military spending for war involves heavy importations of sophisticated weaponry, increasing levels of spending that flow directly from the receiver to the supplying nation.

Defining Development, the Ultimate Dependent Variable

Modernization has been criticized for its measurement of development which rests solely on growth of the economy and ignores development in terms of social factors which affect the basic needs of the population. Growth, in terms of GNP, does provide certain benefits as a development indicator. After all, it is the most easily accessible and accurate of indicators. But, modernization assumes the existence of a 'trickle down' effect that has never been proved to be a universal occurrence. The 'trickle down' assumes that national growth of income eventually seeps down through all strata in society and therefore all benefit from general economic prosperity. In fact, developing nations displaying an increase in GNP may also display unevenly distributed incomes and faltering levels on other scales of progress. The trickle down has since been contested by those who exclaim the virtues of alternate forms of measurement (Berger, 1974; Seers, 1973). Recall Amin's realization that growth may have different connotations in nations at various 'stages' of development. Such a statement refers as well to the definition of development refered to by the contrasting paradigms. To Amin and Frank, development goes beyond a level of GNP or strict economic indicators. Development includes the well-being of the masses who are often untouched by national economic progress. At best, then, growth has been called a necessary but insufficient indicator of societal progress and should be refered to with all caution.

The Hamburg group clarify the problems behind the modernization definition of growth as follows:

> "Expectations concerning positive effects of defense expenditures have to be criticized by confronting them with the experience gained in peripheral countries like Brazil, India, Pakistan, etc., but they have to be criticized more fundamentally too, since the underlying concept of 'development' and of the strategic catalogue of means and ends for development policies are never defined explicitly" (Albrecht et al., 1974; 180).

Lock and Wulf (1977) and Eide (1977) add to the above query by pointing out that growth of the economy may occur because of military spending, but that development of the economy may still be considered wasteful. Says Lock and Wulf, infrastructure such as roads or bridges which support military purposes utilize more resources than is necessary for civilian usage. Where horse carts need only a narrow bridge, tanks require large and expensive structures. Or, as Eide puts it, growth by the increased utilization of, say, natural resources, does not promote development if the extraction is controled by multinationals who later expropriate the surplus.

The inflationary tendency of the militarization process is emphasized in a U.N. report entitled "Economic and Social Consequences of the Arms Race". Labeling military spending as 'inherently inflationary', the U.N. group goes on to describe the mechanisms that cause across the board price increases throughout a highly militarized country. Ball (1983) has shown that although these trends may produce growth to a limited extent, it is the poor who are likely to suffer from inflation. In her words, "to the extent that military expenditure does produce economic growth, the poorest members of the Third World societies are less likely to benefit from that growth. In addition, they are the most likely to suffer from the adverse effects of military expenditures" (Ball, 1983;94).

In summation, the 'trickle down' effect assumed to take place when growth of income occurs is not a natural outcome and dangers exist when relying on GNP as an indicator of development. To avoid the contested assumptions connected with the 'trickle down' effect, and to judge the effects of militarization on 'social development' rather than economic growth, the present study will define development, the dependent variable in the analysis, in terms of social well-being of a nation and will use social factors as the indicators of development.

Now, although levels of GNP and other social indicators of development can be expected to be closely associated since more income means more available funds for social programs, that association is not unity. GNP per capita correlates with the later operationalized indicator of development in the present analysis with a .59 coefficient. This .59 may be said to represent the amount of 'trickle down' associated with GNP, but .41 of the level of development is not encompassed by the measure of income alone.

A number of authors have attempted to define development in terms which tap the social well-being of a population, and more specifically, of the poorer sectors of a nation. Seers (1973) for example, lays down a basic criticism of the use of GNP in his article "The Meaning of Development" and opens up the discourse to the operationalization of the term development. GNP does measure something, but it does not, according to Seers, deal with the fulfillment of human potential, central to his own definition of development, which must take into account the reduction of poverty, the reduction of unemployment and the reduction of inequalities.

Robert Rosh (1986), begins his study on the effects of military spending on development by quoting a United Nations declaration outlining basic human rights as the access to both an adequate standard of living and a basic education. Development, to Rosh, can be viewed as the potential fulfillment of these human rights. The human rights approach in itself has become a central issue in United Nations studies of development. To dependency theorists, development assumes two aspects; first, there exists a level of dependency or exploitation the reduction of which is essential to develop an integrated economic structure where profit is allowed to circulate within the borders of a particular nation. Second, development occurs in conjunction with a more equitable distribution of wealth. Both concepts would necessarily be arrived at simultaneously since exploitation takes place when income is unevenly distributed, with the local elites and/or foreign powers reaping the economic benefits from local industrial and other economic activity.

These alternate views of development (alternate to the use of GNP normally utilized by modernizationists and in many other economic studies dealing with development), are connected with the common notion of social well-being. It is therefore possible to analyze the developmental tendencies of nations from both an economic and a social perspective. Yet, social well-being may in fact be obscured when considered in absence of economic growth. Growth of income may subsum social growth to a degree. In other words, if GNP rises, it is also likely that inputs into social programs will increase, therefore increasing levels of development on all fronts. Yet, as was eluded to

above, an increase in GNP does not universally create a stronger social structure. Berger's (1974) evaluation of the Brazil miracle in his book Pyramids of Sacrifice is ample evidence of this. Here Berger shows how massive growth of income took place in sequence with declining standards of living for Brazil's poor. But, in general, growth of income does free resources that could be put towards education and health thus strengthening the social base of a nation. One finds a strong correlation between GNP and health or education indicators in a cross sectional sample of developing nations. And since the present analysis is concerned with levels of military spending, it should be recognized that growth of income allows for growth of the military budget in a similar fashion and therefore ignoring GNP, or some indicator of economic strength, may lead to the conclusion that growth in the military causes a growth in social development.

If the assumptions of dependency were fully incorporated into the concept of development, some measure would need be established that encompasses both levels of exploitation and equity of income. Unfortunately, both concepts are difficult to measure directly. Income distribution data is in part available, but goes unreported in global statistics mostly due to the difficulty in obtaining such estimates.

Methodologically speaking, there are a number of available indicators which point to the social development level of a nation. The 'Physical Quality of Life Index', for example, utilizes life expectancy, infant mortality and literacy in equivalent proportions.

To fully encompass the concept of social development, other factors can be added to this list. The ability of the population to access safe and clean water and the production of agriculture are other factors often refered to. Nabe (1983) made reference to the number of physicians per population size, number of teachers per population size and expenditures on health and education to form a composite index of social development. Unfortunately the latter two indicators are somewhat deceiving. Government spending on health and education is, at least, a part of the cause of the development indicators mentioned above. They indicate the proportion of spending allocated to other programs as opposed to the military. The greater the military budget, the less is available for education and health. Various budgetary allocations may have their resultant effects on development, but these allocations cannot be equated with development itself. What is at issue rather, is the interaction between militarization and the resultant levels of social development, not budgetary allocations to social programs.

The present analysis will utilize the three indicators to measure social development that have been incorporated previously in the PQLI index, that is, life expectancy, infant mortality and literacy. These three are suitable ways of defining development because they deal directly with the well-being of the population and, in turn, relate directly to the health and educational status of the nation, tying the operationalization of development to the basic human rights concepts adopted by the United Nations. As life expectancy increases, it may be assumed that access to safe water and food, access to adequate

medical treatment and standard of living itself increases, particularly for those in the lower income levels who benefit form this type of development directly. Infant mortality indicates access to medical care as well. Literacy rates would point to the access to education, the state of the nation's schooling systems and again, the standard of living of the general population. It is also assumed that a stronger educational system allows for more upward mobility for those who have access to the education. Thus these three indicators together truly incorporate the more recent movement towards defining development in terms which represent the social well-being of a nation.

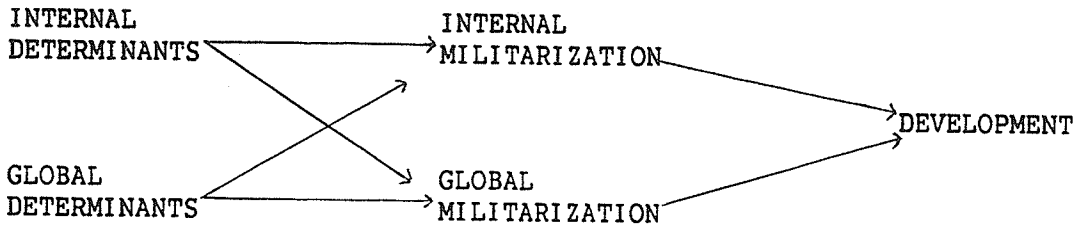
The type of development described above can be easily compared to the notion of human needs adopted by the IPRA (1978). Here they list factors which relate to the rights of survival of each individual. Now, it is not necessarily so that the rights to survival equally indicate the level of development of a particular nation. The right of each individual to be satisfied and supplied with the needs of life is arguablly a moral issue. Yet, the existence and quantity of those factors which combine to form the basic human needs do encompass the concept of social development. The right to life is a moral argument, but the existence and quantity of available food, shelter and medical care may indicate whether the bottom economic rungs of society are being aptly provided for, a notion consistent with the theoretical need to use an indicator of social rather than economic development.

The use of a social development indicator would successfully answer the criticisms leveled on the earlier modernization theories of

development as well as those of the quantitative analyses which considered growth of the economy to be the ultimate determinant of development. If an increase in GNP results in no increase in social well-being, or if such increases serve only a maintenance of the status quo, it will surface when controling for GNP. As well, since growth of GNP and development are so closely related, controling for GNP will remove the effects that GNP has on the increase in social development. The present analysis will focus on removing those economic effects, allowing social factors to be highlighted and come to the fore. In this way, an obscured view of development based on GNP will give way to a clear portrait of the level of social well-being.

The Comprehensive Model

The discussion in the last sections can now be integrated to develop the model for the following analysis. First, the determinants of militarization are divided into global and internal influence levels of spending and arms imports. Next, global and internal militarization influence development. Development is defined in terms of social well-being. In this fashion, the diameteric ideologies of progress and development which were outlined earlier are integrated into a path model that will not only decipher the merit of each theory, but will also ascertain what economic, military and political factors determine levels of militarization and in the end, have an effect on social development. This model can now be visualized by the simplified path diagram below:



From the diagram above it can be noted that the possibility exists that those determinants labeled as internal may also affect global militarization and vise versa. The domestic production of arms, for example, may involve importations of military inputs, and often are the result of co-production agreements, which involve an international association. The existence of war not only means a higher proportion of arms imports but may involve the maintenance of a larger military force than exists in peaceful times. Yet, because internal determinants generally involve decisions or conditions that exist within the State, while external determinants are those which link the State to global military associations, the determinants are likely to have the greatest influence on the type of spending which they parallel, that is, internal determinants will have a greater influence on internal militarization and global on global militarization.

Despite each theory's hypothesized result of the individual militarization measure and its interaction with development, it is still difficult to imagine that the benefits of internal spending result in the increase of development hypothesized by Benoit and other modernizationists. First of all, it is questionable whether the spin-offs from the internal military spending are abundant enough to offset the costs of maintaining a military establishment. Jobs

created by the military sector tend to be highly qualified and capital intensive in nature whereas the unemployed tend to be unskilled (Palme, 1982). Construction for military programs are often conducted beyond the more populated areas where they would be the greatest civilian use (Kaldor, 1978). A study by Deger, in conjunction with Sen (1983), shows that spin-offs in the industrial/manufacturing economic sectors are also over exaggerated. New sources of resources were not discovered and uncovered as the military burden increased. Hence, with the exception of those nations who have delved into domestic production of arms for export, a means recently gaining popularity for balancing payments, Luckham states, "even if we were to accept at face value the evidence that arms spending promotes growth, it is difficult to find a sensible explanation for it" (Luckham, 1978;44). To Luckham, spin-offs cannot offset costs with the exception of those nations who have delved into domestic production for export, a means recently gaining popularity for balancing payments. (Though this issue of domestic production pops up frequently, the hypothesized influence varies even among authors writing from the same theoretical angle. This issue should prove interesting in the analysis to follow.)

Second, the diffusion of western values through advanced technology assumes that there is a positive and close relationship existing between military and civilian sectors of society. Such diffusion then would not occur where the military is either rarely in contact with the general population or where that contact is offensive in nature. In the same vein, in those instances where the main purpose of the

military is for internal policing, civil war, etc., a unified sense of nationhood would not be established by the mere existence of the military. In fact, much the opposite may take place with the military serving to divide the nation.

Third, of nine studies which assume growth of the economy indicates levels of development (Benoit, 1973; Biswas and Ram, 1986; Deger, 1986; Deger and Smith, 1983; Faini et. al., 1981; Fredriksen and Looney, 1983; Fredriksen and Looney, 1982; Lim, 1983; Rothschild, 1973), only Benoit's affirms a positive relationship between militarization and development. Past evidence therefore does not affirm the hypothesis put forth by the modernization side of the model and it is unclear what the effects of internal militarization on development will be. Indeed, it is difficult to justify a positive relationship based on the above discussion. Since the existence of spin-offs from internal spending has been shown to be over exaggerated, the concentration on growth of the economy does not incorporate the entire meaning of development, westernization and diffusion are unlikely to occur in today's developing world and the evidence shows that a positive correlation between military spending and growth rarely surfaces, the end result is unlikely to be in favour of increased internal militarization.

Mary Kaldor postulates that there may exist a positive association between military spending and growth but if so, the connection is spurious owing to the effects of dependency. If military spending leads to economic growth in terms of GNP, it also results in increased dependency. Militarization, to her, tightens integration into the

global matrix and the capitalist world economy, which was hypothesized by Frank to promote the development of underdevelopment. Dependency theory, being represented in the present model by a measure of global militarization, states that the advanced nations prosper in the exchange of arms while the periphery is compromised, making development 'two sides of the same coin'. This situation is ironic since the developing nations seek and aim to help themselves through arms imports.

Thus, global militarization should not be found to promote development in the upcoming analysis. This negative association is more easily established than the positive relationship hypothesized to exist between internal militarization and development. First, recent evidence, some of which has been briefly reviewed above, suggests that military spending may deter from economic growth, and subsequently development. In terms of development in a social sense, armaments provide nothing in the way of the fulfillment of human needs. Arms inputs represents funds and resources leaving a country in exchange for inputs which lead to no surplus. This diversion of resources is similar to that proposed by the opportunity costs argument, that is, arms imports may take away from other more productive uses. According to a United Nations report, "Many of the major problems faced by the world community, problems of development, economic inbalance and inflation, pollution, energy and raw materials, trade relations and technology, and so forth, are enhanced and exacerbated by the arms race. Progress in other areas such as health, education, housing and many more is delayed owing to lack of resources" (United Nations, 1978a;143).

Since the created model represents a path with the determinants of militarization seen to effect each form of militarization, these global and internal exogenous factors will also affect development, at least indirectly. Global determinants, hypothesized to influence global militarization, would then increase development if they also decrease global militarization, or have an adverse impact on development if they serve to increase global militarization. The results of any determinant of internal militarization are, however, not as clear since internal spending is unlikely to cause an increase in development.

To conclude, it may be said that the model hereby presented improves on previous theoretical and methodological formulations of the military - development interaction and debate by first accounting for two forms of militarization hitherto unrecognized. Second, this model takes the determinants of militarization into consideration and therefore these factors may also be deemed important in fostering or hampering the ultimate variable, development.

IV- METHODOLOGY

The Analysis

Now that a comprehensive model has been established for the study of militarization in developing countries and its subsequent effects on development, the model can be tested using appropriate procedures. The following chapter outlines those procedures. The appropriate analytical techniques used are determined by the particular problem at hand. In this case, two important factors can be refered to which determine the appropriate technique. First, the model assumes that an array of factors or variables affect a particular dependent variable with that array of factors working together to explain the level of the dependent variable. For example, in the present model, internal and global militarization combined with the exogenous variables create a certain level of development. That level of development is influenced by the array of independent variables. Second, a cross sectional approach will be used to test the model. To explain, a number of cases will be defined, with each case being a particular nation, and the aggregate of nations will be used in unison to test the model. Hence, the analysis tests a cross section or an aggregate of cases. Regression analysis is the technique best suited for a cause and effect model where a number of causes need be simultaneously considered, that is, the causes are multivariate, and a model that considers a cross sectional sample or an aggregate of cases simultaneously.

In a cause and effect model, the goal is to predict the value of the effect variable (the dependent variable) from knowledge of the causes (the independent variables). Regression is the technique used in order to make such predictions. A regression line is a straight line drawn through a scatter diagram which represents the best possible 'fit' for making predictions of the dependent variable {y} from the independent variables {x1,x2,x3...}. So, in simple terms, the regression equation is based on the attributes of a straight line where {y=a+bx}. {y} can be considered a dependent variable. {y} is determined by {a}, some intercept, plus {x}, the independent variable, multiplied by some coefficient {b}. The straight line, represented by the equation above, is placed at a point where the amount of error is maximumly reduced, or, when a line is drawn through a plot of {x} and {y}, the sum of the errors above and below the straight line is less than had the line been placed anywhere else, (that is, the best possible fit). The beta coefficient {b}, then represents the degree of association between {x} and {y}. For example, in a case where {x} and {y} are standardized, the closer {b} comes to 1, the more similar are {x} and {y} and hence the greater the interassociation. If cause and effect are assumed, a coefficient of 1 means {x} causes {y} in totality. A coefficient of 0 means the two variables are totally unrelated. Basically, regression is able to judge the amount of influence some cause variable {x} has on a dependent variable {y}.

To this equation can be added the remaining independent variables in the model. So, {y=a+b1x1+b2x2....}, where each {x} represents a different variable and each {b} or coefficient of {x} represents the

degree of association between that variable and the dependent variable {y}. For the present analysis, {x1} may represent the variable internal militarization and {x2} global militarization. {b1} or the beta coefficient of internal militarization indicates the association between it and development {y}. This coefficient may be positive, representing a positive association, or when internal militarization {x1} increases, development {y} also increases to the degree of the beta coefficient {b1}, or it may be negative, meaning that an increase in internal militarization {x1} causes a decrease in development {y}. The interpretation can be made for global militarization {x2} and so on. Thus, regression allows for the simultaneous inspection of a group of independent variables and their effect on a dependent variable.

The model constructed for the following analysis considers a number of factors as being essential to the development of a comprehensive understanding of the militarization - development interaction. First, the economic, political and military determinants discussed above each contribute to militarization. In turn, they may as well contribute to development both directly and indirectly when mediated through militarization. In order to completely understand the relationships that influence the militarization - development interaction, it is necessary to control for these determinants, not only in order to speculate on the effects of militarization, but to advance to the subsequent determinants of development. Second, the model constructed for the present exploration indicates that these determinants can be labeled as global or internal. Militarization is also subdivided into

internal and global. These forms of militarization have subsequent effects on development. Such a formulation involves the indirect effects of the determinants of militarization on development. If, for example, a particular determinant increases global militarization, which, in turn, decreases development, that determining factor can be said to indirectly affect development negatively when mediated through militarization. The attributes of such a model lends itself easily to path analysis, an extension of the above described regression analysis, which allows for an explanation of the degrees of influence that the exogenous variables have upon the endogenous militarization indicators and the dependent variable development.

Path analysis involves several regression equations, each representing a different stage in the analysis. The first stage here will utilize a regression of the determinants of militarization on both global and internal militarization. In other words, global and internal militarization are the dependent variables while the exogenous factors are the independent variables seen to influence militarization to the degree represented by the beta coefficients of each variable. Two equations can be written to display this stage of the analysis:

1) Internal militarization = (a+b1x1+b2x2...b9x9)

2) Global militarization = (a+b1x1+b2x2...b9x9)

{b1x1} through {b9x9} are the beta coefficients and variables of the nine exogenous factors. This stage will determine which factors significantly increase or decrease militarization. The second stage involves a regression of the two militarization variables on the

ultimate dependent variable, controlling for the other variables introduced as determinants of military spending. This equation simply adds two independent factors to the equations above, those being internal and global militarization:

3) {Development = (a+b1x1+b2x2...b11x11)}

{b1x1} through {b11x11} are the beta coefficients and variables of the 11 exogenous factors plus the two militarization variables. In total then, 3 regression equations are utilized to complete the path. (Refer to appendix B for the completed path diagram.) Now it can be determined how global and internal militarization influence development. The multiplication of an exogenous factor's beta coefficient when regressed against either form of militarization with the subsequent effect on development indicate to what level a determinant of militarization affects development indirectly and in what direction. In this way, global and internal militarization serve as mediating variables through which the determinants of militarization affect development. The determinants of militarization may also significantly affect development directly. Path analysis is therefore able to account for both direct and indirect effects of independent variables on the dependent variable. The various regression equations involved in the path analysis will allow for the construction of a path analysis decomposition table which will adequately summarize the findings.

The level of significance, measured by a T statistic, indicates the level at which one can have confidence that the results obtained via the beta coefficients represents true relationships and are not the

result of error. The level of significance is a function of the degree of association in that the stronger the relationship between two variables, the greater the significance, or the more likely it is that the relationship is genuine or not erroneous due to sampling etc. Levels of significance are arbitrarily chosen but are usually at a .01 or .05 level, meaning that the chances of sampling error is 1 or 5%. Considering that the present sample is not randomly drawn, the general level of significance is heuristic and can only be used as a rule of thumb. This, plus the fact that the present sample is relatively small, allows the level of significance normally utilized to be arbitrarily increased. The number of cases influences the T scores because they are calculated using degrees of freedom, a function of the number of cases in the sample, and since only 92 cases are involved in the analysis, T scores over .05 level of significance may be a reflection of the small number of cases and not of the significance of the results. This analysis will therefore consider results which are significant up to the .12 level of significance. However, caution is advised when interpreting any results obtained with levels of significance over .05. It should be noted that no matter what level of significance is chosen, the researcher can never be 100% certain that the results found are a true representation of the population. However, the higher the value of T and the smaller the significance level, the more confident one can be that the relationship found actually exists.

The Data Set

The data set compiled for the present analysis utilizes data from developing nations only since the model developed attempts to ascertain the effects of militarization in developing countries. The term 'developing nation' is one of those terms that is, like militarization, often used but seldom defined. Although a developing nation or what constitutes the 'Third World' is generally recognized as being anything outside the more prosperous nations of the 'West' or the Soviet Bloc countries, this is just a vague interpretation and for the purpose of data collection some definitive division between 'developed' and 'developing' must be made. The Arms Control and Development Agency (ACDA), in their report on World Military Expenditures and Arms Transfers 1986 and Ruth Sivard in her World Military and Social Expenditures employ the definition of developing nation used by the United Nations. According to them, countries which are 'developed' are the members of NATO, not including Greece and Turkey, and all Warsaw pact members except Bulgaria; Austria, Finland, Ireland, Sweden, Switzerland, Australia, Japan, New Zealand, and South Africa. All other nations are 'developing' (ACDA, 1986;155).

The classification scheme above obviously relies on the criteria of the wealth of the nation and the type of economy in place. The importance of the wealth of the nation in such a scheme is obvious since Greece and Turkey, the poorest of the NATO nations, are removed from the rest of the NATO group in defining developed countries. The type of economy is obviously important since, for instance, all Warsaw pact nations are automatically assigned developed status despite the

wealth of the nation. To the World Bank, in their World Development Report of 1986, 'developing nations' are those with low levels of GNP that do not belong to the 'Industrial Market' or 'East European Nonmarket' economies, again basing this classification on wealth and type of economy. Nations in the Industrial Market group are the members of the Organization for Economic Co-operation and Development and 'East European Nonmarket' economies include: Albania, Bulgaria, Czechoslavakia, German Democratic Republic, Hungary, Poland, Romania, and the USSR. Hence, the World Bank and the United Nations have similar schemes for dividing developed and developing nations with only a few differences.

Inherent to these definitions are other notions of what constitutes a developing, or for that matter 'third world' nation. For example, nations with low standards of living, low rates of literacy, large ratios of doctors and teachers to the population size etc. can be considered as developing. The debate over the term 'developing nation' thus follows closely the debate over indicators of development discussed in the previous chapter. The fact is that economic growth, that is, a rise in national per capita income or gross national product, and other socioeconomic indicators of growth are related. Definitions of developing countries may therefore be based on income or national product or other criteria which outline nations which generally have 'more' and those with 'less', or nations which are 'richer' and those that are 'poorer'.

The following analysis selects developing countries based on the definition of the World Bank, that is, countries with economies that

are not Industrial Market or Nonmarket and whose GNP is less than $7075 US per capita. The World Bank further divides 'developing' countries into three categories based on GNP per capita. The lowest income group do not exceed a GNP of $400 US per capita, the middle income group rises to about $1500 US per capita, and the upper middle income class extends to just over $7000 US per capita. This eliminates high income oil exporting nations which typically report a higher GNP per capita than both the upper middle income and the Industrial Market economy groups. The levels of GNP used to determine national status are changed each year by the World Bank to reflect world economic changes. The figures quoted above were those used to categorize nations in the 1982 World Development Report.

The complete data set includes information on 92 nations which meet the criteria of a developing nation and for which adequate data is available. The analysis utilizes data for the year 1982. The nations in the data set represent all regions of the world with 24 South and Latin American, 3 European, 9 Middle Eastern, 15 Asian and 41 African nations. Of the 92 nations, 30 are classified as low income, 40 are middle income, and an additional 22 are upper middle income.

The mean GNP per capita of the entire sample is $1189 US. Low income nations have a mean GNP per capita of $231; middle income nations display a mean of $918; upper middle income nations have a mean GNP per capita of $2975. Chad has the lowest GNP per capita in the present sample, at $107 while Trinidad and Tobago has the highest at $7075. A further description of the data set will take place in the initial stages of the analysis which follows.

Sources used for the data compilation include: The United Nations', Arms Control and Development Agency Report, World Military Expenditures and Arms Transfers 1986 1982; Ruth Sivard's Military and Social Expenditures, 1985; and Kidron and Smith's The War Atlas, 1982. In some instances where 1982 data was missing, an approximation based on available data from information of other years was made. Data on military expenditures and some other financial statistics are obtained from the Arms Control and Development Agency Report, (ACDA), for several reasons. First, it reports data on a great number of developing countries, and, in fact, lists a good number more nations than the World Bank. Second, the ACDA reports an approximated value for any missing data where a good estimate can be made. Third, it is the most widely used and available report on military spending. All data is reported in terms of real dollars.

The Exogenous Variables

The analysis includes nine exogenous variables which will be regressed against both forms of militarization in the first stage of the analysis, then against development in the final regression stage. The following section of the methodological review will operationalize those nine factors, beginning with the internal determinants.

The wealth of the nation is an important control variable, first as a determinant of militarization, and second, as a control for militarization's effect on development since development and national wealth are related. Here, the popular operationalization for national wealth, Gross National Product (GNP) will be utilized. And, for

consistency, since internal militarization, the effect variable, will be measured per capita, GNP will also be measured per capita. 1982 GNP and population data is obtained from the ACDA report of 1986 where GNP represents the total output of goods and services produced by residents of a country and valued at market prices. Hence, GNP is a measure of production and therefore relates to national income and wealth. There are generally two common criticisms of GNP. First, GNP is reported in constant US dollars with an average exchange rate from local to US currency. Sivard states, "there is at present no wholly adequate basis for converting national currencies world-wide into a common denominator such as US dollars" (Sivard, 1985;notes). Second, GNP does not include much productive activity in developing nations such as activity that takes place in and around the home, or economic activity that can be defined as 'black market' or activity not normally accounted for in GNP statistics. However, some type of across board estimation of wealth must be made in order to make cross sectional comparisons and GNP is the most adequate measure. The above mentioned negative points should therefore merely serve as cautionary notes. Population, 'estimates are for mid year' and "made available to the ACDA by the US Bureau of the Census" (ACDA, 1986;158). Measures of GNP are simply divided by the population to give a total GNP per capita. *

The remaining eight variables are dummy variables with only two categories per variable. The first, the nature of the State, will be divided into those countries with parliamentary regimes versus those

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* GNP per capita for Ghana is estimated from Sivard due to an obvious error in the ACDA report.

with either military, one-party or despotic leadership. The data is collected from The War Atlas. In parliamentary regimes, two or more parties exist and general elections take place in order to decide the ruling party. The data collected for the forthcoming analysis shows that military regimes average a military force of 110 thousand soldiers compared to 100 thousand in parliamentary regimes; this despite the fact that parliamentary regimes also have higher levels of GNP suggests that parliamentary regimes spend less on the military than non-parliamentary regimes as was speculated initially by Maizels and Nissanke. This variable can now be refered to as the REGIME where a value of 0 is non-parliamentary (military, despotic, one-party) and 1 is parliamentary (two or more parties with general elections).

Internal military activity occurs when there is the existence of civil war, counter insurgency or other similar policing requiring military assistance. The data is obtained from The War Atlas and defined as follows: "The military function as a civil police force in a number of circumstances: where large sections of the population are actively opposed to the government; where the civil police are weak or demoralized, or suddenly overwhelmed; where the governing classes are faction-ridden and organized around different branches of the State; where a country is under military rule or martial law" (Kidron and Smith, 1983;notes). The present data shows that nations involved in internal policing, on average, maintain a armed force of 138,000 soldiers as compared to 37,000 for those who have not experienced such internal activity. Put another way, those nations experiencing civil war etc., maintain armies at the size of 1 soldier per 131 people,

compared to 1 soldier per 233 people in other nations suggesting that infrastructural spending used to upkeep the military is higher in nations where internal policing exists. The frequency of civil war alone is highlighted by Kende (1980), who cites over 100 such conflicts in a 30 year period after the Second World War. This variable can now be refered to as POLICING, where a value of 1 indicates that internal policing takes place, while 0 means the military is not used for these types of duties.

Army orientation can be external, that is, the army is trained and participates in external conflict, or internal, meaning that the army is trained and participates in internal garrison duties including political control, internal war, etc. Data on army orientation is obtained from The War Atlas which claims that, "most armies are used for domestic containment and pressure, not external war" (Kidron and Smith, 1983;map 36). Some armies are oriented both internally and externally, for example, Israel, Iran and South Korea. This variable can be called ORIENTATION where category 0 is for those nations internally oriented and 1 refers to nations either externally or both internally and externally oriented.

The final internal determinant to be defined is domestic production of arms. The data for this variable is obtained from the ACDA report of 1986, and refers simply to those nations who have exported military equipment in 1982. If a nation exported a certain value of military armaments, any value, they are said to be a nation capable of domestic exporting of arms and given a value of 1 for this variable. The other nations are categorized as 0 or they were not involved in domestic

export of arms in 1982. The values reported by the ACDA 'cover merchandise transactions'. A dummy categorization is employed here for two reasons. First, a two category variable remains consistent with the other exogenous variables besides GNP. Second, the actual amount of export could be used, however, since only 15 nations export arms, and the amount of arms exported varies greatly, the differences between nations if measured by an interval variable would be quite large. Most nations would have values of 0 while other nations would have values ranging into the tens of millions. Such a variable would be distortive. The value of export could be recoded so that the intervals are smaller, but, for the purpose of this analysis, the importance of this indicator is to judge the influence of maintaining such an industry. The actual size of the industry would be secondary since the affect of establishing a domestic export in the first place is the question in focus.

The first of the global determinants, global alliance, relates to the political, economic and military relationship between a developing country and the super power nations. Data is obtained from The War Atlas where countries are defined as western, eastern or nonaligned. The western aligned states are central to the western military system or have economic ties with the West and shared political traditions. Those nations central to the western military system are mainly the NATO nations. Sharing political traditions may refer to the existence of parliamentary systems or similar political ideologies. A nation has economic ties with the West if a majority of their trade is between them and a western nation. The eastern aligned states are

central to eastern military-strategic and economic systems (for example, Warsaw pact countries), or are states with ties of convenience to the East. On this point, says Kidron and Smith, "the West has greater wealth and economic pulling power as well as a longer history. Consequently, the USSR's allies are less numerous and relatively less dependable. They are their allegiance mainly to the fact of geography and narrow, often short-term, political expediency" (Kidron and Smith, 1983;notes). Nations left out of either category are nonaligned. The ALIGNMENT variable also has two categories where a value of 1 indicates that a nation is western aligned while 0 indicates eastern or nonalignment.

Data on whether or not a nation hosts a foreign military base is obtained from The War Atlas. Normally, a nation hosts a foreign military base when there is a base within the territory of another state, for example, United States bases are in the Phillipines, Turkey and West Germany. West Germany would then be a country which hosts a foreign military base. According to Kidron and Smith, however, there are two other possibilities. First, the base "may be in territory under the jurisdiction of a third party (for example, the US base in Diego Garcia, leased from the British)" or, second, "it may be in territory under jurisdiction of the state which operates it (for example, the French base in Guadeloupe)" (Kidron and Smith, 1983;notes). The vast majority of cases in the present analysis fall under the initially defined example. A nation receives a value of 1 for the variable BASES if they host a foreign military base, hypothesized to increase global military involvement and hence global

militarization. A nation receives a value of 0 if such is not the case. Kidron and Smith state that, "there are about 3000 foreign military bases and installations world-wide" (Kidron and Smith, 1983;map 17).

The major arms supplier is defined as the nation of origin of the majority of arms imports going to the developing nation. Put another way, a recipient nation receives a certain value of arms transfers. The producer nation which supplied the highest value of arms transfers becomes the major arms supplier. The data is obtained from the ACDA report of 1986 which divides arms transfers received into 10 categories: USSR, US, France, UK, West Germany, China, Italy, Poland, Czechoslavakia, and others. For the variable SUPPLIER, a 1 indicates that the major arms supplier is a western nation, where a 0 indicates other origins.

The WAR variable indicates whether nations were actually fighting a war in 1982, or whether there was an imposing threat of war existing at that time. Data on war in 1982 is obtained from The War Atlas. Sivard is another source listing wars in 1982, however, Kidron and Smith list a greater number of nations at war suggesting that their definition of war is slightly more sensitive. Kidron and Smith admit that there is a level of judgement used when defining a war situation. "Even the definition of war is arbitrary. For example, when does fighting become a war?" (Kidron and Smith, 1983;notes). Though, all wars 'involve human suffering'. Kidron and Smith define their view of war as follows: "War is an open armed conflict in which: regular uniformed forces are engaged, on at least one side; the fighters and

the fighting are organized centrally to some extent; and there is some continuity between armed clashes" (Kidron and Smith, 1983;map 1). This includes interstate wars, which are wars with non neighbouring states, neighbouring states or border wars, and civil wars including and not including foreign presence.

Countries who were threatened by war are added to the list of those at war to form the WAR variable. Sivard's list of wars (1985), provides the data for the threat of war. If a nation become involved in a war in the two years immediately following the year under scrutiny, (became involved in a war in 1983 or 1984), then that nation is said to have been threatened by war in 1982. In other words, because they become involved in war after 1982, reporting them not at war in 1982 would be misleading since the threat and consequent build-up prior to war is as large a factor in determining levels of militarization as war itself. This additional criteria means that four nations who were not at war in 1982 are coded as a 1 for the variable WAR indicating those nations at war or threatened by war. Those nations not at war and not threatened by war are coded as 0.

Except for the wealth of the nation, the remaining 8 exogenous variables are treated as dummy variables, so, the analysis of each will consider a comparison between the existence of a factor over another. For example, for the nature of the State, parliamentary regimes are given a score of 1 while others are given a score of 0. Therefore, the results of a multivariate analysis indicate how a parliamentary regime compares to non-parliamentary regimes in terms of internal and global militarization and development.

Below is a list of the number of cases which fall into each category of the created dummy variables:

VARIABLE	VALUE AND INTERPRETATION 1 yes	0 no
parliamentary regime	37 (40.2%)	55 (59.8%)
domestic export of arms	15 (16.3%)	77 (83.7%)
internal military activity	55 (59.8%)	37 (40.2%)
external army orientation	31 (33.7%)	61 (66.3%)
western alignment	75 (81.5%)	17 (18.5%)
host to foreign military base	26 (28.3%)	66 (71.7%)
western supplied	41 (44.6%)	51 (55.4%)
existence or threat of war	33 (37.0%)	58 (63.0%)

The most lopsided variable is domestic export of arms in which only 15 nations, (16.3% of the sample), exported arms in 1982 while 77 countries, (83.7% of the sample), did not. There is also quite a difference in the number of western aligned nations (75 or 81.5%) and those eastern or nonaligned (17 or 18.5%). The SUPPLIER variable is the most evenly distributed with 41 nations (44.6% of the sample) being supplied by the west and 51 nations (55.4% of the sample) being supplied by other (eastern or neither) nations. For the remainder of the variable: the majority of cases have non-parliamentary regimes, the majority of countries experience internal military activity as well as have internally oriented armies, only 28.3% of the sample host foreign military bases and 33 nations or 37% of the sample experienced war or the threat of war in 1982.

The Operationalization of Militarization

The concept of global militarization has been derived from dependency theory's emphasis on the need to view military relationships in terms of an international model of interaction. That is, the forces that affect and are affected by militarization do not exist within a national vacuum, but rather are the outgrowth of a world system where internal decisions influence international relationships and global interassociations effect the internal workings of a nation. Global militarization is, then, that which involves both the nation itself and its military connection to other nations and therefore represents global military interactions. Dependency theorists often define this involvement in terms of the international trade in arms and therefore it is appropriate to use arms import data to measure the level of global militarization.

Because the operationalization of global militarization in the present analysis seeks to measure the degree of international military involvement as opposed to other types of international associations, a definition of global militarization should reflect the proportion of a nation's internationally associated budget that is allocated for military purposes. Thus, global militarization will be represented by the arms import burden, which is calculated as the proportion of arms imports that make up the total imports of a nation in the particular year under scrutiny. A greater arms import burden, measured as a percentage of total imports, translates into a deeper international military connection. This definition of global militarization also conforms to the dependency notion of militarization since it

represents resources leaving the nation in return for military goods as opposed to other imputs which, according to the theory, may have a more beneficial socioeconomic impact on the nation.

Using arms imports as a proxy for global militarization or military involvement has several additional benefits. First, the measure is easily obtainable. Second, calculating the arms import burden allows separation of military associations from other types of associations, that is, the developmental effects of importing weapons can be separated from the effects of other types of imports. A nation imports a certain amount of goods, but, the larger the proportion of imports dedicated to arms, the greater the global militarization.

Internal militarization represents the modernization view of the military which primarily centers on the institution in an internal sense, that is, the workings of the military within national borders. In terms of spending, internal militarization involves the upkeep of the establishment and the costs of maintaining military programs etc. Data on military expenditures do not fully encompass this form of militarization since military expenditures normally includes spending on all military activity, not just that which is internal. But, considering the above operationalization of global militarization, it can be assumed that once the global aspect of spending is removed from the military budget, what remains is spending that is utilized, within national borders, to maintain the military and its activities other than the portion which is transfered abroad. Internal militarization will then be measured by the amount of military expenditures reported minus the amount of arms imports reported. In order to control for

population size when considering the military budget, (as opposed to controling for the size of the import budget as with global militarization), the internal militarization variable will be reported per capita. This figure can be said to represent the infrastructural military spending of a nation or that which is used to maintain the military internally. Data on military expenditures, arms imports and total imports is obtained from the ACDA.

A final note should be made on the accuracy of the data, particularly in regards to those variables which indicate levels of military expenditures and arms imports. It must be assumed, for the sake of the analysis, that the data set represent accurate depictions of military spending in the 91 nations. It is possible however, that some nations report inaccurate figures for one reason or another, either bolstering or under reporting their spending. Furthermore, each estimate of spending may take into account different kinds of activities. There is no doubt that certain military inputs, such as those for communication purposes, have dual military and civilian purposes and it is uncertain which of these borderline activities are included in any nation's report on expenditures. The bottom line is that the figures used for the analysis represents the best data available and therefore the results obtained will be as accurate as is possible given natural data limitations.

Arms imports, according to the ACDA, "represent the international transfer (under terms of grant, credit, barter or cash) of military equipment, usually referred to as 'conventional', including weapons of war, parts thereof, ammunition, support equipment, and other

commodities designed for military use" (ACDA, 1986: 158). The arms import data contained in the ACDA report for any given year are, "estimates of the value of goods actually delivered during the reference year" (ACDA, 1986: 158), and hence does not necessarily represent payments during that period. This statistic works well as an indicator of global militarization since the operationalization is an attempt to ascertain the degree of global interaction taking place in a given year and not necessarily to directly gauge levels of spending. Furthermore, global militarization being represented as a ratio of military imports to total imports is a true ratio since total imports are measured the same way as military imports and there is consistency cross sectionally.

Measurement problems for the internal militarization statistic are more acute and every possible step must be taken in order to ensure both consistent data and a large enough sample necessary to produce adequate results. According to the data source, "military expenditure data are of uneven accuracy and completeness. For example, there are indications or reasons to believe that the military expenditures reported by some countries consist mainly or entirely of recurring or operating expenditures and not all or most capital expenditures, including arms purchases" (ACDA, 1986: 156). In some cases then, the military expenditure data reported by a nation's defense department is added to the arms import data to arrive at a total expenditure figure. Again, the ACDA caution that this technique which attempts to render the data more accurate may "over or underestimate actual expenditures in a given year due to the fact that payment for arms may not coincide in time with deliveries" (ACDA, 1986: 156).

The use of military expenditure data in the construction of the internal militarization variable for the present analysis assumes that the arms import data are contained within the report of military expenditures. The ACDA makes every attempt to ensure this addition takes place. Then, when arms imports are subtracted from military expenditures, some positive figure remains, representing internal military spending. A perusal of the data however, indicates that in a small number of cases certain errors exist that must be alleviated. The case of Jordan is one example. Jordan's arms imports for the year 1982 is reported at 1 billion dollars whereas the military expenditures figure for the same year stands at 786 million dollars. The calculation of internal militarization leaves Jordan with a negative figure, totally misrepresenting the actual situation since Jordan spends a large proportion of their central government budget on the military (the ACDA estimates over 30%), and maintains a military force of over 70,000. Looking at Jordan's reported military data over a longer period of time indicates why the problem in calculation of internal militarization may occur. Between the years 1979 and 1984 Jordan's military expenditures have been relatively stable, between 700 and 800 million dollars per annum. Jordan's arms imports have, however, risen from 100 million dollars in 1979 to over 1 billion dollars in 1981 and back down to about 200 million dollars in 1984. Apparently, the arms import increases and decreases over time are not being represented accurately in the military expenditures data. Since the ACDA does not indicate that Jordan is one of those nations for which arms imports should be added to military expenditures to obtain an accurate estimate of military spending, the problem of receiving

arms transfers but not providing payment in the same year must be occuring. A solution to this problem would be to estimate arms import payments in any given year by averaging the amount of arms imports received over a longer period (1979-1985) and assuming that payments would be equally distributed since military expenditures are consistent in Jordan over this time frame. This calculation puts Jordan's average arms import payments at 578 million dollars per year, and their internal military spending at 208 million dollars for the year 1982. Considering the population of Jordan (2.4 million) the figure for internal military spending now falls well above the mean for developing countries, which makes sense considering that they maintain a much larger armed forces than most developing nations and considering the tense situation in the Middle East. Similar estimates are made for the remainder of the nations for which internal military spending was found to be misrepresentational (i.e. Afghanistan, Cuba, Ecuador, Somalia, Syria and Uganda).

To sum, there has yet to surface a data set which represents military expenditures entirely accurately. The arms import data is more consistent since arms transfers are easily tracked, while the accuracy of military expenditures data depends upon the individual nation. Caution must therefore accompany the interpretation of results, particularly considering internal militarization. The best possible methods for estimation however are being employed so that results obtained will be as representational as is possible given today's data limitations.

Creating the Dependent Variable

In the previous chapter the definition for development to be used in the present analysis was established. Three indicators were decided upon which will combine to form the dependent variable. A social development dependent variable will be created after a factor analysis procedure is carried out on the three indicators. Factor analysis is a statistical technique which uses the shared variance of items in order to create groupings of items which can be refered to as single constructs. These grouping are the factors. For instance, if the data obtained on two particular items are related or vary similarly, these two items will share a factor, meaning that both relate to the measurement or construction of a single construct. Each factor created is given an eigenvalue, or level of association for the entire factor. Generally, an eigenvalue of 1.00 or greater suggests that the factor represents a significant construct. Each item of the factor is given a factor score, or weight, which indicates the level to which that item relates to the factor.

The factor analysis will serve several purposes, the most important being to allow construction of an index that represents the concept development in terms of the data. This procedure creates a factor score for each item which indicates the degree to which the item is related and adds explanatory power to the factor which can be named social development. This technique of indexing has the advantage of allowing the data to set the weights of each item methodologically rather than assigning arbitrary weights. The factor analysis will also give an indication as to the relatedness of the individual social development items.

The three items to be factor analyzed are, of course, the three indicators of development. Data for these indicators is obtained from Sivard's 1985 World Military and Social Expenditures. The first indicator, literacy, is defined as the proportion of the population 15 years of age and older who are able to read and write. According to Sivard, "standardized tests for literacy generally focus on basic skills, the ability to read and write on a lower elementary school level" (Sivard, 1985;43).

The second item, life expectancy, is the average number of years a person is expected to live at the time of their birth. Says Sivard, "national averages assume that the rates of mortality at each age which were experienced in that year persist in all future years" (Sivard, 1985;43).

Finally, the indicator infant mortality is defined as the number of infant deaths in a nation per 1000 births. Infant deaths are deaths under the age of 1.

An index from the factor scores is created by first standardizing each item and multiplying it by the determined factor score. Standardization must take place so that each item is measured on a similar scale. Hence, when multiplied by the related factor score a weight is truly established. When standardized, each item has a mean of 0 and a standard deviation of 1. With equal weights, an index could then be established simply by the addition of each standardized item. The addition of each item when weighted via factor scores creates the social development variable.

V- RESULTS OF THE ANALYSIS

Factor Analysis of the Dependent Variable

The dependent variable development is constructed from three indicators; literacy, infant mortality and life expectancy. The mean literacy rate for the 92 nations in the study is 57.38%. 38% of the sample (n=35) report literacy rates of under 50%. Niger, Somalia and Yemen (Sanaa) report the lowest rates at 10% or under. Slightly over 10% of the sample indicate literacy rates at over 90% with the highest being Fiji and the Barbados. Infant mortality rates range from a low of 11 deaths per 1000 born (Singapore) to 205 (Afghanistan) with a mean rate of 91. Finally the life expectancy indicator has a smaller range than literacy or infant mortality. The mean life expectancy for the sample is 56 years. 32 countries (35% of the sample) report life expectancies of under 50. The lowest (40 and 41 years) is reported by Afghanistan and Ethiopia. Only 14 nations (11% of the sample) report average life expectancies of over 70 years with the highest (73 and 74 years) being Israel and Cuba.

Below is the information used to construct the index of social development:

ITEM	MEAN	STDDEV	FSCORE
LITERACY	57.38	27.00	.34353
INFANT MORTALITY	90.92	47.35	-.34948
LIFE EXPECTANCY	56.11	9.84	.34843

The factor analysis of the three items in the development index resulted in the creation of one factor with an eigenvalue of 2.77. Since an eigenvalue, which is a measure of association, of over 1.00 or greater is normally assumed to create a significant factor, a 2.77 result indicates that the three items are highly associated. The fact that only one factor was created adds to the validity of these items. In fact, fully 92.2% of the variance in the factor is explained. The factor scores generated show little variation. Literacy loads with a score of .34, life expectancy at .35 and infant mortality also at .35. These loadings indicate that a fairly good indicator of development using these three items is constructed by using equal weighting if standardization accompanies the index construction. All indications point to the fact that the defined use of the term development being used is a good and valid indicator.

Since each item is first standardized to have a mean of 0 and a standard deviation of 1, a majority of the cases should result in a score of social development not greater or less than the positive or negative addition of the three factor scores, (.34 + .35 + .35 = + or - 1.04). The development index itself has a mean of 0 and a standard deviation of 1 since it represents the addition of standardized items. A nation which scores 0 would then be considered to have an average development score in comparison to the other 91 countries in the sample. Any score greater or less than + or - 1.04 would be considered an extreme value. For the present sample, about 20% fall both above and below a score of 1.04, leaving 60% of the nations between approximately 1 and -1 on the social development scale.

The three highest scores in terms of development were received by the Barbados (1.55), Israel (1.62) and Cuba (1.66). The lowest scores were obtained by The Gambia (-1.73), Burkina Faso (-1.85) and Afghanistan (-1.89). Although there is a general correlation between these development scores, reported levels of GNP per capita and military spending, the indicator constructed points more directly to levels of social development and the well-being of the general population. The three least developed nations judged by the development indicator above rate 9th (Burkina Faso), 10th (Afghanistan), and 12th (The Gambia), lowest in terms of GNP per capita, and their levels of military expenditures per capita rate 5th (The Gambia), 14th (Burkina Faso), and 62nd (Afghanistan), lowest among the 92 nation sample. The three most developed nations in terms of the development indicator rate 2nd (Israel), 4th (Barbados), and 13th (Cuba) highest in terms of GNP per capita and 1st (Israel), 6th (Cuba), and 30th (Barbados), in terms of military expenditures per capita.

An Initial Analysis

The following section is intended to give an overview of the data set and some of the associations that may exist. These associations are explored through bivariate analyses in the tables below. In these tables, the average scores of the development scale, internal militarization and global militarization are broken down or divided into groups representing categories of the independent variables. So, for example, the first table charts the average development scores broken down by the categories of the dummy exogenous variables so that

a separate score is provided for the cases which fall into each category. Where a large difference of means between categories is detected, there would be an association present and hence this analysis of means gives some initial indication of the effects of the independent variables on development and both types of militarization.

Table 1A shows the average development scores broken down by the categories of the exogenous variables excluding GNP which will be looked at later. The table is read as follows: those nations with parliamentary regimes score an average of +.58 on the development scale compared to -.31 for those nations without a parliamentary regime. Those nations with internal policing score an average of +.05 on the development scale compared to -.07 for those nations without internal policing, etc. Just from these two observations, one can conclude that there is a much greater connection between REGIME and development than POLICING and development.

Although there are slight variations in all variables when development means are calculated, only a couple of variables show large enough variations to be deemed significant. The largest difference of means exists for the variable REGIME where those nations classified as parliamentary show a development level of 0.58, compared to -0.31 for the other category. Domestic production for export and alignment are the only other two factors which vary. The other variables all hover around the 0 mark, which is the entire sample average in both categories of the particular dummy variable. There is therefore only an indication of several associations existing between this set of variables and development.

Table 1A -- Average Score on the Development Scale by the Exogenous Dummy Variables

	1 YES	0 NO
PARLIAMENTARY REGIME	0.58	-0.31
EXISTENCE OF INTERNAL POLICING	0.05	-0.07
DOMESTIC PRODUCTION FOR EXPORT	0.58	-0.11
EXTERNAL ORIENTATION OF MILITARY	0.04	-0.02
EXISTENCE OF FOREIGN MILITARY BASES	0.11	-0.04
WAR AND THREAT OF WAR	0.08	-0.05
SUPPLIED BY THE WEST	0.05	-0.04
WESTERN ALIGNED	0.06	-0.28

Table 1B -- Average Score on the Development Scale by Income Status (GNP per Capita)

	Average Development Score
ENTIRE SAMPLE	0.0
LOWER INCOME NATIONS	-0.84
MIDDLE INCOME NATIONS	+0.13
UPPER-MIDDLE INCOME NATION	+0.91

In order to view the association between development and the final exogenous variable, GNP, an analysis of means is presented in Table 1B where GNP has been divided into the three categories of developing countries defined by the World Bank in which the nations with the lowest GNP per capita are classified as lower income, then come the middle income nations and the developing nations with the highest GNP are classified as the upper-middle income nations.

A strong association between GNP and development is apparent from this table. Upper-middle income nations have a mean development score of +.91 while, on the opposite end of the scale, the development level in lower income nations is -.84. Of the exogenous variables, it

appears as if GNP, or the wealth of the nation, has the greatest affect on development. The mean development score for the entire sample is, of course, 0 since this is a standardized variable.

Table 2A shows the average scores of internal militarization, or more specifically, internal military spending per capita, controling for the categories of the dummy exogenous variables. Like the bivariate analysis of means using the variable development, where there is a large difference of means between the categories of the dummy variables, there is an association present. Internal militarization appears to be most greatly associated with domestic production of arms for export. Those countries with such capability spend $158 per capita on internal militarization compared to just over $33 per capita in those nations who do not produce arms for export, verifying the hypothesis that such activity is, indeed, quite expensive. This result also shows an association between domestic production of arms for export and internal militarization. Whether this expense is offset by benefits to socioeconomic growth is difficult to conclude at this time. However, Table 1A showed that nations who engage in domestic production for export also display higher levels of development than the others. Nations who export domestically produced arms have a level of development of +.58 compared to a level of -.11 for those nations who do not engage in such economic activity and therefore, initial evidence points to domestic production being beneficial to development. Other variables which appear associated to internal militarization are: the orientation of the military, where those externally oriented spend, on

average, $107 per capita on the military internally while those nations with internally oriented armies only spend an average of $27; war and threat of war, where those nations who experience such activity spend $93 compared to only $31 on the military internally for those not involved; and alignment, where those nations who are western aligned spend $46 compared to $89 for those who are not.

Table 2A -- Average Internal Militarization by the Exogenous Dummy Variables

	1 YES	0 NO
PARLIAMENTARY REGIME	70.4	42.7
EXISTENCE OF INTERNAL POLICING	69.3	30.9
DOMESTIC PRODUCTION FOR EXPORT	158.4	33.5
EXTERNAL ORIENTATION OF MILITARY	107.5	26.6
EXISTENCE OF FOREIGN MILITARY BASES	52.3	54.5
WAR AND THREAT OF WAR	93.1	30.8
SUPPLIED BY THE WEST	63.1	46.4
WESTERN ALIGNED	45.8	89.5

Table 2B -- Average Internal Militarization by Income Status (GNP per Capita)

	Average Internal Militarization
ENTIRE SAMPLE	53.8
LOWER INCOME NATIONS	6.0
MIDDLE INCOME NATIONS	28.9
UPPER-MIDDLE INCOME NATION	164.5

Table 2B further divides the average internal militarization level, this time broken down by GNP according to the World Bank categorization. Also presented is the mean internal militarization score for the entire sample of 92 nations. The sample mean for internal militarization is $54 per capita, however, as can be detected by the mean when broken down by status, the deviations from the mean

can be great, indicating that those nations with greater wealth spend more on their own military internally. Whereas the lowest income nations average $6.00 per capita on internal militarization, the 22 highest income nations in the sample average over $160.00. Israel maintains the highest level of internal militarization, followed by Iraq and Syria. These three nations are all in the Middle East. The high levels of spending here no doubt exist due to the tensions in this area of the world and the global strategic and political importance of this are to the super power allies. The lowest levels of internal militarization are reported by Mali, Niger and Nepal, all at or under $1.00 per capita. An initial association between GNP and internal militarization is apparent; the higher the level of internal militarization the higher the level of GNP or national wealth. This correlation may be the one that was detected by Benoit, that is, as militarization increases so does wealth of the nation and therefore development in terms of growth. The danger here is assuming that the association represents a causal relationship. As will be discussed later on, this association may disappear once proper controls are introduced.

Table 3A presents a bivariate analysis of means using global militarization and the dummy exogenous variables. The largest difference of means in terms of global militarization exists between those nations who are western aligned and those that are not. Western aligned nations show a ratio of military to non- military imports of 3.8% while non-western aligned nations display a ratio of 18.5%. Such a difference would suggest initially that non-western aligned nations

either buy more expensive weapons, or do not receive the same support in terms of military aid, and therefore spend a great deal more on military imports than other nations. The existence of war or the threat of war appears as another crucial factor determining levels of global militarization. Those nations at war report arms imports to total imports ratios of 12.4% while the other nations received the lowest ratio on the table, at only 2.7%. Initial indications is that war is a major factor in determining both types of militarization. Other notable delineations occur between countries with parliamentary and non-parliamentary regimes and nations who house foreign military bases and those who do not.

The situation with the parliamentary regime variable is interesting when comparing this table to Table 2A. Parliamentary regimes spend more on the military internally than non-parliamentary regimes ($70 to $43). yet record lower levels in terms of global militarization (3% to 8.6%). The two types of militarization do not necessarily act in unison and both represent different phenomenon. The existence of foreign bases is another, though less salient, example of this occuring. There is no difference in internal militarization depending upon the existence of a foreign military base, but those nations hosting bases show a much higher level of global militarization (10.7% to 4.6%).

Table 3A -- Average Global Militarization by the Exogenous Dummy Variables

	1 YES	0 NO
PARLIAMENTARY REGIME	3.0	8.6
EXISTENCE OF INTERNAL POLICING	8.1	3.7
DOMESTIC PRODUCTION FOR EXPORT	9.6	5.7
EXTERNAL ORIENTATION OF MILITARY	10.1	4.5
EXISTENCE OF FOREIGN MILITARY BASES	10.7	4.6
WAR AND THREAT OF WAR	12.4	2.7
SUPPLIED BY THE WEST	4.4	7.9
WESTERN ALIGNED	3.8	18.5

Table 3B -- Average Global Militarization by Income Status (GNP per Capita)

	Average Global Militarization
ENTIRE SAMPLE	6.4
LOWER INCOME NATIONS	9.0
MIDDLE INCOME NATIONS	4.1
UPPER-MIDDLE INCOME NATION	7.0

The association between the wealth of the nation (GNP per capita) and global militarization (proportion of imports that are military oriented) is presented in Table 3B. Global militarization, or the level of global military involvement, does not follow the same pattern as does internal militarization. The sample mean is 6.4%. The highest global military involvement is experienced by the 30 nations classified in the lowest income bracket at over 9%. Upper middle income nations rate second, followed by the middle income category. Both Afghanistan and Syria report levels of over 57% representing the highest global militarization ratios. 27 countries that did not import military goods in 1982 report global militarization levels of 0%. The important fact here is that global militarization and

internal militarization do not associate with economic growth similarly. The initial indication is then that these two types of militarization are driven by different mechanisms.

A comparison between the tables which show the association between GNP and levels of development or levels of militarization suggest that there may be a connection between internal militarization and development. Judging by Tables 1B and 2B only, one might consider that internal militarization leads to increased development since higher development is related to higher internal militarization. That is, both development and internal militarization act the same when charted against economic growth and therefore one might erroneously assume that the two factors are causally related with increased militarization leading to increased development.

This connection is further explored in Table 4 which shows a bivariate association between internal and global militarization on the one hand and the development scale on the other. Levels of militarization, be it global or internal, are divided into three categories. The highest third internal military spenders (those over $28.00 per capita) are grouped into the highest category, the next third ($9.00 to $28.00 per capita) are grouped into the middle category, and the lowest third spenders (under $9.00 per capita) are grouped into the lowest category. The same is done for global militarization where the highest importers (over 5%) are grouped into the highest category, the next third (.5 to 5%) are grouped into the middle category and the lowest third importers (under .5%) are considered as the lowest category.

Table 4 -- Average Score on the Development Scale by the Level of Internal and Global Militarization

	average development score
Internal Militarization	
Highest spenders (n=31)	+0.57
Middle spenders (n=31)	-0.05
Lowest spenders (n=30)	-0.54
Global Militarization	
Highest importers (n=31)	-0.17
Middle importers (n=30)	+0.13
Lowest importers (n=30)	+0.09

There still appears to be no observable connection between global militarization and development. Mean scores for development move from a score of just over 0 in the lowest third and middle third of the sample to a score of just under 0 in the top third of the importers. If anything then, the association is slightly negative. Now, unlike the situation with global militarization, it is obvious from a perusal of this table that internal militarization and development are positively related. The lowest internal military spenders have a mean development score of -.54 while the highest spenders show a score of +.57. The middle category scores close to zero. Benoit, and the modernizationists who used GNP or some measure of economic growth as a dependent variable and military spending as the independent variable may have observed just such a connection and hence it is easy to see why they assumed that militarization causes development. On the other hand, if GNP itself is controled for, the association between militarization and development may disappear. That is, GNP may cause

increased militarization and increased development and therefore the relationship between militarization and development is spurious owing to the influence of GNP. Hence, the dangers of basing results on bivariate analysis. This table exemplifies the need for a control for levels of GNP in judging the effects of militarization on development.

The above tables show that there are some bivariate associations existing in the data set. However, it also shows the need for a multivariate technique in order to sort out the various relationships with proper controls. Though the differences of means show that there are certain tendencies to spend more on the military in nations with more income, and in nations which fall into certain categories of the exogenous variables, important variables such as income are not controled for and therefore it is difficult to make any conclusions based on the initial findings.

Considering that GNP appears to be an important factor related to both development and internal militarization in terms of the bivariate associations, it may be interesting to view the association between GNP and the dummy exogenous variables. This task is completed in Table 5A to Table 5H which represents a series of crosstabulations of income status by each of the dummy exogenous variables which will ascertain whether there is any evidence of an association between income level and the exogenous factors.

Table 5 -- Number of cases by status and the exogenous variables

A) PARLIAMENTARY REGIME	INCOME STATUS lower n %	middle n %	upper-middle n %
YES	7 (23.3)	18 (45.0)	12 (55.0)
NO	23 (76.7)	22 (55.0)	10 (45.0)
TOTALS	30 (100)	40 (100)	22 (100)

B) INTERNAL POLICING	INCOME STATUS lower n %	middle n %	upper-middle n %
YES	16 (53.3)	23 (57.5)	16 (72.7)
NO	14 (46.7)	17 (42.5)	6 (27.3)
TOTALS	30 (100)	40 (100)	22 (100)

C) DOMESTIC PRODUCTION OF ARMS FOR EXPORT	INCOME STATUS lower n %	middle n %	upper-middle n %
YES	2 (6.7)	6 (15.0)	7 (31.8)
NO	28 (93.3)	34 (85.0)	15 (68.2)
TOTALS	30 (100)	40 (100)	22 (100)

D) FOREIGN MILITARY BASES	INCOME STATUS lower n %	middle n %	upper-middle n %
YES	6 (20.0)	12 (30.0)	8 (36.4)
NO	24 (80.0)	28 (70.0)	14 (63.6)
TOTALS	30 (100)	40 (100)	22 (100)

E) EXTERNAL ARMY ORIENTATION	INCOME STATUS lower n %	middle n %	upper-middle n %
YES	11 (36.6)	11 (27.5)	9 (40.9)
NO	19 (63.4)	29 (72.5)	13 (59.1)
TOTALS	30 (100)	40 (100)	22 (100)

F) WAR AND THREAT OF WAR	INCOME STATUS lower n %	middle n %	upper-middle n %
YES	11 (36.6)	16 (40.0)	7 (31.8)
NO	19 (63.4)	24 (60.0)	15 (68.2)
TOTALS	30 (100)	40 (100)	22 (100)

G) SUPPLIED BY THE WEST	INCOME STATUS lower n %	middle n %	upper-middle n %
YES	12 (40.0)	19 (47.5)	10 (45.0)
NO	18 (60.0)	21 (52.5)	12 (55.0)
TOTALS	30 (100)	40 (100)	22 (100)

H) WESTERN ALIGNED	INCOME STATUS lower n %	middle n %	upper-middle n %
YES	21 (70.0)	36 (90.0)	18 (81.8)
NO	9 (30.0)	4 (10.0)	4 (18.2)
TOTALS	30 (100)	40 (100)	22 (100)

Four of the eight variables show a consistent association with income level. Specifically, the percentage of cases that can be classified as parliamentary (Table 5A), having internal policing activity (Table 5B), being capable of domestic production for export

(Table 5C), and hosting foreign military bases (Table 5D), all increase as GNP, or national status as defined by the World Bank, increases. For instance, 7 of 30 (23%) of the lower income nations are represented by a parliamentary regime. This figure rises to 18 of 40 (45%) in the middle income category and 12 of 22 (55%) in the upper-middle income category. Parliamentary regimes are therefore more prevalent as income increases.

The existence of internal policing rises only slightly from the lower income bracket (53.3%) to the middle income category (57.5%), but then rises to 72.7% in the upper-middle income bracket.

The domestic production for export variable displays a revealing result. Only 2 of the 30 (6.7%) lower income nations support such economic activity. This figure more than doubles to 6 of 40 (15%) in the middle income bracket and more than doubles again to 7 of 22 (31.8%) in the upper-middle income category. This table seems to suggest that domestic production is an activity only available to the upper income nations and hence, any benefit that such an industry can provide can only be accrued by those nations. Now, it may also be argued that it is the existence of such industries that boosts a nations income thus placing the cause and effect in the opposite direction. But, it is interesting to note that India and Pakistan are the two lower income nations who export arms produced domestically. These nation, though low in terms of GNP per capita, have a high level of GNP in raw figures, and therefore available resources must exist to begin domestic production.

The existence of foreign military bases is the fourth variable which varies consistently with income status. The increase here is from 20% of the lower income nations hosting bases to 30% of the middle income and up slightly to 36.4% of the upper-middle income category. These tables do not display cause and effect but only associations, therefore, it is difficult to say whether the existence of a base increases income for some reason. Also possible, advanced nations choose to locate in countries with a higher level of income because resources and supports may already exist. Because the deviations from status to status are quite small, income status can only be a minor part of the reason a military strength chooses to locate in a particular developing country. More important are the geo-political and strategic positioning of the nation as well as the relationship between the two nations.

The other four variables do not consistently vary with income status when no other controls are introduced (Tables 5E to 5H). The above tables show that there may be a connection between wealth and some of the exogenous factors. This simply points to the possibility that there is also a connection between these variables and militarization and development since the analysis of means indicated that some associations do exist. For instance, since upper-middle income countries are more likely to have parliamentary regimes or produce arms domestically, it is likely that there is an association between regime or domestic production and development in a positive direction. But, the need for the simultaneous control of all variables is the only method that is capable of assuming a cause and effect exist.

Results of the Path Analysis

Table 6 presents the regression results of the equation where the determinants of militarization are regressed against the two forms of militarization. The significant results, those that merit attention, are indicated by stars next to the coefficient. The column on the left are the coefficients when internal militarization is the dependent variable while the column on the right indicates the significant determinants of global militarization. Except for the dummy variable REGIME, the results confirm the hypothesis that the internal determinants have a greater influence in determining levels of internal militarization than global militarization and the global determinants have a greater influence on global militarization than internal militarization. Since significant determinants generally are found among the internal determinants when regressed against internal militarization and global determinants when regressed against global militarization. REGIME, however, is a significant predictor of global militarization but not internal militarization. The reasons for this anomaly will be speculated on later.

Only three variables are seen to be significant in determining levels of internal militarization in developing countries. GNP per capita has the greatest effect with a standardized beta of +.57. The unstandardized beta coefficient, not reported in this table, shows that for every $1.00 rise in GNP per capita, there is a $.05 rise in internal military spending per capita when all other variables are controled.

Domestic production is the second most vital determinant of internal militarization with a standardized beta of +.18. Compared to those nations without export capabilities in the military industry, domestic production adds $76.91 to internal militarization per person when all other variables are controled. Domestic industries therefore require a tremendous amount of resources. From this result it could be concluded that only those nations with greater resource abundance can afford to produce weapons for export purposes. Whether this investment is in turn beneficial to development will be discussed later.

Table 6 -- REGRESSION RESULTS WITH INTERNAL AND GLOBAL MILITARIZATION AS THE DEPENDENT VARIABLES

VARIABLE	STANDARDIZED BETA REGRESSED AGAINST INTERNAL MILITARIZATION	STANDARDIZED BETA REGRESSED AGAINST GLOBAL MILITARIZATION
Internal Determinants		
DOMESTIC PRODUCTION	.18 **	.06
GNP PER CAPITA	.57 ***	-.04
INTERNAL POLICING	.02	-.01
EXTERNAL ORIENTATION	.13	.13
PARLIAMENTARY REGIME	-.11	-.17 *
Global Determinants		
FOREIGN BASES	-.12	.21 **
WAR	.17 *	.28 ***
WESTERN SUPPLIED	.04	-.04
WESTERN ALIGNED	-.07	-.32 ***

NOTE -- Levels of Significance indicated by:
*** significant to the .01 level of significance
** significant to the .05 level of significance
* significant to the .12 level of significance
not significant

The remainder of the internal determinants are relatively insignificant in influencing levels of internal militarization. Internal policing has no effect at all. Regime has a very minor effect on internal militarization, while an external oriented military adds a small, but insignificant, amount to the level of internal militarization.

Of the external determinants, only war or threat of war is a significant factor with a standardized beta coefficient of .17. Those nations at war or who are threatened by war spend $55.28 more per person on internal militarization than those not at war and not threatened by such. The significance of this factor is not surprising. War would require a build up of the establishment including all facets of militarization. Since the WAR variable is not significant at the .05 level of significance based on the T statistic, caution should be taken in this interpretation.

The other external determinants are, as might be expected, statistically insignificant in influenceing levels of internal militarization. Only the existence of foreign bases (-.12) can be considered as having even a weak influence. In conclusion, both economic internal factors, that is, wealth of the nation and domestic production, positively affect internal militarization and they are both statistically significant.

The variable REGIME presents an anomaly to the general hypothesis regarding the determinants of militarization. Since having a parliamentary government is seen to be an insignificant determinant of

of internal militarization, yet has a pronounced negative influence (though not significant at the .05 level), on global militarization. The ratio of military to other imports in parliamentary nations is 9% lower than in non-parliamentary regimes when all the controls are considered. This result points to several factors. Maizels and Nissanke's argument that military governments tend to spend more on their military is verified. On the other hand, this increased militarization is apparent only in the degree of involvement in the global military matrix. Hence, non-parliamentary regimes are more dependent upon the producer nations than parliamentary nations. According to dependency theory, this should result in non-parliamentary regimes showing lower levels of development when stage two is considered. Furthermore, the evidence presented here suggests that the nature of the State has been misplaced and is a global factor instead of of an internal factor. The type of government in place is a condition that influences the relationship between the State and other nations rather than influencing the goings on of the State itself. Simply put, whether a nation is parliamentary or not does not at all influence the amount that they spend on the military internally and therefore it is not an internal determinant, but it does determine the percentage of arms that they import and therefore REGIME affects the military relationships between the nation and other nations. Maizels and Nissanke's hypothesis then, that the nature of the State is a national influencing factor is incorrect and REGIME should be more closely related to ALIGNMENT, SUPPLIER, etc., than the internal determinants.

The other internal determinants are not significant predictors of global militarization. Of particular note are the influences of domestic production for export and GNP per capita, both of which are highly insignificant. Although domestic production adds to the internal militarization requirements, it does not increase the degree of military involvement globally. As well, richer nations with greater resource availability do not become more militarized globally. Externally oriented armies, a factor previously speculated to possibly affect both types of militarization, moderately, yet insignificantly, increases global militarization (beta of +.13, insignificant at the .12 level of significance).

Looking at the global determinants of militarization, only the supplier nation is an insignificant predictor of global militarization. Western alignment has the greatest influence on global militarization. Non aligned or eastern aligned nations have a military - non-military import ratio of over 9% greater than western aligned nations when all other factors are controled and hence non-western aligned nations are more integrated into the world military matrix. Again, this would suggest that development is weaker in these nations. There are other possible explanations for this result. Because western aligned nations may receive a large amount of military aid, this may bring down the actual amount of spending that is reported and hence the result found in the regression equation could be spurious owing to the influence of military aid. Also to be considered is the interconnectedness between the external determinants. Looking back at the regime types and suppliers, similar

relationships exist between parliamentary regimes and western supplied nations. Since a higher percentage of parliamentary governments are western aligned than non-parliamentary governments, one might speculate that it is a western affiliation which reduces military spending. Upon further examination, an interesting factor surfaces. Of the 9 lower income countries who are non-western aligned, 5 are at war in 1982 according to Kidron and Smith, (Afghanistan, Burma, Ethiopia, Mozambique and Tanzania), and an additional 2 were threatened by war, (India and Sri Lanka). 2 of the 4 middle income nations, (Cuba and Nicaragua) are at war, and similarly are 3 of the 4 upper income nations which are non-western aligned, (Iran, Iraq and Syria). In addition, a majority of this group is represented by a one-party governmental system. Since war tends to dramatically increase levels of spending, it would appear as if the reason behind the higher levels of spending of non-western aligned or non-western supplied nations is not the 'westerness' of their affiliations, but rather the fact that these nations are at war more often. Indeed, while 37% of the total sample is at war, or was threatened by war in 1982, over 70% of the non-western aligned countries experience war activity or are threatened by it. Hence, non-western supplied nations tend to be non-parliamentary regimes more often, are non-western aligned more often, are at war more often and therefore spend more on military inputs.

The interconnection between these and all other variables can be summarized by the correlation coefficients found in appendix C. In terms of the present discussion, the coefficient between war and

alignment is -.33, meaning that non-western aligned nations tend to be at war more often. War is then positively related to internal spending with a coefficient of .21. Since regime and alignment are also significantly correlated, that is, parliamentary regimes are western aligned more often, with a correlation coefficient of .16, the relationship can be illustrated as follows:

non-parliamentary<--->non-western aligned<--->at war<--->higher spending

Interestingly, being supplied by a western nation does not fit into the same schema mentioned above. Although the correlation matrices provided in appendix C reveal that the western supplied nations are likely also western aligned, (correlation coefficient of .43), supplier does not relate to the variables war or regime in any significant way. Supply does, however, positively correlate with domestic production, meaning that countries who set up arms industries do so, to a great extent, in conjunction with western suppliers (correlation coefficient of .20).

Several additional explanations of the causal association between alignment and global militarization exist. First, western aligned nations may tend to receive military aid and assistance if they are geo-strategically located and hence this decrease in global military involvement may not be truly representative. More likely, the nonaligned nations, not being militarily connected to any super power, may need to increase their arms imports to protect themselves from militarily aided nations, or in order to protect their nonaligned status. Whatever explanation is put forth it must be weighed against

the possibility that the small number of cases of nonaligned and eastern aligned nations bias the sample. If Iran, Iraq and Syria are removed from the sample, these being three of the highest military spenders in the Third World, the mean spending of non-western aligned nations decreases dramatically.

War and threat of war has, as expected and as alluded to above, a tremendous effect on global militarization, increasing global military involvement by 6.5%. Now, the effect of war and threat of war on global militarization is somewhat greater than its influence on internal militarization as was hypothesized. Hence, even though war requires a larger military establishment, it requires global military involvement to a greater extent. The analyses by Lotz (1970), Deger (1985) and Maizels and Nissanke (1981) which showed similar results, are verified, but here the influence on the two defined types of militarization is added.

The existence of a foreign military base also increases global militarization by 5.3%, (standardized beta coefficient of +.21). Recall, this factor was said to have a minor negative effect on internal militarization. Thus, when a foreign military base exists, it is possible that a nation need not spend as much on their own military. Some of the functions of the military may be undertaken by the foreign establishment. However, the involvement in the global military matrix is heightened as was expected.

Both models discussed above, (internal and global militarization as the dependent variable), show R-squares of over 40%. In other words,

more than 40% of the variation in militarization can be explained by the determinants of militarization. This figure point to a generally acceptable level of variance. In addition, both models are themselves highly significant in terms of the F value.

In conclusion, the assumptions and hypotheses discussed in earlier chapters have been generally verified. The internal determinants of militarization have a greater influence on internal militarization, while the global determinants are much more likely to influence global militarization. The one exception is the influence of the nature of the State, which might be considered a global determinant of militarization. The only factor which significantly determines both forms of militarization is war and the threat of war, however, its influence on global militarization is greater. Besides war and threat of war, the existence of domestic production for export and GNP per capita (wealth of the nation), are good predictors of internal militarization. Global militarization is determined by the regime in place, war or threat of war, the existence of foreign military bases and global alignment. So, global militarization is determined by all three types of factors, political, economic and military, where internal militarization is more a function of the internal economic factors. Previous research which claimed war and threat of war is a prime motivater of increased militarization is verified, but a number of other factors have now been added.

An interesting comparison can now be made with the results of the first regression equation and the brief bivariate discussion above. Table 2A provided evidence that internal militarization varies with

the existence of internal policing, external orientation and the type of regime. However, based on the results provided in Table 6, the differences found do not mean that a cause and effect relationship exists. That is, although internal policing and high levels of internal militarization are related, (Table 2A), the existence of internal policing does not increase militarization directly (Table 6). In fact, with a standardized beta coefficient of .02, internal policing does not influence internal militarization, (or global militarization for that matter), at all. A clue to the reason for the initial bivariate association can be found back on Table 5B which indicates that internal policing varies with income status. This table showed that the wealthier the nation, the greater the occurance of internal policing or, the richer the nation is the greater the civil discontent that is accompanied by military involvement. It is therefore possible to conclude that discontent increases with wealth and the initial association found between internal policing and militarization on Table 2A is spurious owing to the wealth of the nation when once controled, removes the influence of policing. In other words, although there is an association between internal policing and militarization, internal policing occurs in wealthier nations more often and therefore when wealth is controled for the association between internal policing and militarization disappears.

The result of the POLICING variable leads to two important conclusions. First, since internal policing does not increase internal spending, or global imports of arms, civil war and counter insurgency programs are a cheap form of military activity. War is,

however, significant, suggesting that it is much more costly to fight a war than it is to police your own nation. The importance of defining the various types of military activity when talking about the determinants of spending is apparent judging by this result. Second, the fact that internal policing occurs more frequently in wealthier nations suggests that policing may take place in order to protect the status quo where the status quo is either wealthy and thus powerful, or when the opposition is affluent enough to put up a fight. Dependency theory would support the former solution, although this particular data set itself does not answer the question.

External orientation and type of regime are two other variables that suggests a relationship in the bivariate analysis (Table 2A), but are insignificant causes of internal militarization in the case of regime type, and both internal and global militarization in the case of orientation (Table 6). Regime and militarization is once again a spurious relationship owing to the effect of GNP as can be detected in Table 5. That is, once GNP is controled for, the association between these factors and militarization becomes insignificant. As for external orientation, the amount of change in spending and change in arms imports based on an army orientation is simply not enough to grant it a significant factor. Hence, an army requires a certain amount of maintenance and sophistication regardless of orientation.

Furthermore, it was suggested earlier that because GNP and domestic export are the most important determinants, internal militarization is more a function of economics than anything else while global militarization is a function of all three types of factors, that is,

political, economic and military. Since global militarization involves more than one nation it makes sense that its level is determined by a broad range of factors. According to dependency theory global militarization involves geo-political and military strategic as well as economic factors and hence political and military factors aid in determining its level. With internal militarization, the high beta of GNP means that the wealthier nations spend more on the military, have larger military establishments etc. There is some truth to the argument that the size of the military depends upon available resources and budget constraints of the central government. Despite this result, GNP has virtually no influence on global militarization. Richer nations thus can afford a larger military establishment but it does not mean that the establishment is more sophisticated in terms of weapons, or is more connected to the advanced producer nations when it comes to arms imports.

Domestic production for export is the other variable significant in its influence on internal militarization. Two conclusions can be made from this result. First, domestic production requires that the operation includes training, resources, etc., that are connected to military spending internally. Plus, the 'chain of inputs' refered to by Eide (1976), that includes the importation of supplementary equipment, foreign experts etc., do take place in terms of internal militarization, but that chain does not include the importation of arms specifically.

It is the global militarization variable which is created out of the argument of the dependency theory. Hence, those significant

determinants, besides influencing militarization, also theoretically influence the level of dependency. It is easy to make this connection with a couple of the significant variables. For example, the existence of a foreign military base means that there is also a strategic and political connection between the host nation and the nation whose base is located on developing nation soil. This connection increases global military involvement as is shown in the regression results, but also increases dependency on this more powerful guest. Conversely, having a parliamentary regime decreases dependency on the more advanced and stronger nations. The one-party states and military regimes have more to gain by a dependent association since such activity necessitates a chain of dependency where the leaders and status quo in the developing country would take advantage of and expropriate wealth form those below. Development should then decrease in non-parliamentary and foreign military base hosting nations.

Table 7 shows the results obtained when regressing all the variables in the analysis against the composite index of development. Again, the starred coefficients are significant and merit attention. These are the variables which influence development directly. Three of the exogenous factors result in significant influences on development. These factors were all initially under the category internal determinants and hence the factors which are seen as global have less influence on development (except for the variable REGIME which might be considered to be a global determinant based on the above discussion).

Table 7 -- REGRESSION RESULTS WITH SOCIAL DEVELOPMENT AS THE DEPENDENT VARIABLE

VARIABLE	STANDARDIZED BETA
Type of militarization	
GLOBAL MILITARIZATION	-.22 **
INTERNAL MILITARIZATION	-.10
Internal Determinants	
DOMESTIC PRODUCTION	.14 *
GNP PER CAPITA	.55 ***
INTERNAL POLICING	.07
EXTERNAL ORIENTATION	.03
PARLIAMENTARY REGIME	.25 ***
Global Determinants	
FOREIGN BASES	.06
WAR	.15
WESTERN SUPPLIED	-.11
WESTERN ALIGNED	.04

NOTE -- Levels of Significance indicated by:
*** significant to the .01 level of significance
** significant to the .05 level of significance
* significant to the .12 level of significance
not significant

Of the exogenous factors, GNP per capita has the greatest influence on development, showing a standardized beta coefficient of +.55. Nations with greater resource abundance in terms of GNP therefore have the ability to implement programs which develop the social base of a nation. The nature of the State as well is a significant predictor of development with parliamentary regimes showing a greater level of development.

It appears as if parliamentary regimes, represented by a government which must directly answer to the needs of the general population if they hope to be reelected, are more concerned about the basic needs of the population and hence mechanisms to increase social development, than one-party, despotic or military regimes. Another explanation of the positive association between regime and development could lie with western support and aid going to parliamentary regimes bolstering levels of development. In any case, parliamentary regimes have a better record in terms of social development judging by this result.

The debate over the effect of domestic capacity for export is settled using this equation. Domestic production has a positive influence on development as was argued even by a number of dependency writers. The benefits accrued through the trade in arms can be felt even by the developing countries. A couple of points should be made however regarding the interpretation of this result. First, the result is not significant at the .05 level of significance. The effect of domestic production is thus minor compared to the other factors which have more significant T values. Now, The first requirement in starting an arms export industry is wealth since it is a costly endeavour. Hence, the nations which maintain domestic production facilities are, in a sense, the dominant nations of the developing world in a financial sense. Table 5C showed that of the 15 nations which export military goods in the present sample, almost one-half of them (7) are upper middle income nations. 6 belong to the middle income category and only 2 are lower income nations. Put another way, while only 2 of the 30 lowest income nations export

military goods (7%), 7 of the 22 highest income nations are involved in such economic activity (32%). Considering this, the coefficient of .14 is not as tremendous as the other significant factors influencing development. The effect of GNP per capita (.55) is much greater. In conclusion, it may be said that domestic exportation has a minor positive effect on development, but this positive influence is still only available to those nations who have already reached a somewhat higher level of development.

Of pivotal importance in this analysis is the regression results of internal and global militarization on development. Here the outcome verifies the hypothesis developed earlier. Global militarization acts negatively on development with a standardized beta coefficient of -.22. The dependency angle of the militarization argument gains support by this result, that is, the greater the global military involvement, the less the ability to develop. Internal militarization, on the other hand, results in no positive nor negative effect on development. The modernization argument is not verified by this result. The effect of increased internal militarization is nil. Development is then not influenced by the size, strength or function of the military within national borders in any means when all the other influencing factors are considered. The initial association found in Table 1 is spurious when proper controls are implemented.

To sum, social development as defined by the indicators used in this analysis, significantly increases directly in nations where the nature of the State is parliamentary, in nations which maintain a military domestic production industry for export, and as GNP per

capita increases. Development, however, decreases significantly as global military involvement increases or, more specifically, the importation of military inputs has a direct negative influence on societal growth.

The total variance explained in this model is 53% based on R-square. A result of this nature points to a strong model.

TABLE 8 -- PATH ANALYSIS DECOMPOSITION (DEPENDENT VARIABLE=DEVELOPMENT)

VARIABLE	DIRECT EFFECT	INDIRECT EFFECT	TOTAL EFFECT
Type of Militarization			
GLOBAL MILITARIZATION	-.22	0	-.22
INTERNAL MILITARIZATION	0	0	0
Internal Determinants			
DOMESTIC PRODUCTION	.14	0	.14
GNP PER CAPITA	.55	0	.55
INTERNAL POLICING	0	0	0
EXTERNAL ORIENTATION	0	0	0
PARLIAMENTARY REGIME	.25	.06	.31
Global Determinants			
FOREIGN BASES	0	-.05	-.05
WAR	0	-.06	.06
WESTERN SUPPLIED	0	0	0
WESTERN ALIGNED	0	.07	.07

The path analysis decomposition, seen in Table 8, is useful in summarizing the results obtained in the two regression equations in terms of the effect on development. The direct effects indicates the influence of the independent variables on development directly. Indirect effects are calculated by multiplying the direct effect on global militarization by -.22, which is the direct effect of global

militarization on development. The indirect effects are then the factors that influence development only when mediated through global militarization. Since internal militarization has an insignificant influence on social development, it is not used at all in calculating the total effect. All insignificant effects are given a value of 0, or no influence.

The direct effects have been reviewed above. Four variables have indirect effects on development. Parliamentary regimes and western aligned nations have positive indirect effects on development when mediated through global militarization. Conversely, war and the threat of war, and the existence of foreign military bases, have indirect negative effects.

These indirect effects influence the net effects on development. Of the eleven factors considered as possible influences on development, the orientation of the military, the existence of internal policing, the supplier nation and the level of internal militarization have no effect. Four factors influence development positively when all variables are considered simultaneously; they are, GNP per capita, the nature of the State, the existence of domestic production for export and global alignment. Hence, the positive influences come from both the internal and global exogenous factors. Negative effects, however, are all globally related. The existence of foreign military bases and war or the threat of war have a net negative effect on development and, of course, global militarization itself has a significant negative effect on development. Involvement in the global military matrix is hence detrimental to development.

VI- A FINAL DISCUSSION ON THE IMPACT OF ARMS

Six Conclusions

Stated below are a number of important conclusions that have been derived from the above analysis plus a brief discussion that accompanies each.

1- The level of a nation's internal militarization, or spending per capita on the military within national borders, largely depends upon their economic status where the higher the status in terms of wealth, the more they spend on the upkeep of the military internally.

This is not necessarily a deterrent to development since internal militarization has no influence on social development in either direction. But, the wealth of the nation does promote social development directly. Thus, wealthier nations can afford to increase spending both on the military and on social programs which lead to enhanced levels of societal growth. The wealthier nations can also afford to begin weapons production for export which adds to development slightly. Such activity increases internal military spending needed to build the infrastructure capable of handling such industry, train personnel, import supplementary equipment, etc., and hence, only the already richer nations, or those with available resources, can afford such a luxury, the outcome being positive. This is not to say that spending on other programs besides those militarily oriented would not increase development even further.

With economic factors determining levels of militarization, it is easy to see that if the determinants of militarization are not accounted for, and proper controls not instituted, militarization can be seen to increase GNP as was concluded by Benoit. The above theoretical development and analysis has shown that this result is a misconception of the entire problem. Levels of military spending per capita are the result of GNP per capita, infrastructurally anyway, and development occurs as GNP per capita rises but not as militarization increases.

2- The modernization argument, which hypothesized that the training provided by the military, the diffusion of western values via the military, the building of the infrastructure by the military, the sense of economic security that accompanies a strong military establishment, the sense of nation building that a strong military establishment promotes, etc., serves to provoke development has been shown to be a false representation of the impact of military spending.

The analysis has demonstrated that the costs of maintaining the military and any of those benefits mentioned above which were supposed by Benoit et al. to exist, outweigh each other. Perhaps in certain nations the benefits outweigh the costs and vise versa depending upon specific conditions. Across a large set of nations, the effects are nonexistant. With internal military spending having no influence on development, the determinants of this type of militarization do not affect development indirectly.

Where then does the modernization theory err? According to some critics, the modernization perspective was devised in the 1960's to serve the purpose of justifying the build-up of militaries in the Third World which was encouraged by American military strategists and policy makers in order to protect American strategic interests abroad. Initially it may have erred in that it was created solely to serve a specific purpose. But, as the review of the literature mentioned, several more recent articles have appeared supporting the theory. In addition, researchers who hypothesize that the military benefits society in some way will not go away. For instance, although they do not propose that it is the case in all nations, Fredriksen and Looney (1983, 1982) claim in most developing countries the military promotes economic growth. With the tremendously high costs of producing arms and of research and development of more sophisticated arms, that is, with the high cost of the arms race, coupled with the pressure to sell weapons abroad in order to cover these costs, it is possible that a revitalization of the modernization theory serves a new justifying purpose; not to protect American interests abroad, but to protect American interests at home by maintaining their position in the arms race.

The above argument cannot answer to one fact - the present analysis has shown that military spending and arms imports are presently highest in nations not aligned to western countries. Hence, although it is possible that some justification of the global arms business is manifest in modernization, the theory must be criticized at a more basic level as well, that is, the assumptions of modernization can now

be questioned. The analysis has shown that the State itself cannot be solely responsible for its own development. More importantly, militarization does not promote westernization, or westernization does not promote development but most likely both.

3- War and the threat of war have a tremendous effect on militarization, being the only determinant to increase both internal and global militarization.

The hostile and threatened environment that exists in many third world countries accounts for a large portion of the high levels of arms imports and spending per capita. Where Benoit supposed that high levels of militarization support a secure environment, it is more likely that it supports a proliferation of the third world arms race. As the number of conflicts increase, so too does militarization. If arms build ups are to cease in these nations, they must do so in less threatening environments.

4- Global military involvement is determined by a combination of political, economic and military factors; the nature of the State and global alignment being political factors and the existence of a foreign military base and war being the economic and military factors.

Dependency theory claimed that a developing nation has very little say as to its course of action militarily which is determined in the advanced countries. In part, the analysis conducted above agrees since the factors which determine arms imports are largely global determinants and therefore are those factors which connect a nation to the global military matrix and hence the supplier nation, usually

being a developed country. War is a clear example of this connection. Most wars are fought in developing countries; many are fought with the developed nations' interests involved. There is thus some truth to the notion that the cold war between the USA and the USSR is fought in the back yards of the Third World. Still, dependency assumes that arms imports are autonomous or self deciding since the military destiny of a third world nation depends upon an outside power. This analysis shows that this notion is incorrect since a number of factors directly influence arms imports.

5- The dependency theory notion that arms imports and global military involvement hampers development has been verified.

The most important regression result of the above analysis is a -.22 standardized beta coefficient between global militarization and social development. According to dependency, the importation of arms draws a nation into the world wide division of labour where the developing world is exploited to the benefit of the core. Indeed, development, in terms of the social well-being of a nation decreases as a result of arms imports. The above analysis has not verified whether the transfer of arms results in a reciprocal association in the countries of origin. That is, do the sacrifices of the Third World result in benefits to the advanced nations who produce the arms? The analysis does however, hint that this might be the case since the exportation of domestically produced arms increases development in the developing countries. Furthermore, although the analysis did not directly test for it, there is evidence that the importation of arms has real costs for the Third World when compared to other government

funded projects since global militarization is measured as a proportion of arms imports to total imports. Hence, the opportunity costs argument gains some support. In any case, as developing countries become more involved in global militarization, the lower becomes their rate of development and with the definition of development employed in the present analysis, the sacrifices will mostly be felt by the poorest; those who have the least access to the most basic of human needs.

Since global militarization deters social development, the determinants of global militarization have subsequent indirect influences as well. Two of those factors, war and the threat of war and the existence of a foreign military base, fit nicely into the dependency argument. The existence of a foreign military base on developing country soil means that the developing country is allowing some type of economic, political and military encroachment into their environment. As countries become more involved with the advanced world and as ties strengthen, dependency and exploitation increase resulting in a decrease in the development of the social well-being of a nation. War has a similar relationship to social development since it too involves a nation more thoroughly into a world system favouring the already advanced. (There are additional, obvious, explanations of the negative influence war has on development, some of which may lead into moral issues as well. It is enough for now to emphasize the indirect result found in the analysis.)

6- Internal and global militarization are two different phenomena, influenced by different factors, affecting development in different ways.

Part of the confusion and inconsistencies in past literature and research could be because the existence of different types of militarization were never recognized. But, when we speak of the negative effects of militarization, it is arms imports which we should be refering to. Internal military spending does not matter, that is, it may operate as any other type of government spending. Its effect may vary between nations depending upon various things, like the particular programs supported, but the importation of arms matters greatly. Arms imports serves to utilize resources that could otherwise be used for social development. Instead, countries with a high proportion of arms imports to total imports become involved in the world military matrix, fueling the arms race, while in the end, hampering their own development.

A Final Word: Implications of the Present Analysis

The initial implications of the present analysis are apparent. The direct impairment to development brought about by increased militarization in terms of arms imports further enhances the United Nations viewpoint that military spending is a direct detriment to development and that the two must be dealt with simultaneously. In other words, development in the full sense cannot take place unless developing nations reduce their involvement in the global military matrix. This analysis has shown that in terms of the social well-being of a nation, that is, social development, military imports reduces growth. This implies that development cannot occur unless the arms trade in the developing world is reduced.

It is impossible to ask the nations of the world to lay down their arms completely, dismantle their military and begin to redirect resources into more useful projects. First of all, the problems is not as simple as a guns - butter trade-off as was shown in the analysis. Many factors come into play which must be taken note of. The regression results showed that internal militarization does not necessarily affect society negatively (although that is not to say that these resources could not also be put to better use). Second, nations of the world must maintain some sort of protection while the world continues to exist in its present state. Asking a nation to drop its defenses and be vulnerable to any attack is ludicrous at the moment given the tense environment that presently exists in much of the developing world. There are immediate other choices to be made from within each state. Since it is global militarization that primarily prevents development, nations could begin by loosening their global military ties. Simply put, the lower the portion of the import budget devoted to military goods, the lower the adverse effects on development. Thus, the more inward reliant the military, the better the chances for socioeconomic growth. And, the present analysis has also suggested some of the determinants of global militarization which can be concentrated on in order to reduce global military involvement. Most important is the existence of war since it affects militarization so strongly, increases third world tension, and in the end costs lives. There is no doubt that the developing world, which has served as the world's battleground since World War II, must move towards more peaceful states in order to reduce tension, therefore militarization, and therefore be able to concentrate on progress aimed at increasing development.

The present analysis has shown the irony in a world where war and violence are commonplace yet development is difficult to achieve. The analysis of the dependent variable displayed low literacy and life expectancies in some countries that maintain high levels of global as well as internal militarization. Since such militarization hinders development, the only possible solution to the development problem would be to concentrate efforts on decreasing military build-ups globally. Benoit once noted that the security that is felt under a strong military establishment leads to growth since investors trust such security. However, a strong military establishment in one nation also leads to tensions in another, causing a third world arms race. When this tension leads to increased spending on military inputs, the net result is negative. If, however, the security alluded to by Benoit, can be achieved through peace and demilitarization as opposed to militarization the benefits would be felt both economically and in terms of the social well-being of the nation.

Ruth Sivard has said that, "in a world of multi-billion-dollar corporations, the military sectors as buyer, employer and producer has become the biggest of them all" (Sivard, 1986;23). Producers of armaments, the leaders in the weapons industry, rely on 100 some developing nations to support their billion dollar ventures. Yet, the consequences of the military industry's full expansion into the developing world are devastating both in a moral sense, increasing tensions and the likelihood of war, and in a developmental sense, reducing the social well-being of the nation. The global connections involved in the military - development interaction suggest that it is

a reduction in the world arms race, a move towards demilitarization rather than militarization, that could create the impetus for societal progress world wide.

APPENDIX

A) A Further Analysis

The results obtained in the analysis above utilizes a particular definition of development that has been constructed by way of a theoretical argument. In order to hypothesize on the generalizeability of the findings, the same variables were also regressed against some other dependent variables that, arguablly, could also represent some form of development. These four additional dependent variables are represented below. They are: total government expenditures on health, total exports, the average food production index, and the percentage of the population with access to safe water. The first two of these indicators gives some indication of economic development. While total exports indicates the health of trade in a developing country, total spending in the health sector may indicate the state of the central government budget as well as comment on the opportunity costs argument that spending in the military sector takes away from spending in other areas such as health. The average food index, indicating whether food production has been on the increase or decrease in the years prior to the year of note, give some indication of both the health of the agricultural sector and access to food for lowest proportion of the population, while the percent of the population with access to safe water is an indicator of social well-being since it is the bottom sectors of the population that would

have their access to safe water blocked. This latter indicator is therefore also concerned with the health of the lower income people in a developing country.

The following results are provided in order to show that a) various definitions of development can and are used in an analysis regarding socioeconomic growth, and b) any definition used should provide consistent results with what was obtained above. This does not, however, lay any doubt on the operationalization of development used for the above analysis which is still the most appropriate.

STANDARDIZED BETA COEFFICIENTS OF INTERNAL AND GLOBAL MILITARIZATION WITH VARIOUS DEPENDENT VARIABLES

	DEPENDENT VARIABLES			
	1	2	3	4
INTERNAL MILITARIZATION	-.16	-.16	-.10	-.03
GLOBAL MILITARIZATION	-.13	-.18	-.23	-.08

*****KEY TO DEPENDENT VARIABLES
1- Total Health Expenditures
2- Total Exports
3- Average Food Production Index
4- Percent of the Population with Access to Safe Water

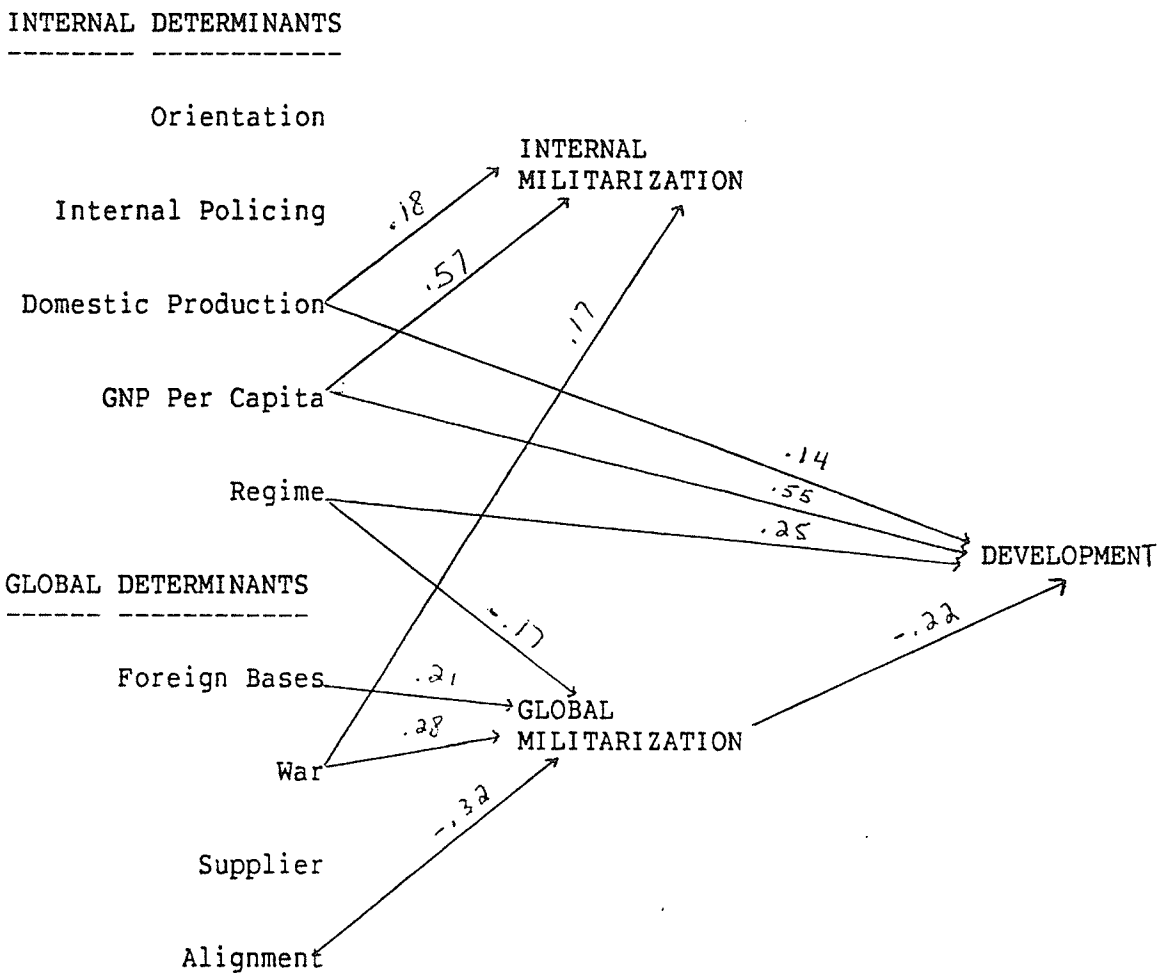
*** Data obtained form the ACDA, Sivard and the World Development Report

The above table shows the standardized beta coefficients of the two types of militarization used in the analysis regressed against these four dependent variables. The other controls used in the analysis are also used in this case. In general, the results show a consistency with what was initially obtained. Global militarization has an adverse influence on each indicator of development. The results of internal militarization shows that the analysis above may have indeed

under emphasized the negative influences since the first two regression equations above yielded quite negative results. Except for total health expenditures, the global militarization has a greater negative effect on the indicators of development than internal militarization, as was the case in the initial analysis. Global militarization is shown to not only affect social development, but it reduces health and total exports as well as negatively effects a nation's ability to produce agricultural goods. The result of internal militarization when health expenditures is used as a dependent variable lends support to the opportunity costs argument by stating that spending on the military internally does take away from spending in health, even though the spending on the military may not in itself reduce social development.

The contrast between the two types of militarization also show a consistency with what was found in the initial analysis. The effects of internal militarization are weak when the more socially related variables are considered, but stronger when the economic indicators of health expenditures and total exports are considered. Global militarization turns out to be a hinderance to development across the board of indicators. Although the comparisons made above are rather crude and simplestic, they do suggest that the model created for the above analysis may be generalizeable across a broad range of definitions of development.

B) The Complete Path Analysis Diagram



C) Correlation Coefficients between Variables in the Analysis

The following tables are included in the present section:

I - Correlation Coefficients between the Internal Determinants
II - Correlation Coefficients between the Internal and Global Determinants
III- Correlation Coefficients between the Internal Determinants and Militarization and Development
IV - Correlation Coefficients between the Global Determinants
V - Correlation Coefficients between the Global Determinants and Militarization and Development
VI - Correlation Coefficients between Militarization and Development

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I) Correlation Coefficients between the Internal Determinants

	GNP	DOMESTIC PRODUCTION	ORIENT	POLICE	REGIME
GNP	1.00	.23***	.13*	-.04	.34***
DOMESTIC PRODUCTION	X	1.00	.18**	.18**	.12
ORIENTATION	X	X	1.00	.02	-.07
POLICE	X	X	X	1.00	-.14*
REGIME	X	X	X	X	1.00

NOTE -- Levels of Significance indicated by:
*** significant to the .01 level of significance
** significant to the .05 level of significance
* significant to the .12 level of significance
not significant

II) Correlation Coefficients between the Internal and Global Determinants

	GNP	DOMESTIC PRODUCTION	ORIENT	POLICE	REGIME
WAR	-.03	.09	.07	.40***	.02
SUPPLIER	.08	.20**	.01	-.07	.11
ALIGN	.07	-.02	-.19**	-.10	.16*
BASES	.08	.25***	.06	-.03	-.02

NOTE -- Levels of Significance indicated by:
*** significant to the .01 level of significance
** significant to the .05 level of significance
* significant to the .12 level of significance
not significant

III) Correlation Coefficients between the Internal Determinants and Militarization and Development

	GNP	DOMESTIC PRODUCTION	ORIENT	POLICE	REGIME
INTERNAL MILITARIZATION	.57***	.32***	.27***	.13*	.10
GLOBAL MILITARIZATION	-.09	.13*	.23***	.19**	-.24***
DEVELOPMENT	.62***	.26***	.03	.06	.48***

NOTE -- Levels of Significance indicated by:
*** significant to the .01 level of significance
** significant to the .05 level of significance
* significant to the .12 level of significance
not significant

IV) Correlation Coefficients between the Global Determinants

	WAR	SUPPLIER	ALIGNMENT	BASES
WAR	1.00	-.01	-.33***	.02
SUPPLIER	X	1.00	.43***	.17*
ALIGNMENT	X	X	1.00	-.01
BASES	X	X	X	1.00

NOTE -- Levels of Significance indicated by:
*** significant to the .01 level of significance
** significant to the .05 level of significance
* significant to the .12 level of significance
not significant

V) Correlation Coefficients between the Global Determinants and Militarization and Development

	WAR	SUPPLIER	ALIGNMENT	BASES
INTERNAL MILITARIZATION	.21**	.06	-.12	-.01
GLOBAL MILITARIZATION	.41***	-.15*	-.49***	.24***
DEVELOPMENT	.06	.04	.14*	.07

NOTE -- Levels of Significance indicated by:
*** significant to the .01 level of significance
** significant to the .05 level of significance
* significant to the .12 level of significance
not significant

VI) Correlation Coefficients between Militarization and Development

	INTERNAL MILITARIZATION	GLOBAL MILITARIZATION	DEVELOPMENT
INTERNAL MILITARIZATION	1.00	.17**	.28***
GLOBAL MILITARIZATION	X	1.00	-.23***
DEVELOPMENT	X	X	1.00

NOTE -- Levels of Significance indicated by:
*** significant to the .01 level of significance
** significant to the .05 level of significance
* significant to the .12 level of significance
not significant

D) The Tables Used in the Analysis

Table 1A -- Average Score on the Development Scale by the Exogenous Dummy Variables

	1 YES	0 NO
PARLIAMENTARY REGIME	0.58	-0.31
EXISTENCE OF INTERNAL POLICING	0.05	-0.07
DOMESTIC PRODUCTION FOR EXPORT	0.58	-0.11
EXTERNAL ORIENTATION OF MILITARY	0.04	-0.02
EXISTENCE OF FOREIGN MILITARY BASES	0.11	-0.04
WAR AND THREAT OF WAR	0.08	-0.05
SUPPLIED BY THE WEST	0.05	-0.04
WESTERN ALIGNED	0.06	-0.28

Table 1B -- Average Score on the Development Scale by Income Status (GNP per Capita)

	Average Development Score
ENTIRE SAMPLE	0.0
LOWER INCOME NATIONS	-0.84
MIDDLE INCOME NATIONS	+0.13
UPPER-MIDDLE INCOME NATION	+0.91

Table 2A -- Average Internal Militarization by the Exogenous Dummy Variables

	1 YES	0 NO
PARLIAMENTARY REGIME	70.4	42.7
EXISTENCE OF INTERNAL POLICING	69.3	30.9
DOMESTIC PRODUCTION FOR EXPORT	158.4	33.5
EXTERNAL ORIENTATION OF MILITARY	107.5	26.6
EXISTENCE OF FOREIGN MILITARY BASES	52.3	54.5
WAR AND THREAT OF WAR	93.1	30.8
SUPPLIED BY THE WEST	63.1	46.4
WESTERN ALIGNED	45.8	89.5

Table 2B -- Average Internal Militarization by Income Status (GNP per Capita)

	Average Internal Militarization
ENTIRE SAMPLE	53.8
LOWER INCOME NATIONS	6.0
MIDDLE INCOME NATIONS	28.9
UPPER-MIDDLE INCOME NATION	164.5

Table 3A -- Average Global Militarization by the Exogenous Dummy Variables

	1 YES	0 NO
PARLIAMENTARY REGIME	3.0	8.6
EXISTENCE OF INTERNAL POLICING	8.1	3.7
DOMESTIC PRODUCTION FOR EXPORT	9.6	5.7
EXTERNAL ORIENTATION OF MILITARY	10.1	4.5
EXISTENCE OF FOREIGN MILITARY BASES	10.7	4.6
WAR AND THREAT OF WAR	12.4	2.7
SUPPLIED BY THE WEST	4.4	7.9
WESTERN ALIGNED	3.8	18.5

Table 3B -- Average Global Militarization by Income Status (GNP per Capita)

	Average Global Militarization
ENTIRE SAMPLE	6.4
LOWER INCOME NATIONS	9.0
MIDDLE INCOME NATIONS	4.1
UPPER-MIDDLE INCOME NATION	7.0

Table 4 -- Average Score on the Development Scale by the Level of Internal and Global Militarization

	average development score
Internal Militarization	
Highest spenders (n=31)	+0.57
Middle spenders (n=31)	-0.05
Lowest spenders (n=30)	-0.54
Global Militarization	
Highest importers (n=31)	-0.17
Middle importers (n=30)	+0.13
Lowest importers (n=30)	+0.09

Table 5 -- Number of cases by status and the exogenous variables

A) PARLIAMENTARY REGIME	INCOME STATUS lower n %	middle n %	upper-middle n %
YES	7 (23.3)	18 (45.0)	12 (55.0)
NO	23 (76.7)	22 (55.0)	10 (45.0)
TOTALS	30 (100)	40 (100)	22 (100)

B) INTERNAL POLICING	INCOME STATUS lower n %	middle n %	upper-middle n %
YES	16 (53.3)	23 (57.5)	16 (72.7)
NO	14 (46.7)	17 (42.5)	6 (27.3)
TOTALS	30 (100)	40 (100)	22 (100)

C) DOMESTIC PRODUCTION OF ARMS FOR EXPORT	INCOME STATUS lower n %	middle n %	upper-middle n %
YES	2 (6.7)	6 (15.0)	7 (31.8)
NO	28 (93.3)	34 (85.0)	15 (68.2)
TOTALS	30 (100)	40 (100)	22 (100)

D) FOREIGN MILITARY BASES	INCOME STATUS lower n %	middle n %	upper-middle n %
YES	6 (20.0)	12 (30.0)	8 (36.4)
NO	24 (80.0)	28 (70.0)	14 (63.6)
TOTALS	30 (100)	40 (100)	22 (100)

Table 5 (Continued)

E) EXTERNAL ARMY ORIENTATION	INCOME STATUS lower n %	middle n %	upper-middle n %
YES	11 (36.6)	11 (27.5)	9 (40.9)
NO	19 (63.4)	29 (72.5)	13 (59.1)
TOTALS	30 (100)	40 (100)	22 (100)

F) WAR AND THREAT OF WAR	INCOME STATUS lower n %	middle n %	upper-middle n %
YES	11 (36.6)	16 (40.0)	7 (31.8)
NO	19 (63.4)	24 (60.0)	15 (68.2)
TOTALS	30 (100)	40 (100)	22 (100)

G) SUPPLIED BY THE WEST	INCOME STATUS lower n %	middle n %	upper-middle n %
YES	12 (40.0)	19 (47.5)	10 (45.0)
NO	18 (60.0)	21 (52.5)	12 (55.0)
TOTALS	30 (100)	40 (100)	22 (100)

H) WESTERN ALIGNED	INCOME STATUS lower n %	middle n %	upper-middle n %
YES	21 (70.0)	36 (90.0)	18 (81.8)
NO	9 (30.0)	4 (10.0)	4 (18.2)
TOTALS	30 (100)	40 (100)	22 (100)

Table 6 -- REGRESSION RESULTS WITH INTERNAL AND GLOBAL MILITARIZATION AS THE DEPENDENT VARIABLES

VARIABLE	STANDARDIZED BETA REGRESSED AGAINST INTERNAL MILITARIZATION	STANDARDIZED BETA REGRESSED AGAINST GLOBAL MILITARIZATION
Internal Determinants		
DOMESTIC PRODUCTION	.18 **	.06
GNP PER CAPITA	.57 ***	-.04
INTERNAL POLICING	.02	-.01
EXTERNAL ORIENTATION	.13	.13
PARLIAMENTARY REGIME	-.11	-.17 *
Global Determinants		
FOREIGN BASES	-.12	.21 **
WAR	.17 *	.28 ***
WESTERN SUPPLIED	.04	-.04
WESTERN ALIGNED	-.07	-.32 ***

NOTE -- Levels of Significance indicated by:
*** significant to the .01 level of significance
** significant to the .05 level of significance
* significant to the .12 level of significance
not significant

Table 7 -- REGRESSION RESULTS WITH SOCIAL DEVELOPMENT AS THE DEPENDENT VARIABLE

VARIABLE	STANDARDIZED BETA
Type of militarization	
GLOBAL MILITARIZATION	-.22 **
INTERNAL MILITARIZATION	-.10
Internal Determinants	
DOMESTIC PRODUCTION	.14 *
GNP PER CAPITA	.55 ***
INTERNAL POLICING	.07
EXTERNAL ORIENTATION	.03
PARLIAMENTARY REGIME	.25 ***
Global Determinants	
FOREIGN BASES	.06
WAR	.15
WESTERN SUPPLIED	-.11
WESTERN ALIGNED	.04

NOTE -- Levels of Significance indicated by:
*** significant to the .01 level of significance
** significant to the .05 level of significance
* significant to the .12 level of significance
not significant

TABLE 8 -- PATH ANALYSIS DECOMPOSITION (DEPENDENT VARIABLE=DEVELOPMENT)

VARIABLE	DIRECT EFFECT	INDIRECT EFFECT	TOTAL EFFECT
Type of Militarization			
GLOBAL MILITARIZATION	-.22	0	-.22
INTERNAL MILITARIZATION	0	0	0
Internal Determinants			
DOMESTIC PRODUCTION	.14	0	.14
GNP PER CAPITA	.55	0	.55
INTERNAL POLICING	0	0	0
EXTERNAL ORIENTATION	0	0	0
PARLIAMENTARY REGIME	.25	.06	.31
Global Determinants			
FOREIGN BASES	0	-.05	-.05
WAR	0	-.06	.06
WESTERN SUPPLIED	0	0	0
WESTERN ALIGNED	0	.07	.07

E) A List of Nations in the Analysis

The following are the 92 nations that are used for the analysis:

Afghanistan, Algeria, Agentina, Bangladesh, Barbados, Benin, Bolivia, Botswana, Brazil, Burkina Faso, Burma, Burundi, Camaroon, Central African Republic, Chad, Chilie, Colombia, Congo, Costa Rica, Cuba, Cyprus, Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, Fiji, Gabon, The Gambia, Ghana, Guatamala, Guinea, Guyana, Haiti, Honduras, India, Indonesia, Iran, Iraq, Israel, Ivory Coast, Jamaica, Jordon, Kenya, South Korea, Lebanon, Lesotho, Liberia, Madagascar, Malawi, Malaysia, Mali, Malta, Mauritania, Mauritius, Mexico, Morocco, Mozambique, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Panama, Paupau New Guinea, Paraguay, Peru, The Phillipines, Rwanda, Senegal, Sierre Leone, Singapore, Somalia, South Africa, Sri Lanka, Sudan, Swaziland, Syria, Tanzania, Thailand, Togo, Trinidad and Tobago, Tunisia, Turkey, Uganda, Uruguay, Venezuala, Yemen (Aden), Yemen (Sanaa), Zaire, Zambia, Zimbabwe.

F) Glossary of Terms

Alignment

Countries can be classified as either western, eastern or nonaligned depending upon the political, military and economic system. The western aligned states are central to the western military system, or have economic ties with the west and shared political traditions. The eastern aligned states are central to eastern military-strategic and economic systems or are states with ties of convenience to the East. For the analysis, countries are divided into those which are western aligned and the others.

Beta Coefficient

The degree of association between two variables can be determined by a coefficient. It is simply a statistical result which comments on the strength and direction of a relationship. A coefficient can be positive or negative, which indicates the direction. The strength of the relationship is determined by the magnitude of the coefficient, the closer a standardized coefficient is to one, the stronger the association between two variables. Furthermore, the stronger the association, the more likely it is to be significant, that is, represent a finding that could not have been obtained randomly.

Development

Generally refers to a process whereby countries improve their status in a number of recognized areas. These areas of improvement often relate to the standard of living of the nation in general. The most common indicator of development is GNP since it points to a general level of national wealth. But, an argument could be made for any factor which indicates a standard of living. The variable development in the analysis utilizes data on life expectancy, infant mortality and literacy to indicate a level of development.

Domestic Production

The exportation of domestically produced arms. If any value of armaments were exported in 1982, a nation is said to have domestic production capabilities.

Dummy Variable

A variable with only two categories.

Exogenous Factor

A variable which theoretically influences another variable but is itself autonomous or is not influenced by other factors. In the analysis, all nine determinants of militarization are seen as exogenous factors.

Factor Analysis

A statistical technique which uses the shared variance of items or variables in order to create groupings of items or variables that statistically have a lot in common. These groupings are called factors. Although there are several usages of factor analysis, the analysis above uses this technique in order to construct a dependent variables representing development.

Foreign Bases

Normally, a nation hosts a foreign military base when ther is a base within the territory of another state.

Global Determinant

A factor which theoretically influences levels of global militarization because it is a political, economic or military factor that is influenced by the association between two or more nations. The four global determinants in the analysis are war, supplier, alignment and foreign bases.

Global Militarization

Theoretically represents the degree of global military interaction or the degree to which a nation is associated to other nations in terms of militarization. For use in the analysis, global militarization is calculated by the amount of military imports divided by total imports multiplied by 100. Global militarization is therefore the percent of total imports devoted to the military.

GNP (Gross National Product)

The total output of goods and services produced by residents of a country and valued at market prices.

Income Status

A nation's income status depends upon their level of income. Developing countries can be classified as lower income, middle income or upper-middle income depending upon their GNP per capita. These categories represent income status.

Infant Mortality

The number of infant deaths in a nation per 1000 births. Infant deaths are deaths under the age of 1. This is one of the three items used to create an index of development in the analysis.

Internal Determinant

A factor which theoretically influences levels of internal militarization because it is a political, economic or military factor that is influenced by conditions or decisions existing within the State itself. The five internal determinants in the analysis are the wealth of the nation, the nature of the State, internal policing, orientation and domestic production.

Internal Militarization

Theoretically represents the degree of infrastructural militarization or the amount of resources put towards the military within national borders. For use in the analysis, calculated by military expenditures minus military imports divided by the population size.

Internal Policing

Internal military activity that occurs when there is the existence of civil war, counter insurgency, or other similar policing requiring military assistance.

Level of Significance

See Significance.

Life Expectancy

The average number of years a person is expected to live at the time of their birth. It is one of the three items used to create an index of development in the analysis.

Literacy

The proportion of a population 15 years of age and older who are able to read and write. It is one of the three items used to create an index of development in the analysis.

Lowest Income Nations

The least developed of the developing nations in terms of GNP per capita. According to the World Bank (1982) the lowest income group do not exceed a GNP of $400 U.S. per capita. There are 30 nations from this group in the analysis.

Middle Income Nations

Developing countries whose level of income is above the lowest income nation but less that the upper-middle income nations. According to the World Bank (1982) the middle income group do not exceed a GNP of about $1500 U.S. per capita but always exceed a GNP of $400 U.S. per capita. There are 40 nations from this group in the analysis.

Militarization

Can refer to an entire range of military related phenomena from the size of the armed forces to the influence of the military in civilian life. In the present analysis, militarization refers more specifically to arms imports and military spending.

Nature of the State

The type of government in place in a nation be it parliamentary, one party, military or despotic. In the analysis, the nature of the State is indicated by the variable regime.

Orientation

Army orientation can be external, that is, the army is trained and participates in external conflict, or internal, meaning that the army is trained and participates in internal garrison duties including political control, internal war, etc. For use in the analysis, externally oriented nations are considered against internally oriented armies.

Path Analysis

A statistical technique involving a series of regression equations. Path analysis is only utilized when a model includes a series of cause and effect relationships where all or some of the effect variables in the first regression equation are also cause variables in subsequent equations. The model itself would then resemble a path. For example,

X1 ----------> X2 ----------> X3

where variable X2 is both influenced by X1 and influences X3.

Policing

See Internal Policing

Regime

For use in the analysis, a country is led by either a parliamentary or a nonparliamentary government which indicates the type of regime in place. In parliamentary regimes, two or more parties exist and general elections take place in order to decide the ruling party.

Regression Analysis

A statistical technique used to establish the magnitude and significance of multivariate cause and effect relationships. See page 96 for a further explanation.

Significance

A level of significance, determined by a T value, gives an indication as to how confident a researcher can be that a relationship actually exists without random error. Hence, if a coefficient is significant, it is accepted. This T value is a function of the level of association in that the larger the coefficient or stronger the relationship, the more confident one can be that the result is genuine and acceptable.

Supplier

A major arms supplier is the nation of origin of the majority of arms imports going to the country of destination.

Underdevelopment

A country can theoretically be said to be underdeveloped when it generally falls well below its potential in terms of the factors which indicate a level of development. However, there is no set definition of underdevelopment in the literature since the term is theoretical and some authors use the term for any developing country. The term was initiated by the dependency school which states that the underdevelopment of a nation is a state brought about by exploitation of the developed world. This exploitation advances the 'core' to the and further hinders development in the 'periphery'. Hence, 'development and underdevelopment are two sides of the same coin'.

Upper-middle Income Nations

The most developed of the developing nations in terms of GNP per capita. According to the World Bank (1982) the upper-middle income group exceeds a GNP of about $1500 U.S. per capita and extends to just over $7000 U.S. per capita. There are 22 nations from this group in the analysis.

War

Wether a conflict can be classified as a war is a matter of judgement. Generally, "war is an open armed conflict in which: regular uniformed forces are engaged, on at least one side; the fighters and the fighting are organized centrally to some extent; and there is some continuity between armed clashes" (Kidron and Smith, 1983;map 1). For the analysis, countries which are threatened by war are included in the war variable. To be classified as threatened by war a nation would be at war one or two years after the time of the data. So, all data comes from 1982 and a country at war in 1983 or 1984 would be said to be threatened by war in 1982.

Wealth of the Nation

Generally, the wealth of a nation refers to national wealth or income. Specifically, for the analysis, it refers to GNP per capita.

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