Chapter III:

------------------------------------------

QUEST FOR MILITARY BALANCE II:

CONVENTIONAL WEAPONS AND FORCES
"Quantity has a quality of its own" - a Soviet Proverb

Attempts to quantify a non-nuclear conventional military balance are at best speculative if not down-right impossible. Worse, many of the writings of the NATO-Warsaw Pact balance were actually professional pleadings. They sought to interpret events and data in a fashion suitable to the preferences of interested parties who preached for increased defence budget, arms procurement and deployment of sophisticated weapons overriding a domestic opposition and adverse world opinion. A true assessment of combat capability of weapons and forces of a particular nation, or that of an alliance, is very rarely achieved. Even military intelligence fails to gather sufficient information to fill the gaps. Simple numerical lists of weapons and forces can be had from various specialized agencies. But such numerical comparison or bean-counting cannot be the single criterion for assessment.

In the literature on East-West military balance most counts indicated that the Soviet Union dominated the United States in the same manner the Warsaw Pact surpassed NATO. It was, however, observed that "when a comparison of active ground force personnel is made including France and Spain on the NATO side and only those forces that would be deployed to the Central region on the Pact side, the Warsaw Pact is actually slightly outnumbered." Thus it depends on the analyst’s choice - the inclusion/exclusion of data and accordingly the opinions differ. Moreover, "the combined forces of NATO and of the Warsaw Pact include units of varying types and
sizes, and equipment of widely varying quality and sophistication. For example, U.S. heavy divisions, nine of which are included in the NATO division total have an average of over 16,000 soldiers. Soviet tank divisions, on the other hand typically have only about 10,500 soldiers". Accordingly "a simple comparison of 230 Warsaw Pact divisions to 121 NATO divisions provides an incomplete and possibly misleading assessment of the conventional balance of forces".¹

Moreover, various models that have been constituted so far are highly sensitive to the underlying assumptions and slight changes in the assumed combat effectiveness of the forces or weapons significantly alter the results-series indicating the likely outcome of a war. Depending upon relative importance given to the components, variations in results become a norm i.e. by applying different methodologies and certain particular assumptions, one can arrive at entirely different results.² We, therefore, prefer to


² For instance, William Kaufmann measured force-effectiveness in terms of FPUs (fire power units) which could be weighted to account for armour and mobility. For Andrew Hamilton, the basic unit of measure was the HDE (heavy division equivalent). In measuring combat effectiveness, Epstein has provided his Adaptive-Dynamic Model which is more optimistic regarding the NATO-WTO conflict outcome than Kaufmann’s calculations which predict a rapid defeat of the NATO. Also of interest is Attrition-FEBA Expansion model developed by Richard Kuglar and used extensively by Barry Posen.

include war principles and operational styles of both the alliances; performance quality of the weapons; and troop spirit, troop determination and training of the soldiers along with conventional mean bean counting. This selection of criteria to assess conventional balance may appear arbitrary but they cover three basic elements of war - the mind, the machine and the man. In the amorphous plane of balance where several undercurrents run simultaneously towards different directions, keeping these yardsticks in view, certain fundamental trends can, perhaps, be ascertained despite the highly speculative nature of the measurements.

3.1 Conventional War Strategy and Perceived Operational Style

Immediately after the Second World War, as we have noted in the first chapter, the Soviet Union's strategy was to station its large conventional forces in the European theatre to deter the western powers from launching an attack, conventional or nuclear, on the USSR or the East European states. After the War, Russia emerged as the strongest power in Europe and its proximity to the theatre gave it the added advantage in quick force-mobilization and uninterrupted supply of logistic resources. To make this conventional threat even more credible, in the period from 1948 to 1955 the USSR almost doubled the number of its forces and also undertook development and modernization programme for its naval

fleet and air-defence system.

In this context, the central front had acquired a position of primacy in NATO strategy and policy-making, prompted by the perceived Soviet threat on the borders of West Germany. The paramount consideration was of a full-scale attack across the central line of Europe, where a defeat was thought to be no less than a disaster, while defeats through flanking movements at other fronts could be accepted as tactical setbacks to be overcome.

Though by 1949 the Soviet Union was able to deprive the Americans of the monopoly over atomic weapons, it was only in 1960 that they acquired the capability to strike directly the territory of the United States by deploying the long-range strategic bombers. Beginning from the late 1950s, the USSR was deploying medium- and intermediate-range ballistic missiles (MRBMs and IRBMs) targeted upon NATO installations and other vulnerable soft points of Central Europe and by the beginning of the 1960s the Soviet Union embarked on an intense search en suite to establish a nuclear parity with the Americans, without losing the conventional superiority it enjoyed in the European theatre. From the mid-1950s began the era of the American doctrine of 'massive retaliation' which stipulated an all-out nuclear response to any type of aggression. In any nuclear war, the high vulnerability of concentrations of men and equipment had been
Figure 3.1: Corps Sectors of Military Responsibility in NATO's Central Region


NOTE: NORTHAG (Northern Army Group) and CENTAG (Central Army Group) are the two subdivisions of Allied Forces Central Europe in West Germany. The line dividing the two runs from Belgium through West Germany, just south of Bonn, and into East Germany. The West German corps north of Hamburg is part of Allied Forces Northern Europe.
Figure 3.2: Specific Corps Designations and Assumed Corridors of Pact Invasion


NOTE: NORTHAG (Northern Army Group) and CENTAG (Central Army Group) are the two subdivisions of NATO Forces in West Germany. The line dividing the two runs from Belgium through West Germany, just south of Bonn, and into East Germany.
presumed beyond doubt. With the establishment of nuclear deterrence, the USSR could afford to reduce the size of its armed forces, and assigned the decisive role to the nuclear weapons in any future war to take place in Europe.

However, in 1967, the policy of 'flexible response' was adopted by NATO, mainly because of "the lack of credibility in the 'all or nothing' alternatives posed by the doctrine of massive retaliation; reaction against the danger of a holocaust raised by this doctrine; and the steady build-up of Soviet strategic nuclear forces during the 1960s, in a manner which would eventually lead to nuclear parity between the two sides". As a result, there was renewed interest in conventional strength augmentation through improved mobility, firepower, support and protection for men and weapons. Thus, in the 1970s, with strategic nuclear insurance being kept intact, emphasis was given to conventional and tactical nuclear weapons and forces.

Though to many Western scholars and strategists, the Pact military planning during this period paid more attention to conventional operations, Douglass and Hoeber, after scanning the relevant Soviet literature available argued that the essence of the Warsaw Pact approach was combined-arms combat which meant 'the combination of all forces and all means used to their maximum

---

advantage to achieve victory'. 4 Further, they argued, a conventional phase was regarded as nothing but the phase preceding the nuclear war and therefore such a phase was 'to be designed and conducted with transition to nuclear operations clearly the dominant concern'. 5

It was difficult to imagine a war scenario in Europe in which the Pact's non-nuclear conventional invasion and its limited success through a short and intense war could have failed to evoke nuclear response from the Atlantic Alliance. No wonder, the Soviets insisted on combined-arms combat. They knew that their very involvement in any major armed conflict in Central Europe would lead to nuclear exchange unless their non-nuclear conventional attack was repulsed at the initial stage by a non-nuclear conventional response. Naturally, with the successful non-nuclear attack, the Pact had the willingness to use nuclear weapons in a pre-emptive first strike to fully exploit the element of surprise and to cripple NATO's second strike capability. Failure in securing victory through non-nuclear attack and subsequent non-use of nuclear weapons, could mean, not only military but also a thorough political defeat for the Pact. So either way, any major war in Europe had all the possibility to become nuclear. Erickson was of the view that "there seems to be less of the 'threshold' concept in the relationship between nuclear and conventional weapons than a

---


5 Ibid. p. 7.
'snowball' effect in which one runs into the other and with early resort to the nuclear weapon". Still, conventional weapons and forces have their own role to play and one finds in the 1969 edition of 'Methodological Problems in Military Theory and Practice' the components of Soviet interest in conventional capabilities summarized as under:

All these (conventional) means preserve their value because of a number of reasons. In the first place, wars without the utilization of nuclear weapons are possible. In the second place, if nuclear weapons will be used, then with their help it is not possible to solve all problems of armed combat, one cannot for example, occupy the enemy's territory. Thirdly, on some objectives, the utilization of nuclear weapons can be simply inadvisable. One must take into account that the utilization of a nuclear weapon under certain circumstances can interfere with the action of (one's) own troops. Finally, many conventional forms of weapons can be used very effectively for the annihilation of nuclear means of the enemy.

When in 1979, the USSR invaded Afghanistan, many in the West took it as an indication of an unsatiable imperialist appetite and it was feared that Europe could be the next target. We shall rather argue that attempts to support the views which sought to prove intentions of Soviet invasion in Europe with the help of events that followed in Afghanistan in 1979-80 would amount to a superficial treatment of the alliance-relations. During the 1950s, political processes took a definite shape in Europe and respective

---


areas of arbitrary activities were clearly demarcated, whereas spheres of influence in Asia and elsewhere were yet to be worked out. In Afghanistan, the USSR took a calculated risk which, of course, undermined the relations between the two blocs and gave birth to uncertainty and fear of impending clash (the neo-conservatives in the US exploited the opportunity to its full advantage which brought Ronald Reagan in the White House) but normally something similar like Afghanistan invasion could not be visualized as happening in, say, West Germany from any rational point of view. Here, risk could have outweighed the benefits, if any, to be achieved and Russian behaviour cannot be described as that of a blind aggressor bent upon expanding the ‘evil empire’ with no sense of a fait accompli. If the Soviet Union had any intention to ‘communize’ Europe, which Donnelly said it had, then Donnelly’s analysis did appear reasonable which argued that the Soviet Union was pursuing a policy of communizing Europe through peaceful means: subversion, espionage, political manoeuvering and pressures, economic activity – i.e. anything falling short of armed conflict.  

By 1982, however, the Soviets committed themselves to the principle of No-First use of nuclear weapons and this was accepted in the West as an indication of the USSR’s reluctance in fighting a nuclear war. This, however, again fuelled the Western debate on the prudence of depending upon nuclear weapons as the weapons of

---

first use or last resort. It was argued that 'the more rapid the Soviet (conventional) advance, the more difficult it will become for NATO to halt it by using nuclear weapons. Not only are fast-moving formations difficult to target, but a rapid advance will also keep enemy nuclear delivery means on the move and disrupt their associated command, control, intelligence-gathering and logistics'\(^9\). The Pact's conventional success could be brought about by its mobility and high tempo of combat operations, the concentration of main efforts and creation of superiority of forces and means at the decisive place and decisive times, through surprise, combat activeness and offensive initiatives, conformity of the goal of the operation to the conditions of actual situation coordination and simultaneous action upon the enemy to the entire depth of his deployment.\(^{10}\) Similarly, Donnelly argued that the Soviet conventional strategy, referred as Operational Manoeuvre Group (OMG) concept, was to defeat NATO conventionally, before NATO could use its nuclear options.\(^{11}\) Even the Intermediate-range Nuclear Forces (INF) Agreement of 1987, which dismantled the tactical nuclear forces in Europe, caused concern among the Western strategists. It was observed that "eliminating the most survivable and highest priority NATO targets (i.e. Pershing II and Cruise


\(^{10}\) Ibid. ff.

Missiles) frees Soviet conventionally armed short-ranged missiles and strike air-craft to concentrate on NATO's vulnerable airpower infrastructure".  

In 1988, the Pentagon too noted that "Soviet Military doctrine now recognizes that neither strategic nuclear nor conventional forces are by themselves 'decisive', but that they only achieve their maximum effectiveness in concert. The Soviets have spent great resources to modernize and expand their conventional forces, while continuing to expand their strategic nuclear and offensive forces, stressing their ability to fight under both nuclear and conventional conditions." One, however, might wonder why this observation should not be applicable to the strategies and actions of the Atlantic Alliance as well! As we shall soon see, NATO also responded in a similar fashion because in a war, rules of the game cannot be usually unilaterally determined and there was 'a kind of Sovietization of NATO strategy'.

In formulating the Soviet (or the Pact) strategy, its alliance partners had little role to play, though greater participation in making of policy decisions was secured after 1969. Commitments to national defence found expression in varying degrees. In Poland, part of the army was designated as the Defence of National Territory (OTK) Troops and 'developed as part of a strategy for

---


securing a strategic rear area, rather than purely as a territorial defence.' But on the whole, the Warsaw Pact military planning sought 'to organize Eastern European forces into effective operations'.

14 Offensive military posture does not necessarily mean an aggressive policy. It can be a tool to deter threats. As we have observed earlier, the Pact's goal was to deter possible threat of U.S. nuclear strike and German revanchism, the offensive conventional military posture that the USSR had assumed immediately after the War was sought to be maintained all along. In its urge and ambition to act globally, the USSR preferred to secure its European frontier and the precious 'buffer zone' by maintaining a credible conventional threat and made it a part of the combined-arms combat strategy including use of tactical and strategic nuclear weapons. As there is very little evidence to prove beyond doubt that the Pact was willing to initiate war in Europe, and at the same time, as there is nothing except public pronouncements to

---

14 Holden, Gerard. *The Warsaw Pact: Soviet Security and Bloc Politics* (Oxford: Basil Blackwell, 1989), p.85-89. According to Sadykiewicz, the European theatre of war (ETW) had been divided into three strategic theatres of military operations, (teatry voennykh destvii, TDV): i) North-Western, ii) Western (Central European), and iii) South-Western. Of Soviet military planning on various global theatres of war, the Warsaw Pact military doctrine covered only the ETW (and its TDVs) and it was a detailed development of the portions of Soviet military doctrine. The national military doctrines of the non-Soviet Pact countries were 'obligatory systems of thought in each of these countries regarding the fulfillment of the portion of Warsaw Pact military doctrine'. Sadykiewicz, Michael. *Organizing for Coalition Warfare* (Santa Monica: Rand Corporation, 1988), 96.
suggest that they were not willing to do so, it remains a matter of speculation - as it was during the cold war days - whether such strategy and tactics were for actual use in war or they were designed to cater to an offensive military posture to maintain at least a ‘psychological threat’ in the theoretical field. With some help from the majority of Western strategists obsessed with the Communist threat, the Pact could actually enjoy partial advantage in the projection of its military strength till its eventual demise.

Stationing of large ground forces in Europe by the Soviet Union - the hostage-taking act - provided the impetus for the formation of the Atlantic Alliance. "Western estimates of the size of these forces were exaggerated" and consequently, NATO was born as a response to Soviet conventional threat and till 1967 - when it

15 A news report in 1993 indicated that the "Soviet bloc not only seriously considered an assault on West Germany but had achieved a higher level of readiness than western intelligence had assumed." Documents covering the period from the 1960’s to the mid 1980’s and assault equipment found in East Germany’s underground storage facilities provided the basis for such assumption. It could be a part of contingency plans but according to the report, "what is perhaps unique about the discovery in the former East Germany, however, appears to be the thoroughness. There were street signs already made for Western cities, printed cash for occupation government, and equipment to run eastern trains on western tracks."


16 Kennan George F. Memoirs 1950-1963 (New York: Pantheon, 1972) p. 257. Kennan wrote: "My critics professed to see the greatest danger for Europe in the inordinate size of the Soviet conventional forces, particularly the ground forces. I was much less impressed with this factor...I, too, saw the Soviet ground forces as a danger to Western Europe, but not primarily because of their numbers - rather because they now had, in contrast to the situation existing in earlier decades, an area of deployment - namely, the Eastern zone of Germany - in the heart of Europe...Once they had been...removed from the heart of Europe, one would no longer need to oppose them."
adopted the policy of flexible response - it relied solely upon nuclear weapons to deter Soviet invasion. "NATO is considered, by some, to have been born with a 'complex' about conventional forces. The view was that Soviet levels of conventional forces could never be matched and US nuclear power made such an attempt unnecessary."

The Lisbon meeting of the NATO council in 1952 discussed the conventional option but the large cost of matching the Soviet conventional power was thought to be too high in return of little benefits. During the years of 'massive retaliation' conventional weapons were destined to play a minor role. Conventional war was to be used for determining whether a large-scale Soviet attack was taking place. However, reliance on nuclear weapons notwithstanding, "the emergence of bilateral atomic stockpiles made it imperative at least to try to delay using atomic weapons. Thus, an attempt would be now made to derail the Soviet attack directly. In essence, Eisenhower sought a "shield" to hold the Red Army at the Elbe while SAC prepared to attack the Soviet Union if hostilities escalated. This was a reversal from prior strategy, which posited strategic bombing operations followed by

17 No. 3, p. 73.


19 Eisenhower formulated a forward defence policy by which a defence line was established at the river Elbe in Germany as the Western European nations were reluctant in having their homelands become battlefields again shortly after the Second World War.
land-based forces in a "mop-up role". In the NATO doctrine 'conventional shield' was of lesser importance than the mightier 'nuclear sword'.

With the adoption of the doctrine of 'flexible response', it was emphasized that the Alliance should be able to match the Soviets (and the Pact) at every level which also included the conventional weapons and forces. Here, initially, "NATO attempted to solve the problem of its deficiency in conventional forces by making a distinction between tactical and strategic nuclear weapons with regard to deterrent value, and suggesting that while strategic nuclear weapons may not represent a credible alternative to conventional forces, tactical nuclear forces are a reasonable substitute". However, though the huge cost involved and the consequent question of burden sharing in this field contributed to disagreements within the NATO, gradually the Alliance gathered momentum in developing and strengthening conventional capability.

The shift in the NATO policy was one of the factors responsible for the Warsaw Pact's efforts for further developments of its own conventional weapons and forces. The USSR had always been weary of America's military-technology superiority and with the announcement of policy-change by NATO, a competition (or conventional weapons armament race) ensued. One can infer the prevailing situation from Senator Sam Nunn's address a few years

---


21 No.3. p.80.
later on September 11, 1976 to the New York Militia Association. He observed:

We possess an adequate strategic nuclear deterrent.
We possess an adequate tactical nuclear deterrent.
We possess, in our vast industrial might and manpower resources, an adequate deterrent to protracted conventional war.

What we do not possess is an adequate deterrent to a short, intense, conventional war.22

By 1980, to rectify the inadequacy, the US response to Warsaw Pact's conventional development programme was five-fold. Summarized by Snyder and Beaumont, they were: 1) an increase in the number of personnel in NATO Europe, 2) conversion of "leg" infantry units into mechanized or armoured units, 3) introduction in large number the precision guided missiles (PGMs), especially anti-tank guided weapons, 4) increase in stocks of ammunition and equipment to meet the logistical requirements of an intense conventional conflict and 5) plans to improve strategic airlift capabilities to permit more rapid reinforcement of NATO forces.23

In later years, the Soviet OMG concept of 'short and intense' conventional war was sought to be checkmated by NATO's Follow-on-Forces Attacks (FOFA) plan which visualized "to attack with conventional weapons", in the words of Bernard Rogers, former Supreme Allied Commander Europe (SACEUR), "those enemy forces which stretch(ed) from just behind the troops in contact to as far into

---


the enemy's rear as our target acquisition and conventional weapons systems (would) permit. For Rogers, "some promising improvements in acquiring targets and in the lethality, range, and accuracy of conventional weapons (had) made FOFA a much more realistic subconcept." Utilization of NATO's superior airpower and deploying new technologies (like the 'Assault Braker') possibly could destroy enemy rear echelons enroute to the front. To many, however, FOFA plan was just another version of US Airland doctrine, which gave due importance to rear area operations though Rogers insisted that FOFA originated within the NATO and "its development was rooted in NATO efforts to strengthen conventional capabilities going as far back as 1979."

In 1984, NATO decided to launch a conventional defense improvement (CDI) programme. It was thought that conventional weapons would deny an aggressor access to NATO territory. Rühl observed that "conventional forces within NATO should:

* compel the attacker to make extensive preparations, thus providing the alliance with adequate warning time
* compel the attacker to rely on heavy concentration of forces so as to expose himself to the risk of nuclear escalation
* defeat limited conventional attacks that are below the threshold of a major aggression, i.e., an attack without

---


25 Mallin, No. 20, p.241.
directly decisive objectives, where the threat of nuclear reaction by NATO would not be credible

* absorb - in case of a large scale aggression - the momentum of the initial attack and deny the attacker the success of a "fait accompli"
* conduct, for as long as possible, a cohesive and effective forward defense, avoiding any major loss of terrain, so that the alliance can take politically controlled measures of deliberate escalation with the aim of terminating the war and restoring the 'status quo ante' .

This, however, required superior conventional strength to the enemy.

As a reaction to the Warsaw Pact's permanent increase of conventional capabilities - both qualitatively and quantitatively and in the absence of required funding made available by the NATO allies, Richard Burt in 1988 suggested a few measures "designed to increase the effectiveness of its conventional power at relatively low-cost" as under:

* Adaptation of our strategy in the central region to a more maneuver-oriented forward defense. The Abrams, Leopard II, and Challenger tanks represent a new generation of armor substantially more mobile and

---

flexible than their predecessors. The F-15, F-16, F-18, and Tornado represent a similarly new generation of combat aircraft. The alliance should capitalize on the capabilities afforded by this new technology.

* **Exploitation of the Western lead in high technology and its application to the conventional battlefield.** While developing high-technology weapons-systems, we need to devote more attention to adapting our military structures, our planning, and the training of our soldiers so as to take full advantage of the capabilities of these systems. At the other end of the spectrum, we should not dismiss too hastily relatively unsophisticated barrier techniques for slowing down a Warsaw Pact offensive.

* **Increased defense industrial cooperation within the alliance.** The U.S.-West German and U.S.-Netherlands agreements on Patriot acquisition provide a useful model to be emulated. There is also scope for greater defense industrial cooperation among the European members of the alliance.

* **As a corollary of the above, greater standardization and interoperability among the national forces of the alliance.** At the same time, there is room for further specialization of roles and missions.  

---

In actuality, once the NATO willy-nilly acknowledged the policy of flexible response, the quest for conventional balance was pursued though not in full swing - but still relentlessly - to the end. The process had its ups and downs, and by nature, advanced through a series of waves. Western attention was drawn towards strategic conventional capabilities in 1988, and only thing that could stop the conventional arms race was financial stringency. One was tempted to argue, against this background, that the NATO’s was a deliberate policy to get the Pact entrapped into an intense conventional arms race in which in the long run the Pact would have to ultimately retire because of sheer paucity of funds. The policy of negotiating from the position of strength also fitted in. Of course, to justify its quest for conventional superiority (though actually the means had become ends in the meantime i.e. the continuous process of perfecting till the race ends), the NATO had to project the Soviet threat on its own. A pronounced quest for superiority would have few takers and could be proved disadvantageous in propaganda exercises. However, in the endless


Many of the Soviet authors followed this line of argument. Usachev maintains, "the NATO leadership launched a feverish campaign to intensify the build up of armed forces and arms within NATO. The chief thrust of this campaign is to plant in the minds of West Europeans the idea of 'Soviet military threat', the dangerously mounting military advantage enjoyed by the Warsaw Treaty states, the ability of the Soviet Union to put West European governments in a position where they would have no option save capitulation". Much in the same fashion Yefremov observed on an earlier occasion: "Fabrications about the Soviet Union increasing its military budget and the strength of its armed forces in greater proportions than it was done in the West were accompanied by a false allegation, widely circulated in the West, of a Soviet
dilemmas of balance-uncertainty, projection of threat had a tendency to gather independent momentum and with pervading secrecy about the Pact’s intentions and capabilities, it was safer to perceive the Soviet threat as credible and accordingly prepare oneself to face the challenge.

3.2 Weapons: Numerical Growth and Performance Quality

Comparing the number of specific weapons on each side is an easy task though such comparison is misleading as it fails to consider fully the qualitative weapons-difference of the same category. In a conventional warfare the battletanks have a significant role to play and in 1969-70 the relative tank strength was measured as under:

<table>
<thead>
<tr>
<th>Category</th>
<th>Northern and Central Europe</th>
<th>Southern Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium heavy tanks available to Commanders in Peacetime</td>
<td>5,250 12,500</td>
<td>1,800 4,600</td>
</tr>
</tbody>
</table>

*Adapted from The Military Balance 1969-70, p. 63.

As against Pact’s 17,100 tanks in the European theatre, NATO had only 7,050 tanks. Prima facie, it appeared that NATO was hopelessly outnumbered. But it was also observed that the NATO tanks were strategic arms build up. This build-up, as the NATO propaganda media maintained, threatened to upset the nuclear power balance. See Usachev, Igor. A World Without Arms? (Moscow: Progress, 1984) p.137; and Yefremov, A.Y. Nuclear Disarmament (Moscow: Progress, 1979), p. 252.
generally more modern and their armament was probably better. Over the years, this remained the general conclusion though the figures changed in keeping pace with time. The representative work of other line of thinking was the Collins-Cordesman study which sought to prove that by 1975, Warsaw Pact’s tank strength in Central Europe crossed 15,000, while NATO’s growth rate remained almost the same. They further lamented that NATO had no ‘quantitative advantage in anti-tank weapons with high-effectiveness against modern tanks’ though in 1970-71, it was observed that NATO’s relative weakness in tanks was ‘offset to some extent by a superiority in ground anti-tank weapons. NATO probably also (had) more effective air-borne anti-tank weapons, such as the missiles carried by fighter aircraft and helicopters’.

Interestingly, more modern tanks formed a small portion of the Pact’s total tank forces; almost 60 percent of them, as the Pentagon’s Soviet Military Power 1988 showed, consisted of the models (like T-55) that were introduced decades ago. The modern Soviet battletanks (T-64, T-72, T-80) were modified versions of the older ones, and their performance record was somewhat doubtful against the background of highly sophisticated NATO battletanks. Not only the numerical superiority but "qualitative measures of tank combat, such as rates of fire, range, accuracy, armored protection, mobility, ammunition, and target acquisition


capabilities have a critical impact on battle outcomes.\textsuperscript{31} By 1988 Warsaw Pact had 60,000 tanks against 22,000 tanks of NATO\textsuperscript{32} but in the attributes covering nightfighting capabilities, better fire control, accuracy on the move and first shot kill capability—NATO enjoyed considerable advantage.\textsuperscript{33} Along with better application of superior key technologies and growth of sense-and-destroy armor ("sadarm") "smart" mines and other "brilliant" weapons 'designed to burn through heavily armored parts of a tank', NATO also sought and achieved significant advantage in the area of hardware maintenance and sustainability, through an elaborate support infrastructure.\textsuperscript{34}

Not only in the question of battle tanks, even in the cases of armored vehicles and artillery pieces, the pattern followed a basic line, i.e. a numerical superiority for the Warsaw Pact and a general technological superiority for NATO that accentuated the performance capability of conventional forces of the Atlantic Alliance. Greater accuracy of its weapons and greater lethality of its ammunition ensured on the one hand, less mobility and survivability of the Pact's forces and greater protection of its own forces, on the other. A system of weighing weapons, as devised

\textsuperscript{31} Mendelsohn, Jack and Thomas Halverson. "The conventional balance: a TKO for NATO?" \textit{Bulletin of the Atomic Scientists}, March 1989, p. 34.

\textsuperscript{32} Source: Information paper of U.S. Delegation to negotiations on the Conventional Armed Forces in Europe Treaty.


\textsuperscript{34} Mendelsohn and Halverson, No.31, p. 37.
by the US Defence Department, within the same category as well as different categories, considers three principal characteristics of each weapon: mobility, survivability and firepower to achieve a composite figure known as armored division equivalents (ADEs) for both NATO and the Pact. The ADE radio in the 1980s gave Warsaw Pact an advantage of 1.2:1 over NATO. Views differ sharply over whether this kind of count is correct and considering greater firepower, mobility and survivability of NATO weapons because of its sheer technological superiority it appears unlikely that the Pact enjoyed considerable advantage in this field. One interesting point to note as Cohen observed, the Pentagon in May 1940 used the ADE methodology to measure the military balance. While it was concluded that the Germans were 5-10% inferior to the Allied forces, in actuality, the Germans defeated the Allied armies and captured Paris within six weeks.

However, to offset numerical superiority by technological superiority any operation manoeuvre would do well to take into account attrition rates (at what pace or level of violence would the battle proceed?), exchange rates (how many destroyed armed fighting vehicles must NATO suffer in order to kill a Pact vehicle?), and advance rates of the adversary in presumption. The


result might appear speculative but fail to prove beyond doubt that Warsaw Pact had overwhelming advantage over NATO.37

In 1969-70, the aircraft strengths in peace time were measured as under:

<table>
<thead>
<tr>
<th>Category</th>
<th>Northern and Central Europe</th>
<th>Southern Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tactical aircraft</td>
<td>NATO Warsaw Pact</td>
<td>Warsaw Pact</td>
</tr>
<tr>
<td>in operational service</td>
<td>NATO Warsaw Pact</td>
<td>NATO Warsaw Pact</td>
</tr>
<tr>
<td>- light bombers</td>
<td>50 260</td>
<td>- 60</td>
</tr>
<tr>
<td>- fighter/ground attack</td>
<td>1,150 1,285</td>
<td>550 215</td>
</tr>
<tr>
<td>- interceptors</td>
<td>450 2,000</td>
<td>300 860</td>
</tr>
<tr>
<td>- reconnaissance</td>
<td>400 250</td>
<td>125 50</td>
</tr>
</tbody>
</table>

*Adapted from The Military Balance 1969-70, p. 63.

It was observed that

In general NATO has a higher proportion of multipurpose aircraft and NATO aircraft have a greater average capability: they have longer range and over twice the average payload on typical missions. NATO crews get about twice as many flying hours a month on training as their Warsaw Pact counterparts. It is difficult to determine the extent to which the greater performance and versatility of the NATO aircraft would offset the greater numbers of the Warsaw Pact, though it is evident enough that a direct comparison of the two air forces in terms solely of numbers may be misleading, and could undervalue NATO’s real capability.38

NATO made a greater effort than the Pact ‘to produce aircraft and weapons devoted specifically to close air support (CAS)’ to affect

37 An interesting analysis through the application of mathematical models can be found in Epstein, Joshua M. The Calculus of Conventional War (Washington, Brookings Institution, 1985).

the ground battle. Further, it had better reinforcement capability. Despite dire predictions of the performance capability of the Pact's modern aircrafts NATO's main problem seemed to be the Pact advantage of numerosity. As Lieutenant General Schmitz observed in 1989, "I think you can see that whatever the precise ratio, there are too many of them and too few of us. Foxbats, Floggers, Flankers, Fencers or Frogfoot, there are lots of them and they have the advantage of attacking first, because we will not. We have a good idea what their gameplan is and we know how they train; therefore I feel confident we can defend against them. Still the numbers are disconcerting". To 'balance the scales' he assigned greater role to NATO airborne early warning (AEW) aircraft, Compass Call communication jammers and EF-111 radar jammer and called for development of NATO in-flight refuelling capability. He further stressed: "Our ability to transcend the battle area, from well back in the rear to deep in Warsaw Pact territory, is one of the Alliance's greatest assets and one of our opponent's heaviest liabilities."

---

36 Posen. No. 35, p. 102.


41 Ibid. p. 163.
Table 3.1 NATO estimates of conventional balance of forces

<table>
<thead>
<tr>
<th></th>
<th>MBTs</th>
<th>AIFVs</th>
<th>OAVs</th>
<th>Artillery</th>
<th>ATWs</th>
<th>Combat Helicopters</th>
<th>Ground personnel (*000s)</th>
<th>Combat aircraft</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. NATO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>320</td>
<td>208</td>
<td>1378</td>
<td>248</td>
<td>518</td>
<td>-</td>
<td>68</td>
<td>144</td>
</tr>
<tr>
<td>Canada</td>
<td>60</td>
<td>-</td>
<td>400</td>
<td>35</td>
<td>45</td>
<td>-</td>
<td>5</td>
<td>40</td>
</tr>
<tr>
<td>Denmark</td>
<td>228</td>
<td>-</td>
<td>878</td>
<td>542</td>
<td>330</td>
<td>-</td>
<td>20.5</td>
<td>87</td>
</tr>
<tr>
<td>France</td>
<td>1250</td>
<td>750</td>
<td>3100</td>
<td>787</td>
<td>1460</td>
<td>270</td>
<td>267</td>
<td>450</td>
</tr>
<tr>
<td>West</td>
<td>4330</td>
<td>1960</td>
<td>5680</td>
<td>2220</td>
<td>1710</td>
<td>554</td>
<td>351.8</td>
<td>547</td>
</tr>
<tr>
<td>Germany</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greece</td>
<td>1420</td>
<td>100</td>
<td>1753</td>
<td>1752</td>
<td>2267</td>
<td>64</td>
<td>117</td>
<td>319</td>
</tr>
<tr>
<td>Iceland</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Italy</td>
<td>1500</td>
<td>-</td>
<td>4900</td>
<td>2100</td>
<td>2200</td>
<td>170</td>
<td>297</td>
<td>250</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>-</td>
<td>-</td>
<td>5</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>0.7</td>
<td>-</td>
</tr>
<tr>
<td>Netherlands</td>
<td>750</td>
<td>585</td>
<td>1435</td>
<td>567</td>
<td>674</td>
<td>54</td>
<td>68</td>
<td>162</td>
</tr>
<tr>
<td>Norway</td>
<td>117</td>
<td>-</td>
<td>356</td>
<td>527</td>
<td>550</td>
<td>-</td>
<td>25</td>
<td>78</td>
</tr>
<tr>
<td>Portugal</td>
<td>66</td>
<td>-</td>
<td>269</td>
<td>260</td>
<td>362</td>
<td>-</td>
<td>47</td>
<td>99</td>
</tr>
<tr>
<td>Spain</td>
<td>866</td>
<td>-</td>
<td>2740</td>
<td>1038</td>
<td>1222</td>
<td>160</td>
<td>210</td>
<td>186</td>
</tr>
<tr>
<td>Turkey</td>
<td>3000</td>
<td>-</td>
<td>1700</td>
<td>2800</td>
<td>2400</td>
<td>160</td>
<td>380</td>
<td>370</td>
</tr>
<tr>
<td>U.K.</td>
<td>717</td>
<td>-</td>
<td>5068</td>
<td>394</td>
<td>1196</td>
<td>287</td>
<td>140.5</td>
<td>445</td>
</tr>
<tr>
<td>U.S.A.</td>
<td>1800</td>
<td>550</td>
<td>6000</td>
<td>1100</td>
<td>3300</td>
<td>700</td>
<td>216</td>
<td>800</td>
</tr>
<tr>
<td>Total</td>
<td>16426</td>
<td>4153</td>
<td>35351</td>
<td>14463</td>
<td>18240</td>
<td>2419</td>
<td>2213.5</td>
<td>3977</td>
</tr>
<tr>
<td>B. WTO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulgaria</td>
<td>1800</td>
<td>100</td>
<td>4200</td>
<td>2200</td>
<td>500</td>
<td>100</td>
<td>135</td>
<td>250</td>
</tr>
<tr>
<td>Czechoslovakia</td>
<td>3800</td>
<td>1100</td>
<td>5200</td>
<td>2100</td>
<td>2000</td>
<td>200</td>
<td>145</td>
<td>400</td>
</tr>
<tr>
<td>E.Germany</td>
<td>3000</td>
<td>-</td>
<td>5700</td>
<td>1700</td>
<td>1700</td>
<td>150</td>
<td>120</td>
<td>350</td>
</tr>
<tr>
<td>Hungary</td>
<td>1300</td>
<td>300</td>
<td>1700</td>
<td>800</td>
<td>800</td>
<td>100</td>
<td>80</td>
<td>150</td>
</tr>
<tr>
<td>Poland</td>
<td>3400</td>
<td>1100</td>
<td>5100</td>
<td>2500</td>
<td>2000</td>
<td>200</td>
<td>230</td>
<td>700</td>
</tr>
<tr>
<td>Romania</td>
<td>1200</td>
<td>-</td>
<td>4200</td>
<td>1530</td>
<td>700</td>
<td>100</td>
<td>180</td>
<td>350</td>
</tr>
<tr>
<td>USSR</td>
<td>37000</td>
<td>19000</td>
<td>45000</td>
<td>33000</td>
<td>36500</td>
<td>2850</td>
<td>2200</td>
<td>6060</td>
</tr>
<tr>
<td>Total</td>
<td>51500</td>
<td>22400</td>
<td>71000</td>
<td>43400</td>
<td>44200</td>
<td>3650</td>
<td>3090</td>
<td>8250</td>
</tr>
</tbody>
</table>


Note: MBT Main Battle Tank
      AIFV Armored Infantry Fighting Vehicle
      OAV Other Armored Vehicle
      ATW Anti tank weapon (launcher)

Table 3.2 WTO estimates of the conventional balance of forces.

<table>
<thead>
<tr>
<th>Personnel ('000s)</th>
<th>Combat aircraft</th>
<th>Combat helicopter</th>
<th>MBTs</th>
<th>IFVs and APCs</th>
<th>ATGMs</th>
<th>Artillery</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. NATO</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Britain 311.2</td>
<td>835</td>
<td>700</td>
<td>2000</td>
<td>5480</td>
<td>1480</td>
<td>3320</td>
</tr>
<tr>
<td>W.Germany 495</td>
<td>850</td>
<td>450</td>
<td>4900</td>
<td>6840</td>
<td>2760</td>
<td>3190</td>
</tr>
<tr>
<td>France 442.5</td>
<td>880</td>
<td>700</td>
<td>3190</td>
<td>4520</td>
<td>2000</td>
<td>8510</td>
</tr>
<tr>
<td>Norway 41.08</td>
<td>100</td>
<td>-</td>
<td>370</td>
<td>190</td>
<td>150</td>
<td>2320</td>
</tr>
<tr>
<td>Denmark 30.96</td>
<td>100</td>
<td>-</td>
<td>350</td>
<td>1090</td>
<td>310</td>
<td>1750</td>
</tr>
<tr>
<td>Belgium 92</td>
<td>170</td>
<td>70</td>
<td>530</td>
<td>2020</td>
<td>560</td>
<td>1620</td>
</tr>
<tr>
<td>Netherlands 101.85</td>
<td>200</td>
<td>20</td>
<td>1250</td>
<td>3240</td>
<td>764</td>
<td>1410</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3660.23</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luxembourg 1.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Belgium 396</td>
<td>450</td>
<td>540</td>
<td>2330</td>
<td>6440</td>
<td>2130</td>
<td>5510</td>
</tr>
<tr>
<td>Greece 190</td>
<td>450</td>
<td>130</td>
<td>2000</td>
<td>1720</td>
<td>320</td>
<td>3950</td>
</tr>
<tr>
<td>Portugal 70</td>
<td>150</td>
<td>-</td>
<td>470</td>
<td>280</td>
<td>40</td>
<td>1870</td>
</tr>
<tr>
<td>Spain 283</td>
<td>295</td>
<td>160</td>
<td>1850</td>
<td>1720</td>
<td>190</td>
<td>5000</td>
</tr>
<tr>
<td>Turkey 598.2</td>
<td>640</td>
<td>310</td>
<td>4320</td>
<td>5270</td>
<td>2350</td>
<td>14900</td>
</tr>
<tr>
<td>USA 593</td>
<td>1960</td>
<td>2180</td>
<td>6980</td>
<td>7590</td>
<td>4940</td>
<td>3520</td>
</tr>
<tr>
<td>Canada 14.4</td>
<td>50</td>
<td>10</td>
<td>150</td>
<td>500</td>
<td>70</td>
<td>170</td>
</tr>
<tr>
<td>Iceland</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3660.23</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **B. WTO**        |                 |                   |      |               |       |           |
| Bulgaria 117.5    | 234             | 51                | 2220 | 2365          | 360   | 3990      |
| Hungary 106.8     | 113             | 96                | 1435 | 2310          | 270   | 1750      |
| E.Germany 173.1   | 307             | 74                | 3140 | 5900          | 620   | 2435      |
| Poland 347        | 480             | 43                | 3330 | 4855          | 435   | 3065      |
| Rumania 171       | 380             | 220               | 3200 | 5000          | 400   | 6660      |
| USSR 2458         | 5995            | 2220              | 41580| 45000         | 8840  | 50275     |
| Czechoslovakia 199.7 | 407       | 101               | 4585 | 4900          | 540   | 3445      |
| **Total**         | **3573.1**      |                   |      |               | 11465 | 71560     |

**Note:**
- MBT: Main battle tank
- ATGM: Anti tank guided missile launcher
- IFV: Infantry fighting vehicle
- APC: Armoured personnel carrier

Figures are as of 1 July 1988 and are for forces stationed in Europe and adjacent sea areas.

Source: WTO 1989
NATO outnumbered Soviet naval presence around its southern flank, and a limited Soviet naval capability had never been perceived as a threat in a non-nuclear conventional war in the European theatre. As a traditional task, Soviet Navy could be used to provide maritime flank support for land operations along the coastal lines. But it was highly unlikely that in case of a conflict the Pact could have achieved a breakthrough in the flank areas.

Not exactly nuclear, not entirely conventional, chemical weapons, deadly and lethal as they are, received attention from the strategists and constituted a part of the debate over the security of the West. Chemical weapons option had not been stressed in the Pact's operational doctrine but the facts to fear were: substantial investment of the Soviets in protective measures; its diverse chemical weapons stockpile; and its range of CW-capable delivery systems. Though chemical weapons could not be taken as a priority option for the Pact, but it was believed that it might resort to CW if their conventional campaign were faltering. However, it was also emphasized that the role of CW in NATO strategy was inherently limited and the Aspen Strategy Group Study concluded inter alia that there was 'no operational or deterrent justification for NATO to acquire a large-scale chemical war fighting capability'. However, a 'modest and mobile retaliatory


43. Ibid. pp.16-17.
force and a robust program of defensive measures were preferred."

One interesting fact one might notice, while the Pact's emphasis was on numerosity, the Atlantic Alliance believed more in the support infrastructure. While the Pact sought to replace the defunct one with a new tool of same category, NATO's emphasis was on repairing, i.e. keeping the same tool in use by way of reinforcement. The Warsaw Pact's numerosity was perfectly in tune with the offensive military posture it sought to project. NATO's military posture was inherently defensive. A match for weapon by weapon was never a sought after option; NATO's superior military technology gave it the capability by which it could provide ample resistance against a Pact invasion. It was not an equilibrium of 50:50, but we request the reader to remember the moving points of the circles as opposed to each other (Chapter 1). Pact's numerosity could not conclusively supersede NATO's technological superiority, neither NATO's technological superiority could entirely offset the Pact's numerical advantage. It would have been too risky for any party to initiate war in Europe and a rational choice induced them to resort to such methods which fell short of direct confrontation.

At some Western Quarters, it was feared that the technological gap would soon be minimized and the Pact would soon catch up with the NATO in the technology race. Even if we accept that the technological development rate (TDR) of the Warsaw Pact was faster than the Western alliance, financial constraint came as a hurdle in

4. Ibid. p.47.
the way, notwithstanding the socialist dictatorial economic policies that neglected consumer choice for military production. However, the view that the Alliance was losing much of the technological advantage which permitted NATO to rely on the premise that quality could compensate for quantity was belied by the Israeli successes against the Soviet armed Syrians and such similar case.\(^{45}\) Wealth and industrial capacity of the Alliance were all along far better than those of the Pact. There were advocates who took special care to change the priorities of the alliance members to give a military orientation to the Consumer-oriented production system \(^{46}\) much in the fashion of the 'Committee on the Present Danger' which was largely responsible for the armaments programme under the Reagan administration.\(^{47}\) However, such efforts did not find much support in the public.

"NATO has outspent the WTO in defence every year since 1965, yet still appears to be in a numerically weaker position" and one explanation offered was that the WTO was more efficient than the NATO in the use of resources. However, a more convincing argument


\(^{47}\) The Committee on Present Danger repeatedly emphasized the need for measures to halt the unfavourable trends in the U.S. Soviet Military balance. Their line of argument once discredited as 'alarmist' became respectable with the election of Ronald Reagan as the US President. Ronald Reagan was a Member of the CPD. See Chapter II.
was that the "NATO chooses to spend less on combat units (teeth) in
a deliberate decision to provide better support services (tail). Thus NATO troops enjoy superior C&I, logistics, maintenance, support, and conditions of service than their NATO equivalents." 48

Interestingly it has its demerits in that "in some areas NATO’s military effectiveness suffers from its extensive support capabilities in addition to the opportunity costs of combat units... In C³I for example a proliferation of intelligence sources, headquarters and communication facilities can lead to information overload, an unwieldy command structure and a dependency on certain means of communication which may prove highly vulnerable in war. When this is added to NATO’s relatively vulnerable command structure (to ensure maximum consultation between allies) the organization of command appears potentially confused, unwieldy and insensitive to battlefield needs." 49

In some Western quarters, resentments have been expressed about the 'gold plating' of weapon systems whereby 'nice to have' features are pursued at substantial increase of costs but little contributions are made to the combat effectiveness of the weapon. 50

Contrary to this Western approach, 'evolutionary' approach of weapons modernization and an enviable degree of standardization of the Pact weapon-systems were said to be advantageous to the WTO.

---


49 Ibid.p.70. [Emphasis in original].

3.3 Soldiers: Troop Spirit, Troop Determination and Training:

Neither the weapons nor the minds stage conflicts in vacuum, but the soldiers fight the war and it is difficult to accept them as mere cogs in the wheel. Theoretical preparedness might not always fit in the actual situation. Therefore, high-quality training seems necessary to enable the men to adapt and adjust to diverse situations on the front. Along with high quality training of the soldiers and improvement of cohesion among national forces of the alliance - Members assigned to NATO to offset the Soviet threat, other wider means also were considered to achieve a balance.

Chancellor Helmut Schmidt once observed:

> There are, I believe, two theoretical possibilities to establish a balance or a parity of conventional forces. The first is to increase our own strength by pushing up the number of weapons and soldiers; the second would be to reduce forces on both sides, so that we arrive at an equation on both sides of equal, lower and collective military strength.\(^{31}\)

Mutual Force Reduction negotiations shall be considered in the chapter entitled "Arms Control as a Factor in the Quest". Here, our focus is on the numerosity and performance capability of the troops of both the alliances.

In 1969-70, Ground forces available to commanders of the Warsaw pact (in division equivalents) in the European theatre were 99 against NATO's 57. However, since NATO formations were much larger than those of the Warsaw Pact, an approximate

---

Figure 3.3: Peacetime Locations of Warsaw Pact Divisions Likely to be Deployed to the Central Region


NOTES: Category I divisions are at full strength with a full set of modern equipment, Category II divisions are typically at 50 percent to 75 percent strength with a full complement of fighting vehicle, Category III divisions are at 20 percent strength, might have a full set of combat equipment, but it would typically include other models.

MD = Military District
calculation for forces appeared as under:

**Manpower (in thousands)**

<table>
<thead>
<tr>
<th>Category</th>
<th>North and Central Europe</th>
<th>Southern Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NATO</strong></td>
<td>600#</td>
<td>925</td>
</tr>
<tr>
<td><strong>Warsaw Pact</strong></td>
<td>525</td>
<td>375</td>
</tr>
</tbody>
</table>

*Adapted from the Military Balance 1969-70, p. 62.

# If French forces were included, the Western figure for Northern and Central Europe might have been increased by some 100,000.

In actuality, NATO countries maintained larger armies than the Warsaw Pact members but a large number of them from both sides were stationed outside Europe. Pact numerosity was less feared than the ability of the Pact to reinforce in a shorter span of time because of their geographical situation. So on the whole, yet again it became a question of compensating the deficiency in numbers by better performance capability. Over the years NATO shortened the gap in manpower numbers. This increase had been reflected in the annual "Military Balance" issues.

Soviet army had great strength, historically confirmed. However, it had certain serious weaknesses too. Some of such weaknesses had been summarized as under:

- exaggerated emphasis on political indoctrination and socialist competition in the armed forces.
- unresolved problems of change due to advancing technology.
- overreliance on advance planning as a contributor to a rigid style of military operations.
- cumbersome command style for the conduct of mobile war.
- excessive reporting and restrictive orders.
- inherent contradictions in the express Soviet principle of "untrammeled authority", or sole command, and the dilution of the military commander's authority resulting from those contradictions.
- incompatibility of exaggerated Soviet political indoctrination and controls with military initiative, independence, and the demands of mobile war.  

Considered along with the issue of 'reliability' of the Non-Soviet Warsaw Pact forces (discussed in the first chapter), one might expect, that the efficiency of the Soviet armed forces (or that of Warsaw Pact combine) was somewhat damaged by such inherent flaws.

"The Warsaw pact military also (had) more trouble with language, education and literacy of its troops...Many Soviet conscripts lack(ed) the most basic communication skills." Further, "poor relations between Soviet officers and enlisted personnel create(d) systemic command and morale weaknesses in the Soviet army. In Afghanistan, examples of officers beating recruits were fairly common."  

Still, to disregard the Warsaw Pact soldiers' plus points would mean indulging in a lop-sided analysis. In contrast to what we have just said, Gabriel and Martel observed, that "A universal conscription system produces relatively high quality recruit in as much as the Soviet population has a rather high literacy rate and general educational level. Unlike his American counterpart, the Soviet soldier does not have critical deficiencies in aptitude

---


53 Mendelsohn and Halverson. No. 31, p. 34.

123
skills, verbal and math skills, and reading skills. The conscription system ensures that a proportionate mix of aptitudes and skills is projected into the military".54

A number of Soviet units have earned laurels for displaying high degree of professionalism and 'lack of tactical initiative' could be a deliberate move to facilitate clear methods and procedures.55 Again, an intensive, systematic premilitary training of Soviet youth had been a prominent feature of the Soviet defence system. It was 'designed to provide the future soldiers with the equivalent of basic training'.56 Moreover "servicemen in socialist armies are educated in the spirit of military alliance and their motto is class-brothers are comrades-in-arms".57

"Soviet soldiers (spent) far more time learning and practicing the skills of war than their Western counterparts (did)... the Soviet soldier (was) subject to a heavy training schedule" observed Gabriel and Martel in 1983.58 But, five years later Senator Carl Levin, in Beyond the Bean Count noted that "the Soviet servicemen


56 Gabriel and Martel. No. 54, p.188.


58 Gabriel and Martel. No. 54, p.192.
average(d) half as much time in exercises as their NATO counterparts". Not only that, the NATO forces enjoyed more frequent, more realistic and larger training exercises. Moreover, NATO’s practice used modern equipment while the Pact conducted ‘its training on a small percentage of a unit’s total equipment’.59

Around this time, Senator Timothy Wirth reported to the Senate Armed Services Committee: "Soviet training is rudimentary and artificial".60 And, there was some evidence to suggest that in relation to NATO and the United States, the Soviet Union spent less money into training, especially during the late 1980s.61

In the light of the above statements, it appeared that the Soviet soldiers (it was highly unlikely that the Non-Soviet pact soldiers were in any respect better than them), were, at least, not invincible. However, despite superior training and better equipments, the American (and the NATO) forces had their own inherent deficiencies. Let us have a look into those weaknesses which might mark the performance of the NATO forces.

59 Quoted in Mendelsohn and Halverson. No.31, p.32.

60 Ibid.

Figure 3.4: Soviet-East European participation in the overall Warsaw Pact military balance (percentages, not counting the qualitative-coefficient index)

<table>
<thead>
<tr>
<th>Country</th>
<th>Ground forces</th>
<th>Air forces</th>
<th>Naval forces</th>
</tr>
</thead>
<tbody>
<tr>
<td>USSR</td>
<td>75</td>
<td>72</td>
<td>70</td>
</tr>
<tr>
<td>Poland</td>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Czechoslovakia</td>
<td>10</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>GDR</td>
<td>5</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>7</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Romania</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Hungary</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Figure 3.5: Strength of Warsaw Pact and NATO minor allies (Northern Tier shown in smaller boxes)

<table>
<thead>
<tr>
<th>Warsaw Pact</th>
<th>NATO</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Divisions</strong></td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>31</td>
</tr>
<tr>
<td>10</td>
<td>56</td>
</tr>
<tr>
<td><strong>Tanks</strong></td>
<td></td>
</tr>
<tr>
<td>14,500</td>
<td>9,800</td>
</tr>
<tr>
<td>10,000</td>
<td>1,600</td>
</tr>
<tr>
<td><strong>Armored combat vehicles (AFVs and AFCs)</strong></td>
<td></td>
</tr>
<tr>
<td>17,000</td>
<td>15,000</td>
</tr>
<tr>
<td>11,000</td>
<td>5,500</td>
</tr>
<tr>
<td><strong>Artillery guns</strong></td>
<td></td>
</tr>
<tr>
<td>8,000</td>
<td>8,000</td>
</tr>
<tr>
<td>6,000</td>
<td>2,800</td>
</tr>
<tr>
<td><strong>Combat aircraft</strong></td>
<td></td>
</tr>
<tr>
<td>2,400</td>
<td>2,000</td>
</tr>
<tr>
<td>1,600</td>
<td>600</td>
</tr>
</tbody>
</table>

* Independent brigades aggregated on the basis of three brigades to one division

** Main battle tanks

NOTE: WP East European Northern Tier consists of the GDR, Czechoslovakia, and Poland; on the NATO side, counting only the forces of Norway, Denmark, Belgium, Luxembourg, the Netherlands and Canadian forces stationed in Germany.

Source: Sodykiewicz, Michael, Organizing for Coalition Warfare (Santa Monica: Rand, 1988). p.25.
The Vietnam experience revealed certain basic flaws in the troop spirit of the most powerful nation of NATO. Many soldiers indulged in drug-abuse and there were reports of soldiers assassinating their officers. Performance-wise, it seemed, that they were not thoroughly prepared for such kind of war. However, with 'Sovietization' in part of NATO strategy, the quality of training progressed and equipped with sophisticated weapons the soldiers and their performance capability generally improved, as confirmed in the 1992 war with Iraq. Though, the ground forces had very little role to play and Iraq was not a formidable enemy, their mop-up role after the use of air-power was important. However, in contrast to Soviet rigid dictatorial discipline the US army was composed of members from different segments of society with diverse culture and values which could undermine the force cohesion.

In general terms professionalism of the British troops, unit cohesion and training of the German troops, and organized army of France62 were considered assets of Western security. Fighting abilities of these nations had been historically confirmed. Once they recovered from the war-damage, one could except that they would provide a solid line of defence together, against the enemy. Again, "an army that intends to implement a blitzkrieg" observes Fearsheimer, "must have a highly flexible command structure as well

62 A note of caution has been, however, sounded regarding the French forces. "While French force inter-operability may be no worse than that of nations in integrated military alliance, the conditions attached to their operational employment suggest that their use would be less than optimally effective. Indeed, the intention to retain forces for the national deterrent manoeuvre could mean that their employment would be less likely when most needed by the Alliance."

as officers and NCOs (Non-Commissioned Officers) at every level of the chain of command who are capable of exercising initiative". 63 However, because of rigid command structure and lack of initiative, as discussed earlier, the Soviet army in this context might appear ill-suited for the successful application of the doctrine in practice.

Authors have argued that non-Soviet Warsaw Pact troops might not be very highly motivated to fight the Americans or the West Europeans. "To counteract the effects of potential disloyalty, the Soviets may pair NSWP armies only with those NATO adversaries toward whom some basis for animosity exists, e.g. Poles against Germans, not against Americans...The Soviets intend to sandwich NSWP forces between Soviet armies to isolate those forces that might be hostile to each other or to the soviets." 64 This is rather a rectifying tool of defensive measure and can prove detrimental to the interest of the Soviet Union.

The view of the IISS was that a conventional balance could be said to be achieved in a sense that overall strength on either side was insufficient to guarantee victory which made "general military aggression a highly risky undertaking for either side". 65 But for the critics of NATO, in the key parameters of military capability


like quality of troops, training, material and allies, NATO was ahead of the Pact. "While NATO constantly stress(ed) the Warsaw Pact’s quantitative superiority, particularly around budget time, its military leaders actually believe(d) that they (could) do a reasonable job defending against Warsaw pact Forces". These views were expressed by late 1980s and by then in the light of the above discussion, it can be argued that a conditional balance of conventional weapons and forces was established. This was a balance of conventional combat capability, assuming the non-use of nuclear weapons. The nature of this balance was such, wrote McInnes in 1990, "that the way in which forces are used will be as or more important in determining the outcome of the battle than the number and quality of the forces available".

Military operational plans are very rarely executed as drawn beforehand. Ad-hoc adjustments are made when matters tend to go wrong or out of hand. All the problems involving unforeseen weather changes, geographical obstacles compelling slow movement or what Clausewitz described as 'friction' can now be somewhat overcome through highly sophisticated electronic equipments. Here again, the question of technology becomes important. However, electronic warfare equipments alone cannot guarantee definite advantage in a war of attrition.

---

67 McInnes. No.48. p.83.
Summary

Though essentially, NATO in the initial years provided a perceived nuclear answer to a WTO conventional threat, with time it sought to match the WTO conventional capability through increase in its own conventional arsenals. Nuclear weapons were, however, all the while providing the much-needed ultimate insurance to fall back upon when necessary.

Numerically, NATO fell short of the WTO which might be a result of a deliberate policy as NATO weapons were technologically better and money was spent to achieve higher combat-effectiveness through quality-enhancement. Technology gap, however, over the years, had been narrowed down. Still, NATO doctrines of deep strike, manoeuvre and seizing the initiative to oppose a Soviet Blitzkrieg offensive alongwith its impressive conventional weapons arsenals gave credence to the idea that a WTO strike could be repulsed by NATO through conventional means alone; the Pact did not have unquestioned supremacy in conventional weapons and forces. Force personnel of both the Alliances while on the one hand, had a good performance record, they suffered from various deficiencies on the other.

Thus, a conventional warfare between the NATO and the WTO could have resulted in unforeseen outcomes defying the tentative predictions so far made by the analysts. The equilibrium point of balance of power was though unstable, nevertheless, it remained within the field of balance. The CFE Treaty was concluded to push back this balance-scale to a lower level, balance of reasonable sufficiency in conventional weapons and forces being already achieved.