Strategic Stability and Conventional Force Imbalance: Case of South Asia

By
Rodney W. Jones*

Introduction

After India and Pakistan went nuclear in May 1998, both insisted to western interlocutors that they knew the dangers nuclear weapons posed, having watched the superpower rivalry during the Cold War. They argued nuclear weapons are only good for deterrence, and not for waging war. The insisted they would be responsible stewards of this awesome destructive power. They would avoid the superpower mistakes. They would rely on "minimum deterrence," avoid arms race compulsions, and sidestep worst-case planning and nuclear crises.[1]

Despite these post-nuclear postures expressing confidence in nuclear stability, conflict trends in South Asia have brought India and Pakistan to blows and confrontations verging on open warfare. From May to July 1999, India and Pakistan were embroiled in the Kargil mini-war under the nuclear shadow. Indian nuclear weapons did not deter that Pakistani venture across the LOC in Kashmir. Many concluded that nuclear weapons actually emboldened Pakistan to take unusual risks. Similarly, Pakistan's nuclear weapons did not deter India from responding to Kargil with the threat of horizontal escalation and expanded war, until the crisis was defused by President Clinton's involvement and Pakistani force withdrawal. Nuclear weapons failed to deter Indian military mobilization and brinkmanship in Operation *Parakram* ("valour") against Pakistan in 2001-2002.[2] Nor have nuclear weapons discouraged the Indian military and media elite from active discussion of "limited war" against Pakistan, or of rapid strike scenarios in a new military discourse called "Cold Start".[3]

In short, rather than discourage military crises in South Asia, nuclear weapons seem to have accentuated them. By any common sense understanding of military stability or equilibrium, nuclear weapons have not been stabilizing. The War on Terrorism has added new cross-pressures to that region since September 2001. But it is clear that the assurances of nuclear restraint from

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[1] For a study of India's and Pakistan's nuclear capabilities, postures, and policies, see Rodney W. Jones, *Minimum Nuclear Deterrence Postures in South Asia - An Overview*, Final Report by Policy Architects International, for DTRA/ASCO, October 2001, available at: <http://www.dtra.mil/about/organization/south_asia.pdf >.

[2] Lt. Gen (retd) V. K. Sood and Pravin Sawhney, *Operation Parakram: The War Unfinished*, Sage, 2003.

[3] Limited war discussion in India took a new twist in April 2004 called "Cold Start," the idea of bringing eight integrated Indian battle groups (armored and mobile infantry strike forces) together with elements of the Indian Air Force and Navy as "thrust formations" for "hard strikes" against alleged terrorist infrastructure in Pakistan -- at levels that the Indian sponsors believed would give Pakistan no justification, in its response, for crossing the nuclear threshold. See Subhash Kapila, "India's New 'Cold Start' war doctrine strategically reviewed," Delhi: South Asia Analysis Group, Paper No. 99104, May 5, 2004; and for critical Pakistani analysis, Shaukat Qadir, "Cold Start: The Nuclear Side," Lahore: *The Daily Times*, May 17, 2004.

1998 looked unreliable by 2002-2003.[4] A key question this raises is whether the conventional military imbalance between India and Pakistan interacts with nuclear capabilities on both sides as an underlying factor conducive to risk taking and as an impediment to nuclear stability.

Conventional Military Imbalance

In overall national resources and military power, India and Pakistan are far from evenly matched. India, with over a billion people and 1.27 million square miles of territory, is a large power compared to Pakistan. For the last decade, India's economy has been growing more rapidly than Pakistan's. For conventional defense, India enjoys a naturally extended strategic depth, covering most of the subcontinent. Pakistan is much smaller, albeit not a small power, with its population of over 150 million, roughly the size of Russia's, and a territory of over 310,000 square miles, nearly twice the size of California. For territorial defense purposes, the land border between India and Pakistan extends some 1,800 kilometers. Together with each country's long coastlines, these distances stretch both sides' conventional air, ground, and naval forces. Except for the Kashmir region, the terrain along the India-Pakistan border is flat and open to armored penetration.

In the late 1950s and 1960s, Pakistan was powerful enough militarily to believe it had a chance of shaking India's hold over Kashmir in a localized conflict, although this was disproved in the 1965 war. But Pakistan *never* enjoyed a military capacity to invade India deeply, or to press for anything like a strategic advantage. Even after the 1971, Pakistan's conventional military capacity to block an air and armored assault by India was substantial. But this blocking capability has been eroding as a consequence of India's ambitious military modernization of the 1980s and 1990s. Constraints on Pakistan's ability to acquire modern systems have slowed its own conventional modernization by comparison with India's, so that the capability gap continues to widen.

Even today, Pakistan still has sufficient conventional military power on the ground to withstand a standard Indian ground force assault, at least in the initial stages. India would find it difficult for economic and logistical reasons to pursue an all out conventional war against Pakistan. It would not be a cakewalk. The economic costs to India of an all out war against Pakistan would be severe. India's post-Kargil temptation to project the impression that it could sustain a decisive war against Pakistan, however, is a key concern in Islamabad, especially after the 2001-2002 mobilizations and ensuing confrontation. Moreover, the trends of military modernization and faster economic growth in India, and India's growing economic capacity to sustain a long war, are now understandably unsettling to Islamabad.

This essay examines several features of the increasing conventional military imbalance between India and Pakistan, to illustrate its extent and to draw attention to how this factor itself can be conducive to military instability, particularly in crises, between the two countries. The

[4] The resumption of Indo-Pakistani diplomatic ties and transportation links in the winter of 2003-2004, and joint commitments to a composite dialogue on bilateral issues and disputes on the margins of the Islamabad SAARC summit in January 2004, could be the opening of a more hopeful, new chapter in relations between the two countries. But to the degree the core problems between India and Pakistan remain unresolved, or in the event frictions resume or are intensified once again, the nuclear instability problems examined here are likely to remain serious, and will need to be addressed directly by appropriate remedies of their own.

focus here is on the growing disparities over time in defense expenditures and acquisition of major conventional military equipment.[5] These suggest that India's capabilities to fight with combined arms techniques have significantly outpaced Pakistan's. This implies that India could pursue military goals of conventional warfare against Pakistan more rapidly today, shortening the duration of a conflict, and limiting the time frame for international involvement. The same factors tend to abbreviate the time available for deliberation and increase the chances of escalation to the nuclear level.

Defense Expenditures

Chart 1 below on "Defense Expenditures -- India and Pakistan, 1970-2000," shows that the defense expenditures of the two countries have diverged since the 1971 war. Data from the International Institute of Strategic Studies annual volumes of *The Military Balance* indicate that while both countries' defense expenditures have risen over most of that period, India's in absolute terms have climbed more steeply.[6] In 1970, when Pakistan's defense budget was still based in part on the economy of East Pakistan, the ratio of Indian to Pakistani defense expenditure was approximately 2.35:1.00, Indian expenditure then being less than two and a half times Pakistan's. By 1980, the first full year of Soviet intervention in Afghanistan, the India's expenditure ratio to Pakistan's had widened to 3.38:1:00, nearly three and a half times Pakistan's. From 1985 to 1987, India's then burgeoning arms acquisition drove its defense expenditures up sharply, to over $9.65 billion in 1987, versus Pakistan's $2.58 billion, widening the India-Pakistan ratio in 1987 to 3.74:1:00. That gap remained approximately the same through 1989 and 1990, covering the period when the Soviet Union finally withdrew from Afghanistan and the Kashmir insurgency began.

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[5] It is customary to criticize military balance analysis based on the size of armed forces, major equipment, and other "order of battle" metrics as so-called "bean counting," and to point out the importance of qualitative analysis of force readiness, training, communications, logistics, morale and other less tangible factors. Nevertheless, beginning with the "order of battle" metrics is, if not unavoidable, entirely appropriate because they are key indicators of opposing military threats that military planners rely upon for their initial threat assessments. That said, the basic argument here is grounded in analysis that is cognizant of qualitative as well as quantitative factors. Indeed, while the quantitative force ratio figures illustrated here have all changed significantly in India's favor, the most important changes in Indian military modernization to Pakistan's disadvantage are qualitative. They relate not only to deeper reach and mobility, but also to improved abilities to acquire targets and coordinate firepower, through surveillance, maneuver, and the force multipliers intrinsic to combined arms. This becomes most evident in the analysis of the air balance.

[6] Both sets of national defense figures in Chart 1are standardized in billions of US dollars. A US dollar standard removes the currency inflation of Indian and Pakistani rupees that amounted to nearly 1000 per cent over the 30-year period depicted. Both countries' defense figures were corrected backwards by comparing the adjusted figures in later IISS, *Military Balance*, volumes with earlier ones, whenever feasible. Indian figures in the dark blue line represent *actual* defense expenditures, and the pink line provides the sum of the ordinary category of Indian defense expenditures together with the IISS figures broken out separately since 1995 on "Other military-related funding," a category that includes spending on Paramilitary Forces, the Departments of Atomic Energy and Space, and the Intelligence Bureau (hereafter PAES for short). This PAES trend line appears to be a better approximation of India's overall defense expenditures. A comparable IISS figure on "Other military-related funding" for Pakistan is not available. Pakistan publishes far less defense budget and expenditure information than India. The IISS data drawn on here represents Pakistan's defense *budget* figures in the yellow line. The light blue line tracks the IISS figures on *actual* Pakistani defense expenditure beginning in 1994.

Between 1990 and 1996, Chart 1 shows that Indian defense expenditures plummeted from a high of $10.10 billion in 1990, to a low of $6.70 billion in 1992, before resuming an upward trend, reaching the ten billion dollar level again in 1996. This Indian defense expenditure trough seems to be attributable primarily to the 1991-92 Soviet collapse, since the Soviet Union had been India's most important arms supplier, and the supplies were interrupted for several years. About 1995-96, Russia, the Soviet successor state, resumed the role of primary military supplier to India, but with greater insistence on hard currency than had been the case during the Cold War. India's low point of $6.7 billion defense expenditure in 1992 coincided with a near peak in Pakistan's defense budget of $3.55 billion, temporarily resulting in an atypically narrowed India-Pakistan ratio that year of 1.89:1:00. But thereafter, Pakistan's expenditure flattened out and actually dropped toward the end of the decade, while India's resumed its climb -- quite sharply after the nuclear tests in 1998.

By 1996, the upper (pink) line that sums the regular Indian defense expenditure together with the costs of India's PAES (Paramilitary forces, the Departments of Atomic Energy, Space, and the Intelligence Bureau), drives India's overall defense expenditure curve exceptionally steeply through the year 2000, after which, according to recent reports, the basic defense expenditures profile dropped somewhat, especially in 2003.[7] After 1996, Pakistan's official defense budget totals actually decreased, and after a brief lag, the apparent actual defense expenditures also dropped. Thus, not counting India's PAES, the India-Pakistan ratio widened in India's favor from 3.12:1:00 in 1998, to 4.8:1:00 in 2000. Adding in India's PAES and also adding the brief plot of Pakistani actual expenditures, the India-Pakistan divergence is even greater, from 3.5:1:00 in 1998 (when India's overall defense expenditures rose to $14.10 billion), to just over 5:1 in India's favor in 2000 (India's overall defense expenditure then reaching $17.84 billion).

Over a three decade period, therefore, India has increased its defense expenditure lead over Pakistan, in US dollar denominated terms, by over a hundred per cent, from a defense spending ratio of under two and a half times Pakistan's to a ratio of five times that of Pakistan. Moreover, India has been able to accomplish this while keeping the proportion of defense expenditure to its GDP roughly the same, between 2.5 and 4 per cent, with an average a little over 3 per cent. (See Chart 2 below, "Defense Expenditure as Per Cent of GDP - India and Pakistan, 1970-2000.") India has thus been able to keep its "defense burden" relatively modest, by comparison with Pakistan, whose peak levels reached 7.6 per cent of GDP and whose average has been about 6.5 per cent. In recent years, at least according to official figures, Pakistan has also been able to reduce its defense burden to about 5.7 per cent of GDP. Adding the figures for India's PAES shows India's defense effort increased in the 1990s and by 2000 had climbed to about 3.9 per cent.

It is true, of course, as Indian analysts are quick to point out, that a significant part of India's defense expenditure has been based since 1962 on improving India's defense position against China. But no official Indian measure of its China-related defense expenditure has ever been issued for public information, and it would be difficult to separate out defense equipment

[7] In 2003, the Indian Ministry of Defense, at the request of the government, actually gave back several hundred million dollars of unspent funds to the Indian Treasury. Apparently, the MOD was unable to spend all the money it had allocated because of bottlenecks in the acquisition process for major equipment.

and infrastructure (other than long-range missiles, a number of long-range aircraft, the production capacity of the nuclear program, some naval "blue water" capacity, and road-building in the Himalayas) that may be oriented to defense against China. The Himalayan heights and the vast interior of the sparsely populated Tibetan plateau remain India's chief defensive barrier against China as a land power, and China's naval power projection is still limited essentially to Korea, the Sea of Japan and the South China Sea, all east of the Southeast Asian archipelagos of Indonesia and Malaysia. The bulk of India's military manpower and heavy military equipment is still configured for the subcontinent, and plays directly into the balance with Pakistan. China's nominal military expenditures have remained at least twice India's, and if they could be counted by any meaningful standard of comparability, quite probably would come out as at least four times India's -- with a lopsided ratio between China and India not unlike that between India and Pakistan. China measures its own defenses primarily against those of the Pacific basin powers, the United States, Russia, and Japan. Within the subcontinent, it is the disparity between India and Pakistan that counts most in terms of foreseeable conflicts.

Air Force Capabilities

Should India and Pakistan come to blows again in a major conventional conflict, the air force imbalance is the most serious from the standpoint of conventional military and nuclear instability. Trends in air force modernization increase the capability of aircraft to conduct precision strikes against airfields, military bases, and key infrastructural facilities, including power plants and communications nodes. The same trends increase the command abilities of a well-prepared armed force to coordinate air and ground operations in an attack across border defenses. Although the precision strike and air-to-ground support capabilities of the Indian Air Force would not be comparable to those of the Western powers, as demonstrated in operations against Iraq in 1991 and 2003, they have incrementally improved since the 1980s, with significant cumulative results, and continue to move toward the fulfillment of planning for combined arms warfighting objectives. India's conventional precision strike capabilities with laser-guided bombs supported by the overhead surveillance capabilities of its newly acquired airborne warning and control aircraft gives it a theoretical potential, assuming the advantage of surprise, to attempt *conventional disarming strikes* on Pakistan's nuclear assets, i.e., aircraft at airfields, and missiles in their ground based shelters.

India has continued to acquire state of the art fighter and ground attack aircraft (Mirage-2000, Jaguar, MiG-29, and Su-30) and has refurbished older aircraft (MiG-21 and MiG-23) with enhanced capabilities. (See Table 1, below, on "Nuclear-Capable Strike and Reconnaissance Aircraft - India and Pakistan, 2000" for the identification of nominally nuclear-capable and attack aircraft types for the year 2000.) The Pakistan Air Force, by contrast, has been denied state of the art aircraft acquisitions for two decades, and has been limited to refurbishing older high-performance aircraft (such as its Mirage-3/5 fighters), scrounging for spare parts for its limited F-16 inventory (early 1970s technology, and produced as export versions) and purchasing new Chinese aircraft that are, however, based on old MiG-19 and MiG-21 designs (1950s and 1960s generation aircraft). Although more capable in avionics, armament, engine performance and range than their 1950/60 predecessors, the Chinese aircraft nevertheless require more frequent maintenance and, compared to modern alternatives, suffer from relatively short range and thus low loiter capability. As a result, while India has been able to replace "vintage"

aircraft with modern, high-performance types, Pakistan has been forced to accept much less satisfactory modernization results. This inevitably raises doubts about Pakistan's ability to enforce control over its own air space, in the event of a major Indian campaign against Pakistan that attempts at the outset, as doctrine would require, to suppress Pakistani air defenses and seize control over the air.

Certain features of the two nations' aircraft modernization trends over the two decades ending in 2000 are depicted visually in Chart 4 on "Composition of India's and Pakistan's Air Forces - 1980-2000." In basic numbers, as the chart illustrates, the ratio between India's and Pakistan's *fixed-wing* combat aircraft (leaving helicopters aside for the moment) had changed only marginally over the two decades -- shifting somewhat to India's advantage, however, by 2000. The India-Pakistan fixed-wing combat aircraft ratio went from just over 2:2 in 1970, when both sides had only "vintage" aircraft, to 2.67:1 in 2000.

More important, however, is that India's advantage actual air combat advantage has increased over time from having acquired a relatively greater proportion of *modern high-performance aircraft* in its inventory, compared to Pakistan's.[8] That ratio -- which is most telling in assessing the air imbalance -- was 3.64:1.00 in India's favor in 1990 (the first year the high-performance aircraft are displayed separately in this graph), staying nearly constant at 3.46:1.00 in 1995, and 3.55:1:00 in 2000. This shows India has had close to a 4:1 high-performance air advantage over Pakistan from 1990 to 2000. Given Pakistan's narrow geography and India's increasing overhead surveillance capability, India's potential air combat capability advantage over Pakistan, at least from a technical point of view, probably could be translated to be closer to 6:1 by 2000. In the early years of the 21st century, that putative 6:1 Indian advantage over Pakistan almost certainly has continued to increase.

Ground Force Capabilities

Pakistan's ground defenses have remained much more formidable against Indian attack than its air force, especially when configured defensively to hold the riverine Punjab agricultural areas where fortifications and gun emplacements have been built along the borders on both sides.[9] Pakistan also has the inherent advantage of operating on shorter lines of communication and logistics. But Pakistan's ground forces would be exposed to Indian air force attrition if Pakistan lost control over its own air space. In addition, Pakistan is vulnerable to rapid Indian armored assault across the flat desert terrain opposite the junction of Punjab and Sind provinces, where Pakistan's north-south lines of communication are narrow. Both sides have made advances in fielding capabilities for mechanized and maneuver warfare on the ground, both have increased their artillery firepower and range, and both have gained in means of coordination of their major armored strike formations and supporting infantry units, but India's advances in wide-area communications and battlefield surveillance (for situational awareness) probably are greater.

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[8] To calculate the sum of modern high-performance aircraft in each country's inventory, we include the nominally nuclear-capable aircraft depicted in Chart 4, since these happen to be high-performance aircraft too.

[9] This maintenance of a robust ground force balance should be no surprise, since it has been a key Army interest as well as, arguably, strategically vital to Pakistan's conventional defense against India. The Army in Pakistan is not only the dominant military service but is also exceptionally powerful politically behind the scenes, even during periods of elected government.

Chart 5 on the "Composition of India's and Pakistan's Ground Forces - Armor and Artillery, 1979-2000," provides a glimpse of certain features of ground force modernization and changes in numerical balance over time -- emphasizing the feature of mobility, particularly in armored vehicles and self-propelled artillery, but also multiple rocket launchers (MRLs) and short-range ballistic missiles (SRBMs). Again, the category "vintage" is used in the case of main battle tanks (MBTs) to distinguish them from their modern, higher performance counterparts. India moved a lot older tanks into storage in the 1990s, and since these would be relevant to combat capability assessment only in a long conflict, they are omitted from the comments and ratio analysis that follows.

The main trends that are visible from this graph are the overall augmentation of armored capability on both sides, including the integration over time of modern MBTs and other mechanized combat vehicles, armored personnel carriers (APCs) or armored infantry fighting vehicles (AIFVs), and self-propelled artillery (SPs). Both sides underwent an armored buildup in the 1980s and 1990s, although this was generally more formidable on India's side, especially in its acquisition of modern MBTs and in AIFVs. India's modern MBTs in the depicted timeframe consist primarily of T-72s imported from the Soviet Union/Russia. Pakistan was less able, earlier, to acquire modern MBTs (although its US-supplied earlier generation M-48A5s and Chinese T-59/69s remained serviceable), and Pakistan had acquired APCs (including the US M-113) rather than AIFVs. In the late 1990s, Pakistan began acquiring modern T-80UD MBTs from Ukraine, and these show in the graph as Pakistan's "modern" MBTS.[10]

Between 1979 and 2000, and counting all vintage and modern MBTs (except those in storage) and both APCs and AIFVs, India's numerical advantage over Pakistan remained more or less constant at between 1.65:1.00 (1979) and 1.73:1.00 (1996), dropping slightly to 1.45:1.00 in 2000. India's biggest armored force advantage was in opening up leads over Pakistan in *modern* MBTs, which Pakistan narrowed toward the end of the 1990s. The *modern* MBT ratios between India and Pakistan were as follows: 300:0 in 1985, 700:0 in 1990, 1300:0 in 1992, 1100:200 (or 5.5:1) in 1996, and 1500:520 (or 2.9:1) in 2000.

Naval Capabilities

While Pakistan's ground forces still maintain a degree of balance for defensive purposes, the naval imbalance rivals or exceeds that in the air force area. Pakistan's main *conventional* vulnerability to India's naval forces is the danger of blockade of commerce and refined oil supply through its main international port at Karachi, as well as, later, through a new port that is being built now at Gwadur, on the Baluchistan coast. (At the nuclear level, Pakistan probably will face new threats before long to the infrastructure in its southern provinces from India's acquisition of nuclear-capable ship-launched cruise missiles.)

[10] Both India and Pakistan have developed MBT production and assembly programs of their own, although it is not yet clear to what extent either will rely heavily on fielding its own models. India's *Arjun* program has been plagued with difficulties, and recent reports suggest that India has decided to acquire and co-produce Russian T-90s instead of buying its own *Arjun* in large numbers. Pakistan's *al-Khalid* program is actually based on a partnership with China for co-production of a version of China's T-90 (a tank which China meant to be an answer to the Soviet T-72), and with Ukraine for supply of heat-tolerant, 1200 horsepower diesel engines.

Chart 6 below on "India's and Pakistan's Naval Vessels, 1980-2000" distinguishes "blue water" and "coastal" fleets as well as "vintage" and "modern" vessels for both countries. Both of India's fleets have grown, though moderately; the blue water fleet, for instance, expanded from 36 vessels in 1980 to 52 in 2000, a 45% increase; while the coastal fleet grew from 34 vessels in 1980 to 55 in 2000, a 62 % increase. Pakistan's naval fleet actually shrank during that period from 60 vessels in 1980 to 27 in 2000, by 55% overall, although Pakistan's blue water portion began and ended with 15 vessels, after a slight upward expansion in the early 1990s. The ratio of Indian to Pakistani blue water vessels went from 2.4:1 in 1980 up to 3.47:1 in 2000. More important, India's blue water fleet integrated 27 "modern" vessels during that period (including 12 modern destroyers and frigates, and 14 modern diesel submarines), while Pakistan added only one "modern" vessel by 2000, a new diesel submarine. India's Navy, with its more modern surface and submarine fleets and two aircraft carriers, if concentrated opposite Karachi and elsewhere along Pakistan's coast, probably would overwhelm Pakistan's.

Reconnaissance and Surveillance Capabilities

A further asymmetry in the conventional military balance between India and Pakistan is in the field of military reconnaissance and surveillance. Chart 6.2 on "India's and Pakistan's Naval Air and Airborne Warning, 1980-2000" provides just a glimpse into this field from the naval angle, along with numbers of the two countries' naval combat aircraft. India's combat air and maritime surveillance capabilities are fairly impressive by local standards and outweigh Pakistan's roughly 6:1. While India is only now acquiring several quite sophisticated Israeli *Phalcon* airborne warning and control system (AEW/AWACs) aircraft, the chart shows that India had acquired airborne surveillance in the 1990s, albeit with less sophisticated capabilities. India has also had its own imaging satellite aloft for several years with a resolution sufficient to pinpoint tanks and other major military vehicles on the ground. Pakistan seeks equivalent surveillance capabilities but probably will need several years to acquire or develop them.

Conclusions and Implications

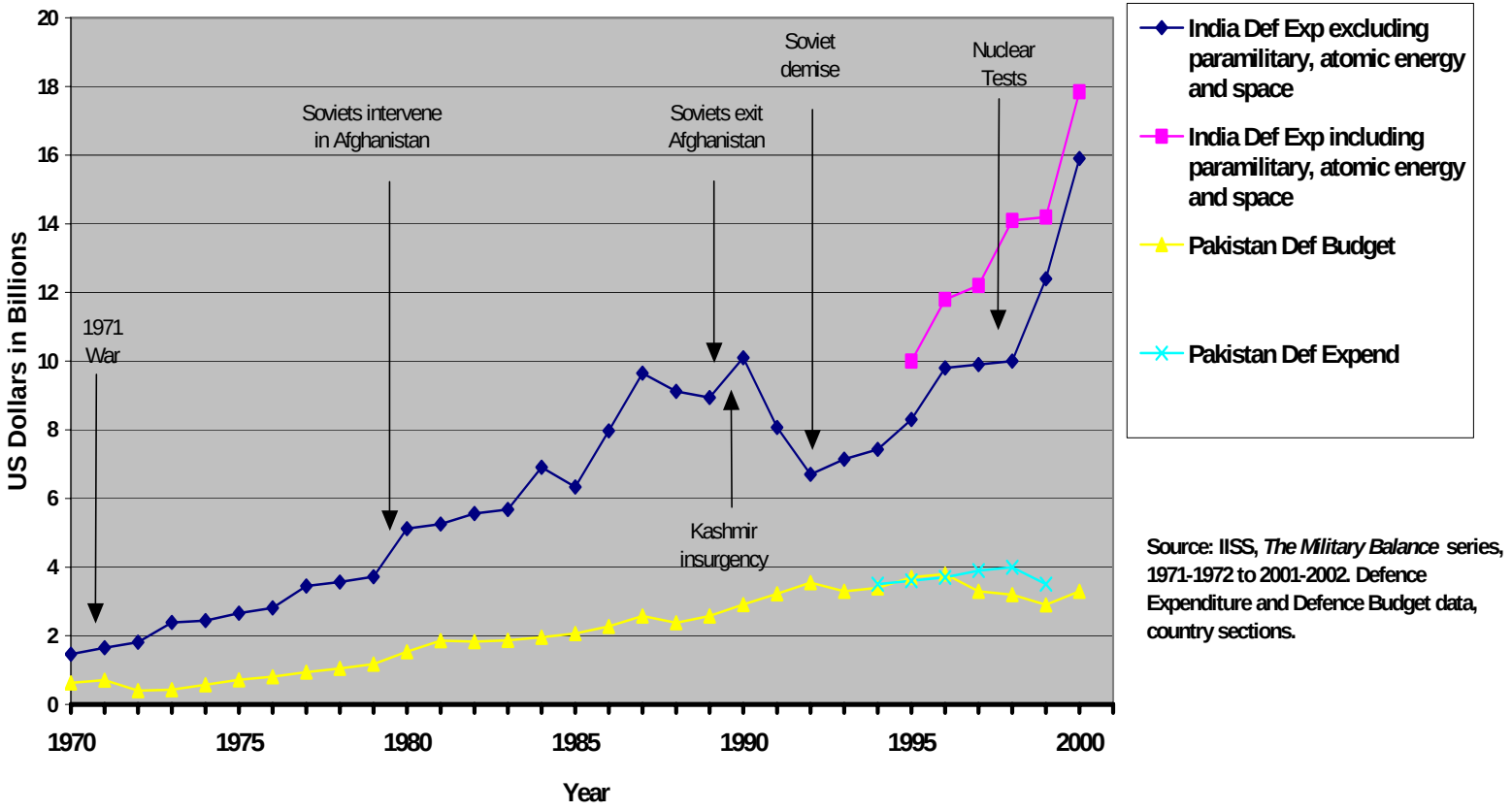
The conventional military imbalance between India and Pakistan has increased steadily over the last two to three decades, and the capability gap that favors India probably will widen further over the coming years. Pakistan's thus far strategically oriented nuclear weapons may compensate Pakistan somewhat for its inferior position in the conventional balance by deterring any premeditated Indian plan to launch a major offensive war against Pakistan. Yet the deeply rooted rival stakes over the disputed territory of Kashmir and the crosscutting and explosive factor of international terrorism could convert peacetime restraint quite suddenly into belligerent action. India's experimentation with limited conventional war and Pakistan's connection with covert armed infiltration across the Line of Control in Kashmir make it highly likely that military crises and local warfare will break out again, perhaps recurrently, testing the bounds and resilience of nuclear deterrence. The military instability inherent in the conventional imbalance is a potential catalyst for escalation from limited to major conventional conflict, and in turn to nuclear risk-taking or outright strikes. Should it continue to worsen, it will also fuel incentives in Pakistan to deploy tactical nuclear weapons, further increasing the complexity of potential conventional confrontations and nuclear crises. This suggests a strong need for international as well as local efforts to resolve the primary issues of contention between India and Pakistan,

bilateral measures to reduce the risks of both conventional and nuclear military risk-taking, and arms control arrangements to draw down or at least offset the increasing gaps in conventional military capability.

APPENDIX

CHARTS AND TABLES

Chart 1. Defense Expenditures, India and Pakistan, 1970-2000



Source: IISS, *The Military Balance* series, 1971-1972 to 2001-2002. Defence Expenditure and Defence Budget data, country sections.

Chart 2. Defense Expenditures as Per Cent of GDP - India and Pakistan, 1970-2000

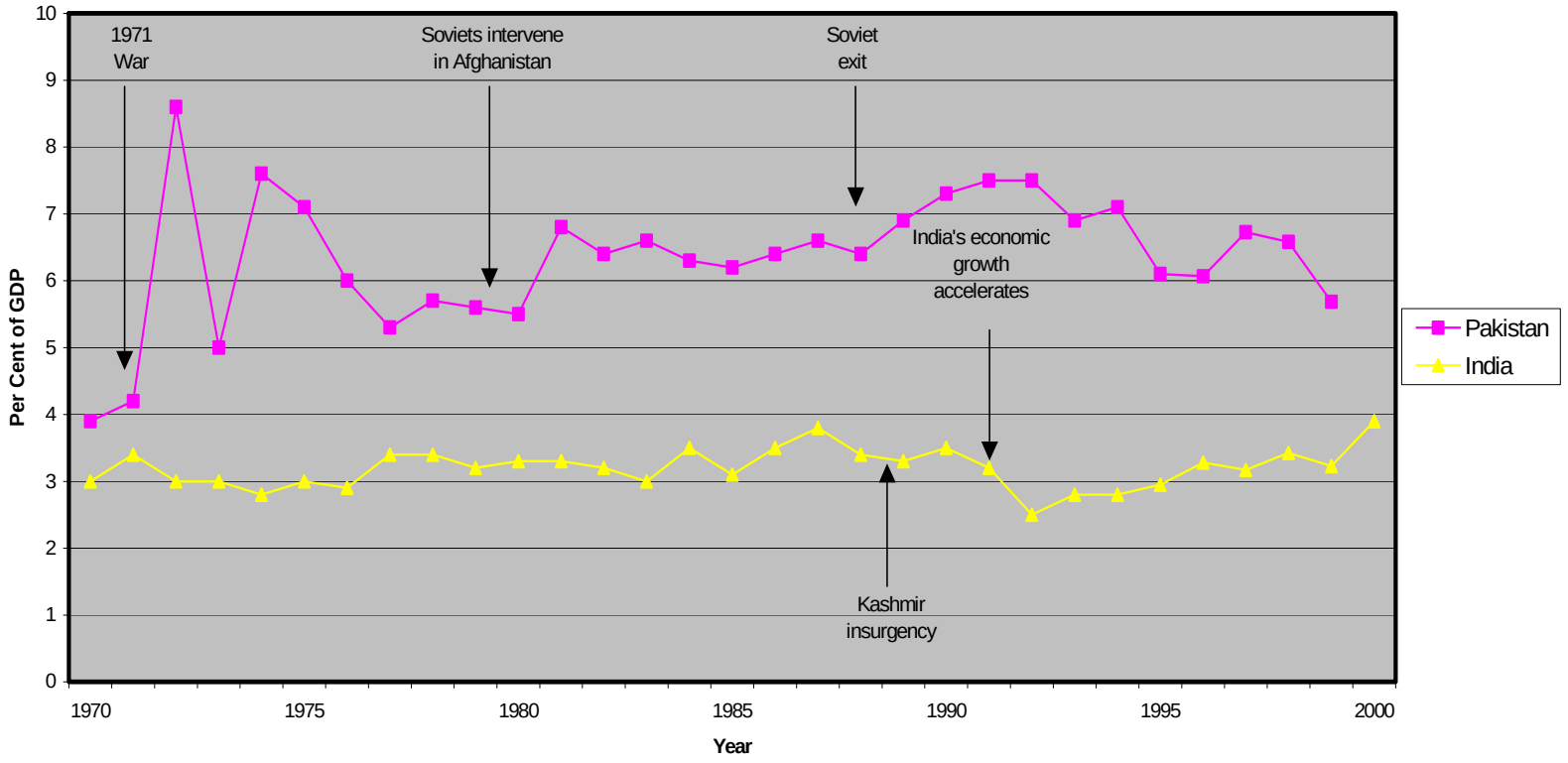


Chart 4. Composition of India's and Pakistan's Air Forces 1980-2000

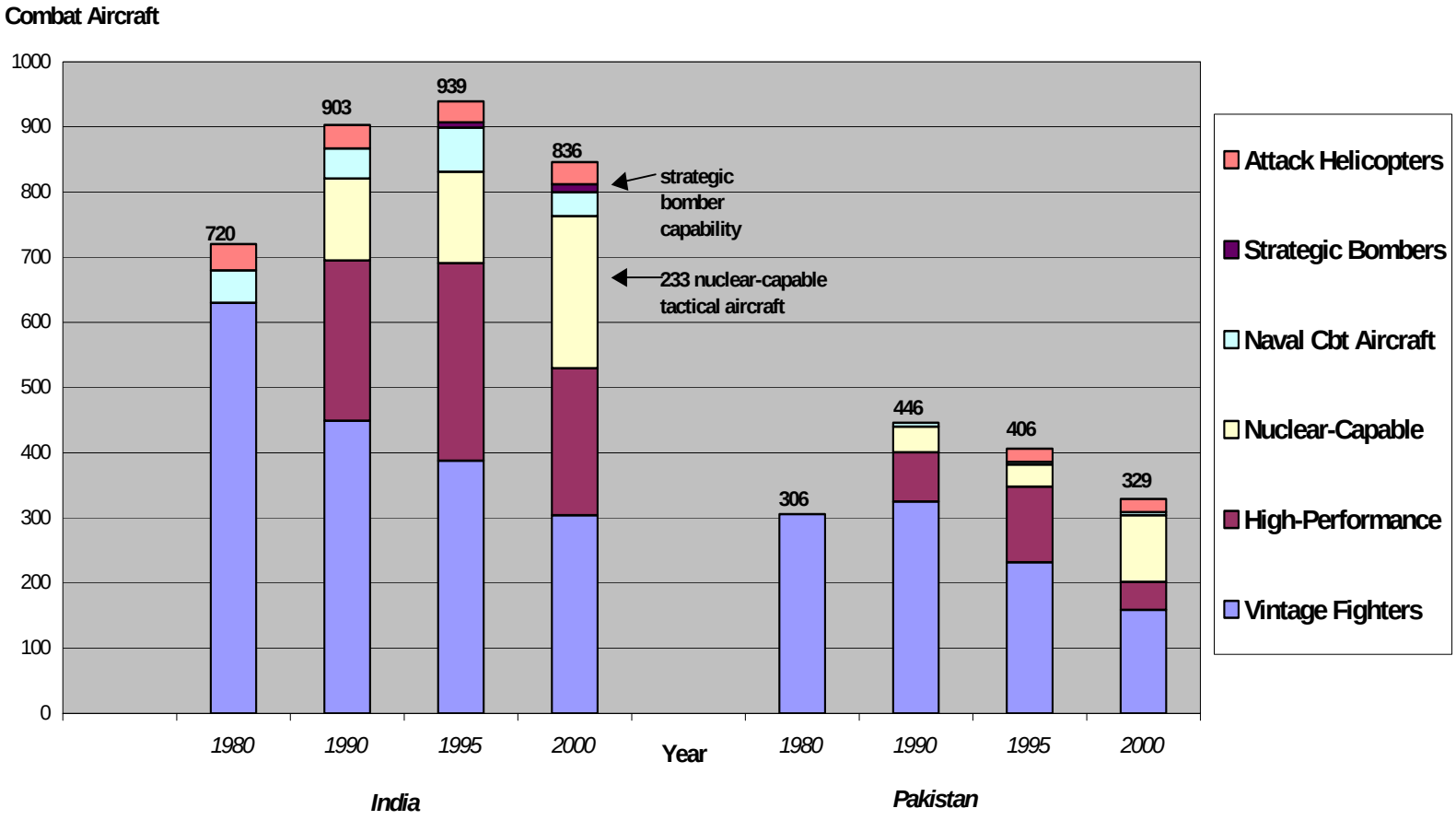


Table 1. Nuclear-Capable Strike and Reconnaissance Aircraft India and Pakistan - 2000

	Aircraft Type	Operating Radius (km, unrefueled)	Inventory	Supplier
India				
	Modern			
	Su-30 MK	1,200	40	Russia
	Mirage 2000H/TH	1,475	35	France/UK
	Jaguar S(I)	900	88	France/UK
	MiG-29 (Fulcrum)	630	64	Russia
	Vintage			
	MiG-21 MF/PFMA	250	69	Russia
	MiG-23 BN/UM	350	53	Russia
	MiG-27 (Flogger)	390	147	Russia
	Strategic (Long-Range)			
	Tu-142 (Bear F) ASW	6,200	8	Russia
	Ilyushin-38 (marit recon)	3,600	5	Russia
	Tu-22M (Backfire)	4,430	4	Russia
	Total		***513***	
Pakistan				
	Modern			
	F-16 A/B	850	25	US
	Vintage			
	Mirage IIIEP	500	16	France
	Mirage 5	500	52	France
	Total		***93***	

Chart 5. Composition of India's and Pakistan's Ground Forces - Armor and Artillery, 1979-2000

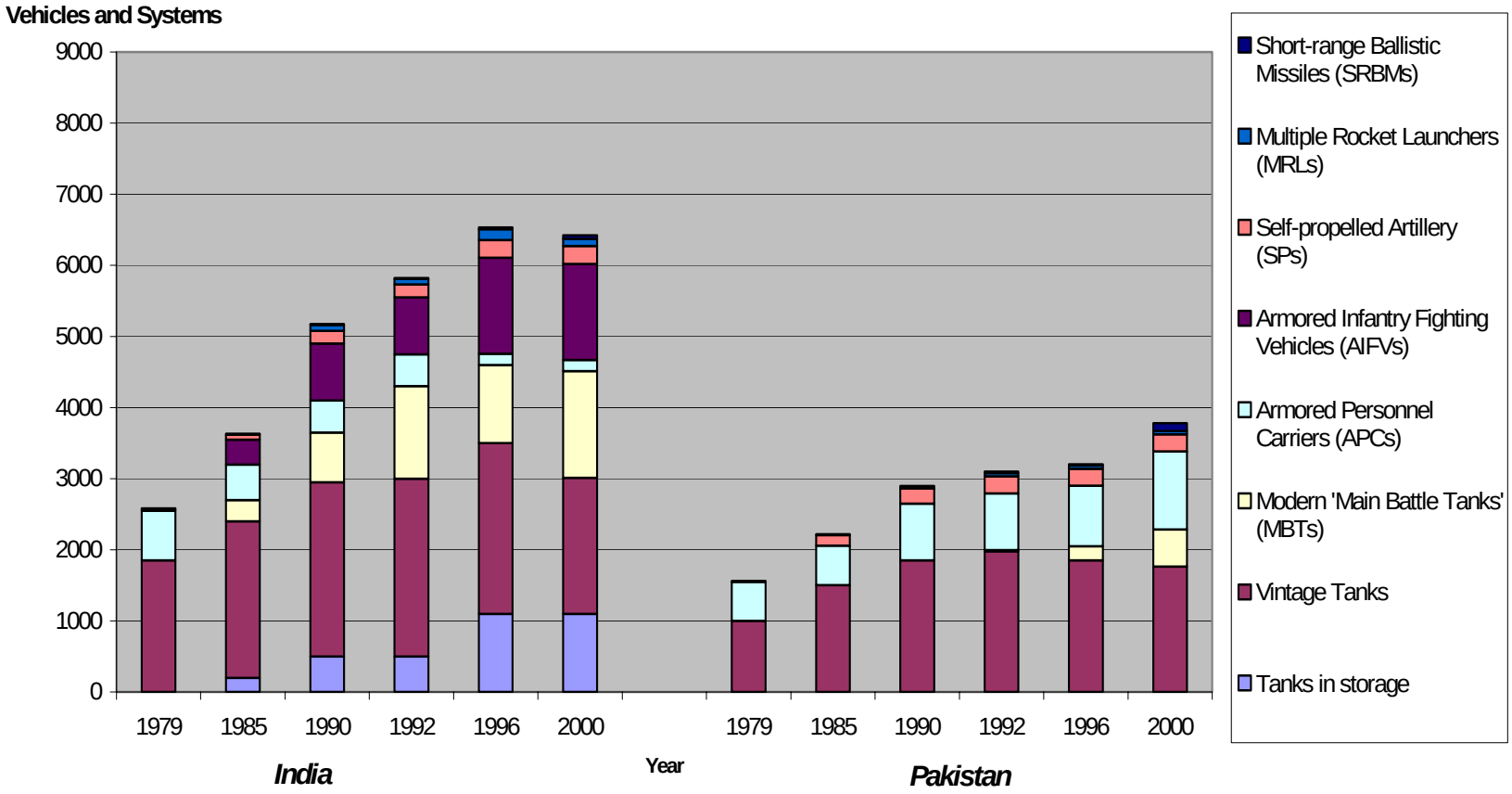


Chart 6. India's and Pakistan's Naval Forces, 1980-2000

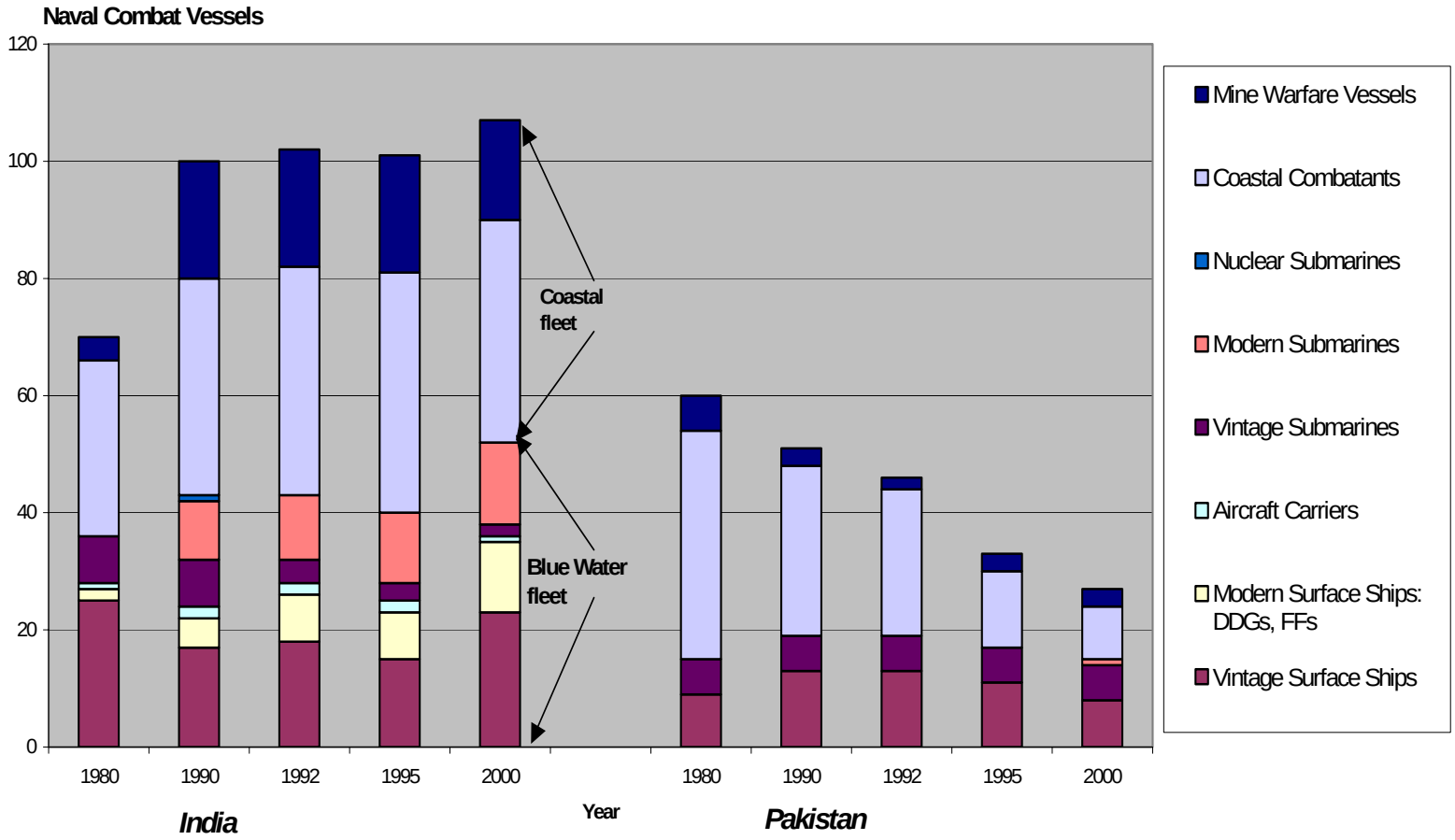


Chart 6.2 India's and Pakistan's Naval Air and Airborne Warning 1980-2000