

Working Paper

Military R&D Institutes in the Context of Demilitarization in Russia

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January 1994



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Foreword

The Economic Transition and Integration (ETI) Project at the International Institute for Applied Systems Analysis (IIASA) is continuing its subproject "Research and Development Management in Russia's Transition to a Market Economy". This subproject was originally started upon the request of the then Soviet State Committee for Science and Technology, and is still supported by the Russian Government. The major goal of this subproject is to advance understanding of R&D management and then to translate this understanding into practical advice to Russian policy-makers. The project is organized as a series of case studies and seminars, and is aimed at bringing together Russian policy makers and scholars and Western experts to exchange their views and research results in the field, and to promote further contacts and research collaboration among them.

Until now, five workshops on various aspects of R&D management have been held, and the first volume of papers presented at these meetings has been published (Serguei Glaziev and Christoph Schneider, (eds.), *Research and Development Management in the Transition to a Market Economy*, IIASA Collaborative Paper CP-93-1, March 1993). Preparations for the second volume are currently underway, and participants of the project have their studies in various stages of completion. This study by Dr. Leonid Kosals is nearly completed, and is circulated as an IIASA Working Paper to enable the author to broadly discuss his results with other project participants.

Il'dar Karimov
Scientific Project Coordinator

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Military R&D Institutes in the Context of Demilitarization in Russia

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1 Introduction

The purpose of this paper is to analyze the socio-economic situation in military R&D institutes in the context of demilitarization in Russia.

By 1985, the USSR was a country where the major social institutions were primarily subjected to the Soviet State's military-strategic priorities. The Soviet Union possessed a great army which was superior to its economic possibilities and real national interests. This army was placed under the command of the ruling elite of the CPSU and was manned on the principle of universal military service.

From an economic perspective, militarization can be characterized by a considerable share of the expenditure of the State budget, in the huge military-industrial complex (MIC), in the idleness of very great mobilization capacities during peace time and, accordingly, in the under-developed consumer sector.

From a political perspective, militarization resulted in the military authorities' considerable influence on domestic and foreign decision-making, in the stationing of great contingents of Soviet armed forces abroad, and in the orientation towards forced suppression of political opponents inside the country and abroad.

From an ideological perspective, militarism reflected itself in implanting in the consciousness of the population "the enemy image" (meaning world capitalism and Zionism), in cultivating the necessity of being constantly ready for the coming war, in spreading the Messiah idea of carrying Communist beliefs to other countries even by force, and in the concept of class struggle permitting civil war.

From an educational perspective, it was taken for granted that everyone should participate in a course of primary military training and university students should have participated in a military course at special military departments and obtained the title of "junior reserve lieutenant".

It was not only Soviet formal organizations that were imbued with a sense of militarism. Totalitarian ideology, as well as the necessity of military service for the majority

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of men, resulted in corresponding values and behavior patterns penetrating deeply into the consciousness of the population and people's everyday life.

The majority of the people really and truly believed that the West wished to conquer the USSR and that they should be ready to repel military aggression from abroad. Moreover, the militarization of life in the USSR led to the idea being deeply-rooted in the consciousness of the people that conflicts and confrontation between states and people, and between social groups and even separate individuals, were allowed to be settled by force rather than by negotiation and according to international laws.

Perestroika, initiated by Gorbachev, had the slogan of stopping the confrontation between the USSR and the West, and bringing about the participation of the USSR in the World Community as a democratic State settling its contradictions with other states according to the law and not by force.

CPSU leaders began to speak about the necessity of curtailing the armed forces, reducing military expenditures, withdrawing Soviet troops from Eastern Europe, and carrying out the conversion of military production.

Actually, the intention to start demilitarization of the Soviet State and society began to take shape. However, under the conditions of preserving the CPSU, the KGB, the Union Defense Ministries, "the Big Nines" (industrial ministries in charge of military production), there was no room for real demilitarization and it could not begin.

It was only after the events of August 1991, with the disintegration of the USSR and the liquidation of the CPSU, that such conditions were created and the Yeltsin-Gaidar government embarked on the path of reforms.

The withdrawal of troops from abroad became intensive enough. Military expenditure was reduced. Plans of reforming the army, giving up universal military service and creating a professional army began to be developed. The conversion of military production began.

After some years of glasnost, the majority of the population no longer looked upon the West as its enemy and stopped thinking that there was someone out to conquer Russia.

Demilitarization became a part of government policy in Russia. For the first time military doctrine was elaborated and openly published where the "potential military enemy" was absent (the potential military enemy was the compulsory term for Soviet military officials to describe relations with the West). Russia is making an attempt to create a peaceful society with a peace oriented economy.

The actual success of this policy is dependent upon practical steps of many Russian civilian and military organizations—ministries, factories, research institutes—to make conversion, to produce civilian goods, and to carry out civil oriented R&D. In turn, the positive attitudes to develop civilian goods and R&D are the precondition of a successful demilitarization policy.

This paper is based on four investigations carried out with the author's participation during 1991–1993. Three of these investigations were fulfilled at the request of the Ministry of Science and Technical Policy of Russia.

The first investigation, carried out in the middle of 1992, was based on the data of a sociological survey of 565 managers in 21 institutes in Moscow, Novosibirsk, Voronezh, and Vladimir. There was a military organization engaged in R&D among the institutes. This contributed to making a preliminary analysis of the different situations that military R&D and civil institutes are faced with, and revealing the specific features of socio-economic problems inherent in both types of organizations.

The second investigation, carried out at the end of 1992, was based on a series of 13 interviews with researchers and managers of 7 Moscow and Kirov military R&D institutes. The subject matter of the interviews embraced a wide range of problems: the character of the institutes' activities, their socio-economic position, personnel situation, foreign ties, involvement in marketing relations, the changes they undergo in connection with the processes going on in the country, as well as the changes which the future may hold in store.

The third investigation, carried out in February–March 1993, included a sociological survey of 223 managers of five military R&D institutes in Moscow, St. Petersburg and Kirov. The problems to be analyzed were as follows: the situation within the institutes (carrying out R&D, the economic position and personnel situation, payment for work done), problems of R&D conversion, the managers' attitude towards Russian Government policy, the institutes foreign ties and their possible perspectives.

The fourth study, conducted by the Russian Centre for Public Opinion Research (VCIOM) in September 1993, polled 200 experts on the question about the short-term results of military conflicts in which Russia was involved at that moment. Politicians, government officials, scientists and journalists were among the experts.

Each of these investigations was not representative in the strict statistical sense of the word. The institutes and respondents were selected in an expert way because of the secrecy of statistical information concerning the military complex and the difficulties of organizing large-scale investigations of the objects in question.

However, according to competent experts, we have managed to grasp the main problems of military R&D institutes because the investigations embraced quite a large number of organizations belonging to different spheres of military science situated both in the center and in outlying districts, with both relatively good and bad economic positions.

The set of sociological instruments for the investigations was worked out by the author together with Professor R. Ryvkina (VCIOM). All possible errors and inaccuracies are the responsibility of the author.

The author expresses his gratitude to V. Valyukov, B. Odintsov, and B. Yurlov who are officials at the Russian Ministry of Science and Technical Policy for their assistance in organizing the investigations. The author is also grateful to the ETI Project at IIASA for providing technical support.

2 Demilitarization in Russia: Do Managers in Military R&D Institutes Support It?

The manager's attitudes to demilitarization in the context of their attitudes to economic and international affairs policy will be considered.

In order to clarify these attitudes managers were asked a few questions about their opinion concerning international policy, economic policy, policy in the military sphere, and particularly policy on conversion. There appears to be no unanimous opinion by the managers, on the contrary, there is quite a difference. They are split into two groups: the first supporting the policy, and the second against it. The share of the opponents is, on the whole, greater than that of the supporters (see Table 1).

It is an interesting contradiction between the negative attitudes to policy in the military sphere as a whole on the one hand, and a relatively positive opinion about conversion on the other hand. Many of the respondents polled are against the policy of weakening the armed forces, of declining the mobilizing ideology, of reducing the troops and cutting the expenses to personnel provision. But many support the restructuring of the economy in favor of the civilian sector. Being "indoctrinated realists" they would like to have potential economic benefits from conversion and preserve the high political status of armed forces simultaneously. The reason for this relatively developed orientation towards conversion is determined mostly due to the possibility of foreign contacts, the opportunity of fulfilling civilian commercial orders which are profitable to Russian military R&D institutes. Conversion offers prospects at a time when more than 60% of the State's military orders have been curtailed.

The relative support of foreign policy by the managers polled was unexpected. They voted for this policy in spite of the fact that it included the withdrawal of Russian troops from the former Soviet republics and Eastern Europe, drawing closer with the West, and unanimously opposing aggressive regimes of the Iraq type and other peaceful measures.

The analysis of the managers' attitudes towards government reforms presented the unexpected conclusion that the share of those against the demilitarization course of Russian society is not so great. In the meantime, the support of demilitarization is contradictory.

Table 1: The Attitude of Military Institutes' Managers Towards Russian Government Policy (%)

| Kinds of Policy | Consider | | Total |
|--|----------|-------|-------|
| | Right | Wrong | |
| Foreign policy | 46 | 54 | 100 |
| Economic policy | 18 | 82 | 100 |
| Policy in the military sphere (as a whole) | 15 | 85 | 100 |
| Conversion of military production | 41 | 59 | 100 |

The above-mentioned contradiction, in the estimations of the managers interviewed, will manifest itself even more clearly if their attitude to the main political conflict in Russia of the recent past—the conflict between the President and the Government on the one hand, and the Congress of People’s deputies and the Supreme Soviet on the other—is analyzed. The answers to the questions: “What is your position in the conflict? Whom do you support?” showed that the alternative to Yeltsin’s course, submitted by the deputies, still has less support:

| | |
|---|-----|
| | (%) |
| Supporting the President and the Government | 35 |
| Supporting Congress and the Supreme Soviet | 12 |
| Supporting neither | 47 |
| Other replies | 6 |
| Total | 100 |

Although the share of the opponents of the Russian government’s course was greater than that of its supporters, the alternative received even less support than the Government policy. It was the attitude of the managers to disintegrate themselves altogether from all state bodies and their activities but, at the same time, their support of some other “third” forces (for example, fascists or extreme Russian nationalists) was out of the question. The same attitude applied during the events of 3–4 October 1993 when the army at least supported the President and the Government.

The opinions expressed by the interviewed military institutes’ managers are analogous to those of other Russian social groups and reflect the social outlook of the country at large. Public opinion is far from being unanimous when appraising the reformers’ endeavors. It reflects the attempts to disintegrate from all sorts of power and suggested alternatives and is characterized by the non-acceptance of extreme groupings.

The considerations mentioned make it possible to conclude that under the conditions of unstable political equilibrium existing in Russia today one can hardly expect broad organized opposition to the course of reforms on the part of the group in question. It is not clear how long such a period will continue because the redundancy of MIC is vitally requested and nobody exactly knows its future reaction on the policy of cutting expenses. But clearly that “the political choice lies between mass unemployment, hyperinflation or a combination of the two: mass MIC liquidation will surely create serious unrest, so a long period of managed decline seems inevitable, assisted by operating subsidies that the West is unlikely to support, to be sustained from a state budget already in serious deficit” (Filatotchev, et al., 1993).

There is every reason to expect that the complicated problems facing the military institutes will not be solved by the managers by means of pressure upon the organs of power, demand for money and return to the old centralized distribution system. They will do their best to achieve their goals through their own efforts. However, the problems the institutes are faced with are really complex.

3 Looking at the Situation in Military Institutes

Before moving on to the changes in the military institutes under reform conditions and the managers' attitudes towards these reforms, a description will be made (without going into details) of what these institutes were like during the period preceding the reforms when the USSR still existed.

Military institutes were big organizations usually with 2,000 to 10,000 people. They were highly specialized organizations producing military technologies, including both R&D and engineering, as well as testing experimental units. They possessed an elaborate management structure often embracing a few dozen, and sometimes, hundreds of structural units scattered about the USSR's territory.

These organizations belonged entirely to the State. Their management was strictly centralized, the subject matter of their R&D was approved in a centralized manner and their financing was also centralized. The results of their work were not sold but passed on to consumers after approval of the authorities. The MIC institutes were created as an integral part of a uniform whole, being (functionally) mutually complementary, possessing a great deal of solidity considering the necessary stability of their work during war periods. It is clear, that economic considerations only played a subordinate role. The main objectives were military-strategic goals.

At present the external conditions of the work of the MIC have radically changed. Russia is experiencing a period of political and economic reforms. These presuppose the expansion of freedom in all spheres of life and military strategic priorities have stopped being first and foremost and have to give way to other goals. Contradiction has arisen between the old structure of the MIC (including R&D institutes) on the one hand, and new conditions and goals (particularly demilitarization) facing the country, on the other.

In order to understand how to solve the contradiction and make sure it will not lead to halting the reforms, it is necessary to analyze the situation arising in MIC institutions, the attitude of different groups of people working there towards the reforms and their behavior under changing conditions.

The Soviet system exercised strict state control over the situation in all military institutes. This situation was exceedingly stable due to four factors: (1) the military administrative regulations of the organizations' work, strict labor discipline and absolute secrecy; (2) a very high degree of centralization in MIC activities, very slight economic independence leading to the dominance of non-commodity relations and a very small role of financial regulators in the institutes' activities; (3) socio-economic benefits and privileges given to the institutes because of the priority position the MIC had in the USSR; and (4) great social stability of the Soviet society as a whole.

What is the situation in MIC institutes under reform conditions at present? During the previous one or two years, the majority of factors providing the former MIC stability no longer existed; the institutes had lost their former benefits in financing their R&D, in payment for work done, in material technical supply and social benefits (namely consumer

goods, boarding houses, hospitals, etc.). The disintegration of the CMEA and of the USSR has also had a negative effect on their position which, according to data obtained, is very grave. In answer to the question: "What is the situation in your institute?" only 1% of the managers considered it normal; 72% pointed out that the situation was grave but the main scientific potential has been preserved; 25% were of the opinion that the main scientific potential was lost and the institute had actually broken up (2% gave other answers).

According to the obtained data the position of the institutes, on the whole, changed for the worse during the last year:

| | |
|----------------------------------|-----|
| | (%) |
| The situation improved | 4 |
| The situation worsened | 86 |
| The situation remained unchanged | 10 |
| Total | 100 |

The estimates, however, are not so grave as to consider the situation disastrous, because the majority of the managers polled are of the opinion that in spite of the difficult position their institutes are in they have preserved their main potential and are quite efficient. This is also confirmed by data obtained during the interviews. According to the respondents, all the institutes possess R&D of great scientific value which are sure to be competitive on the world market of ideas and technologies. In the institutes there have already been instances of their R&D being a commercial success and yielding considerable profit. The matter was touched upon by about 23% of the managers interviewed in research units. In their view the share of such successful groups within each unit does not vary to a great extent from institute to institute (ranging from 12–25%). It is interesting to remark, that units involved in such R&D had to produce many commercially successful innovations—10 on average. The conclusion arrived at is that, although military institutes as a whole cannot survive without the State's support, the majority have competitive units which can exist under economic freedom conditions and create useful R&D.

However, in the present situation, the institutes have to curtail their R&D which they consider forward-looking, capable of bringing tangible scientific results or are commercially profitable. The conclusion is based on the answers to the question: "Was your institute (unit) forced to curtail perspective R&D in 1992 which, in your opinion, should be proceeded with?":

| | |
|---|-----|
| | (%) |
| No, we are proceeding with our R&D | 19 |
| Part of perspective R&D had to be curtailed | 64 |
| Almost all of perspective R&D had to be curtailed | 17 |
| Total | 100 |

32% of the respondents were of the opinion that the institutes were curtailing exclusively military R&D; 54% noted that the curtailment concerned partly military and partly civil R&D; according to 14% of the respondents the curtailed R&D were exclusively civil.

A respondent cited an instance to the point: "There is such an isotope, iodine-131, which is used in our medicine. No country in the world would use it (with the exception of our country) since its radioactive dose is 100 times greater than that of iodine-123, which they use abroad. Formerly the 4th Administration of the Ministry of Health attending Party leaders bought iodine-123 in France at the price of 2,000 dollars per 1 Kuri (since it is not produced in our country). Not long ago we devised a method which reduced the cost of iodine production to 200 rubles per 1 Kuri of iodine. At first, the Ministry financed us but then stopped doing it. We got a certain amount of iodine but we needed big installations for its industrial production. So we made arrangements with a firm which spent 150,000 rubles. We made an installation but did not manage to finish it as the firm was no longer able to finance us and so in December, 1991 everything was curtailed and stopped."

The curtailment of military institutes' activities is due to a large number of factors. These have been brought to light by obtaining answers to the following question: "What are the main difficulties in the work of your institute?" Among the difficulties, the managers mentioned the following:¹

| | |
|---|-----|
| | (%) |
| Insufficient financing | 63 |
| Disorganization of the financial system | 41 |
| Inadequate state orders | 36 |
| Lack of information about the State's intentions towards military institutes | 29 |
| The outflow of personnel | 27 |
| The shortage of resources | 20 |
| Poor work of ministries and departments | 12 |
| The uncontrollability of personnel | 16 |
| Lack of foreign orders | 4 |

The above-mentioned difficulties can be divided into two groups. The first group embraces difficulties of the external socio-economic environment, where the institutes exist (these are external difficulties). The second group includes difficulties inherent in the institutes themselves. According to the leaders, the main factors hampering the institutes' functioning lie outside them and are connected with the State.

Both groups of difficulties will now be considered in detail. Financial difficulties are the greatest among those the institutes encounter. According to the managers' estimates, the institutes are provided with 48% of the necessary funding, considering the number of employees, their possibilities and research facilities of the organizations. To put it

¹Since the respondents were allowed to choose more than one variant the total does not equal 100%.

another way, a good half of the personnel, the industrial premises and equipment can not work at full capacity. Naturally, all this makes the managers search intensively for orders and their search brings certain results. At present, half of the money received by the investigated military institutes is granted by the State budget, 38% is obtained through the state enterprises' own funds, 11% is provided for by new business firms, and foreign customers account for 1%.

The present situation reveals a very weak internal demand for R&D: the Government has been forced to reduce it, while the arising private sector is not strong enough and competition within it is not high enough to give rise to a substantial private demand for innovations. The decline in demand is aggravated by the general disorganization of the state machine, and the struggle of different political groupings for power which results in the constant changes of instructions and directions. Besides, the transition from the centralized to the market system has disorganized the financial system and has appeared to be very painful to all Russian organizations, military institutes included.

The personnel in the USSR military organizations was characterized by exceptional stability. To get a job in "a military" was extremely difficult. People anticipated their jobs for life and, as a rule, never left the work place of their own accord. Now, the situation has cardinally changed because of external transformations. These resulted in the loss of personnel stability and many research groups are disintegrating. This is confirmed by the interviewed managers' estimates concerning the stability of their personnel:

| | |
|---|-----|
| | (%) |
| The research group is stable on the whole | 38 |
| There is a stable nucleus, the other parts are often changing | 30 |
| The group is disintegrating | 32 |
| Total | 100 |

The disintegration of research groups is accompanied by the reduction in the number of those employed in military institutes. This reduction (against the background of the increase in the number of those employed in the military institutes in 1985) reached approximately 40% in 1992, according to the estimates of the managers polled. For the last two or three years the institutes' personnel was reduced 2–2.5 times. It was a healthy process in many respects since, in the majority of the units (in the opinion of the polled managers), the number of those employed was set too high envisaging the possible needs of a war period.

According to the obtained data, the first to leave are leading researchers, experienced, well-educated specialists. The share of specialists of this type has dropped to 15–20% compared with previous years. The number of researchers with scientific degrees is decreasing. For example, in one of the investigated institutes the number of candidates of science has dropped 45% to pre-reform level and that of doctors of science to 1/3.

According to the expert estimation of a design bureau researcher in the aircraft industry, the section of researchers constituting the scientific potential of the unit amounts

to 10–15% of the total number of researchers and engineers. It is this section (according to the majority of those polled) that decreased in the military institutes with the utmost speed. The same tendencies emerged in other branches of science, for example, in basic research (see, for instance, Klistorin, 1993).

94% of the managers are of the opinion that people are leaving their jobs because of low wages. At the time of the survey (at the beginning of 1993) the researchers' wages totalled 10,500 rubles, which is almost 25% less than the Russian Federation's average.

What jobs do military institutes' researchers take? According to the managers' estimates they leave for the following organizations:²

| | (%) |
|---|-----|
| Business firms not involved in science | 81 |
| Firms dealing with R&D | 37 |
| Plants, industrial enterprises | 28 |
| Other units of the same institute | 17 |
| Other research institutes | 9 |
| Government (local and federal) administration | 8 |
| Other organizations | 4 |

Although, according to our data, none of the investigated institutes' researchers took a job abroad, some of them are willing to do so (in the opinion of the managers). The share of those willing to do this constitutes a little more than 1/5 of all of the researchers, and it reaches about 40% of the younger ones.

The brain drain in the basic research sector has actually begun: according to some estimations about 5–10% of researchers really emigrated during the last few years from, for example, Novosibirsk Academytown (Klistorin, *ibid.*, p. 35). Western specialists evaluate that at the moment emigration "is one of the main ways in which the countries of Central and Eastern Europe can rejoin the international scientific community, and it enables their researchers to receive further training internationally" (Tinguy and Weden, 1993). Thus, the personnel situation in the investigated institutes has deteriorated and there are no grounds to suppose its further improvement.

The working regulations and strict secrecy in military institutes, always extreme in the USSR, were controlled by the secret service placed under the command of the KGB. However, during the process of reforms certain changes also took place in this sphere. These were opposite in character:

1. The effect of the changes was to ease working regulations and control over the behavior of those employed;
2. The working regulations were even more toughened in some institutes.

²Since the respondents were allowed to choose more than one variant the total does not equal 100%.

These changes resulted from the different kinds of policy pursued by the institutes' managers. In the institutes where managers were striving to preserve the personnel nucleus, working regulations were considerably eased. The following measures were introduced. People were allowed to do some extra work in new business firms in addition to their main work, they were no longer forced to work according to a strict schedule, their working week was short, and so on. It became customary to allow quite a large number of researchers go on leave if there were no orders and do work elsewhere. Thus, for example, in the investigated institutes 1/10 of those employed worked part-time.

During an interview, a researcher from a Moscow design bureau, illustrated the changes following the easing of working regulations as follows: "Many scientists are participating in the work of joint ventures and other new business firms, attached to the institutes. This has become possible only of late. But their business activities are not limited to the inside ones; they may also take up jobs and earn money somewhere else. This is due to a greater ease of passage regulations in the design bureau. Now during the working day they may leave the institute grounds of their own accord. Working in business, scientists can now increase their earnings 2 or 3 times, remaining on the staff of the bureau. Thus a free hand given to the scientists by the managers makes for the improvement of their living standards and keeps them within the framework of the institute".

The easing of working regulations reflected the institutes' managers reaction towards outside changes. One of the respondents admitted: "If we had not eased the working regulations there would have been no researcher in the institute at all".

However, in some institutes they still aimed at toughening working conditions. This took place in the institutes where the managers wanted to reduce the number of those employed (for example, when striving to decrease the number of potential participants of the institutes' property privatization process). Such toughening of working regulations manifested itself in the struggle to raise labor discipline, in the ban to combine jobs, in the preservation of strict secrecy to the full, and so on.

On the whole, the easing of working regulations and secrecy prevailed, and so the necessary prerequisites were created for the institutes and their R&D to become more "open" under economic freedom conditions. But the new conditions (in the opinion of the polled managers) would not let them "disclose themselves to the utmost", because business considerations also require secrecy. But the way of keeping secrets of this kind is quite different from the manner military secrets are kept from foreign intelligence service agents.

This has had an effect on both easing passage regulations and, to some extent, easing secrecy in military institutes. Participation in outside business activities also meant greater openness in the work of military institutes.

As of the middle of 1992 it has been noted that military institutes are involved in commercial affairs even more than civil institutes. This involvement has increased since then.

The involvement of military institutes into commercial affairs activities is being realized with the support of business firms founded by their own device: small enterprises, limited liability companies, joint stock companies, commercial centers, etc. The foundation activity of the reviewed institutes has taken on rather a large scale: according to estimations an average of about seven firms have been set up with Russian capital and two joint ventures for each of these institutes within their frames.

There are two ways of founding business firms in the military R&D sector. The first is bottom-up. An ambitious scientist with business qualities leaves the institute and creates his own firm (outside of his former organization, as a rule, because he is usually hindered there by the management). Then he supplies the orders to the people he knows well and whose quality of work he is assured. The second is top-down. The firm is founded by the managers of the institute, and some portion of the employees (usually close to the managers) are included in the staff of the firm. The managers, using their position and connections, look for orders and legalize them via the firm.

Not all of the employees in the institute partake in the business activity of business firms—about 13% usually, and their payment is higher compared to others. The gap in payments between workers at the same level in various units is four times higher according to data received. This provokes conflicts and stimulates people to leave the units which do not possess market orders.

The activities of newly created business firms are mainly of a non-scientific character, and account for about 71% of the total production. The activity is diverse: it may be the maintenance of high technologies and transport services and commercial intermediary operations. The R&D and their implementation account for only 27% of the total production of business firms. However, their total scope of activity is not so small, being about 11% of the total production of the parent organization.

Naturally, the control over the activity of the firms under military institutes is considerably weaker than that over the work of the institutes themselves which, in principle, is creating conditions for the uncontrollable leakage of military technologies. It is necessary to study in detail the available experience of work at business firms under the institutes with a military profile, and then, on the basis of the studies to elaborate a special legislature regime of cooperation of such institutes with the firms. This regime must indicate the rights and responsibilities of officials and personnel, methods of settling mutual pretensions between them, etc. With this legal basis in existence, the process of creating and operating business firms under state military R&D organizations could continue in relatively secure forms and could confine possible leakages of military technologies abroad. In addition, this danger could be minimized with the successful conversion of military R&D.

There is no unanimous understanding, at present, as to how the conversion in military institutes should take place, which stages it should pass through, which financial resources it will require, and specifically in what it will result. Moreover, there is not even an approximate understanding of the conversion conception in a military institute. Therefore, we started studying conversion problems with the following question to the

managers: "There is much talk about conversion at present. What is your understanding of conversion?" This revealed a certain diversity of opinions:

| | (%) |
|---|-----------|
| Total renunciation of military industry production; cease of military R&D | 1 |
| Total stoppage of the production of offensive armaments and corresponding R&D | 4 |
| Fulfillment of former military orders on a smaller scale | 49 |
| Retaining military orders at the previous level with increasing civil activities | 34 |
| Others | 12 |
| <hr/> Total | <hr/> 100 |

The most popular idea of conversion is in diminishing the size of military orders and retaining previous topics of work. Such understanding of conversion is, of course, very comfortable for military institutes, but is hardly acceptable for society.

This understanding of conversion is giving rise to the idea of proper conversion which should take place in the institutes of the respondents. The opinion of the respondents is that the conversion in their institutes should be as follows:

| | (%) |
|--|-----------|
| Fulfillment of only military R&D (no conversion is needed) | 3 |
| Fulfillment of individual civil R&D | 24 |
| Fulfillment of civil and military R&D on an equal basis | 63 |
| Fulfillment of predominantly civil R&D | 9 |
| We are already fulfilling only civil R&D | 1 |
| <hr/> Total | <hr/> 100 |

The surveyed managers think conversion in their organizations should lead to the fulfillment of military and civil R&D in their institutes on an equal basis. However, already at present, only 55% of financial resources are spent on military R&D. Accordingly, 45% are spent on civil R&D. So, the conversion in the above mentioned sense has already taken place.

Civil R&D has indeed occupied an important place in the activity of the surveyed military institutes. Almost 3/4 of the units were implementing them in 1992, and not in small quantities (on average, a division fulfilled 14 civil orders). Only 26% of the units did not fulfill such orders.

There is considerable potential for conducting conversion in the surveyed institutes, by the assessments of the respondents: 94% have pointed out that their divisions could fulfill more civil R&D than they do nowadays. The research groups of the military institutes could, by the managers' assessments, increase the volume of civil R&D by 55% given sufficient demand. Moreover, about 2/3 of the respondents indicated that in perspective

their units could transit to implementing entirely civil R&D. In their opinion, it would require a rather long period of five years, on average.

The successful transition to civil R&D is certainly possible only with the positive attitudes of scientists, engineers, and administration towards conversion. Therefore the attitude of the military institutes' personnel towards conversion in their organization was assessed. The following assessments have been received.

| | |
|---|-----------|
| Attitude towards conversion as distributed in the research group: | (%) |
| Positive | 45 |
| Negative | 34 |
| Indifferent | 21 |
| <hr/> Total | <hr/> 100 |

Although a significant part of the people among the surveyed military institutes regard conversion negatively, the positive attitude still dominates. Thus, it is possible to draw the conclusion that there is a certain psychological readiness of the people for conversion in military institutes.

To realize this readiness it is necessary to create economic, legal, and organizational conditions which could stimulate the conversion. It seems that the leading role in creating such conditions should be played by the State. In order to find out what is specifically needed on the part of the State to really stimulate the conversion so that most military institutes could start fulfilling civil R&D, managers were asked the following question: "What must be done by the state to provide the transition of your institute to the fulfillment of civil orders?" In the opinion of the respondents, the following measures are necessary:³

| | |
|--|-----|
| | (%) |
| To give a state order for civil R&D | 60 |
| To allocate money from the budget specifically for the transition to civil orders | 53 |
| To free civil R&D of military institutes from taxes | 30 |
| To allow the privatization of the property of the institutes | 9 |
| To make an inventory of the R&D, to leave only a small part of the really secret ones as closed topics | 8 |
| Other measures | 4 |

The managers are mainly claiming for financial demands from the State and are almost not mentioning the necessity of adapting legislature measures. This is explained by the fact that frequent changes of "the rules of the game" by the State have shaken people's faith in its legislature activity.

The respondents realize that for real conversion not only the efforts from the State are needed, but also changes inside the institutes themselves: changes in management

³Since the respondents were allowed to choose more than one variant the total does not equal 100%

structure, working regulations, and retraining of some personnel. 31% of the managers state that in their units the process of retraining is already going on in connection with the fulfillment of civil orders, 20% of the respondents intend to conduct retraining, and 49% do not intend. In the assessments of the managers conducting retraining about 1/5 of their workers are being retrained. At the same time, the scope of retraining is insufficient, in the opinion of respondents, and it is necessary to additionally retrain another 1/4 approximately of the total staff available for the successful transition to civil R&D. Having realized that it is not possible to provide for conversion without retraining in the long run, more than half, 56%, of the respondents intend to conduct it in future (the other 44% have no such intention).

It seems that, in principle, there are favorable social-psychological conditions to conduct conversion in military institutes. They have accumulated some serious experience of fulfilling civil R&D. In this situation one of the key conditions for successfully implementing conversion is the availability of effective demand (whether State or private demand) for civil R&D. If such demand is not formed in Russia in the nearest future, it will be difficult to expect evidently a "voluntary conversion" on the part of military institutes.

The situation, therefore, in the investigated military institutes, according to the estimates of those polled, was getting worse, on the whole. However, this worsening possessed certain elements for revival. The managers expressed much concern about the lack of orders for their R&D resulting in a shortage of financial resources. They were forced to search for orders and work for real customers because the State budget stopped financing them as it did previously, practically meeting all their needs.

In the meantime, great differences in working conditions among military institutes emerged recently. In the old centralized system, the State controlled these conditions and supervised to smoothen wages, working regulations, etc., in various organizations. With economic freedom in some military institutes, the socio-economic situation became significantly worse, in others it did not change, but the position of a few organizations improved. In order to know what are the potential changes in the working conditions of military institutes, it is necessary to analyze the differences in stable and disintegrating organizations.

4 The Situation in Stable and Disintegrating Institutes: A Comparative Analysis

The comparison of the situation in different institutes were classified according to managers' answers to the question: "What is the situation in your institute?". Using the answers presented above (1% replied that the situation is normal, 72% that the situation is hard, but main science capabilities remained, 25% that the capabilities are lost, 2% other replies) the situation was analyzed as a whole. The answers in different institutes is now compared.

Table 2: The Variations of Managers' Estimations of the Situation in the Surveyed Institutes (%)

| Institutes | The Situation in the Institute | | Total |
|------------|-----------------------------------|---|-------|
| | Hard but Potential is Retained | The Organization has Practically Disintegrated | |
| 1 | 64 | 36 | 100 |
| 2 | 43 | 57 | 100 |
| 3 | 73 | 27 | 100 |
| 4 | 91 | 9 | 100 |
| 5 | 76 | 24 | 100 |
| Average | 74 | 26 | 100 |

In each of the surveyed institutes there were managers estimating the situation in a different way. However, although unanimity was not achieved, the assessments were strikingly different between the institutes (Table 2).⁴

The author has made the classification of the institutes on the basis of these evaluations. The institutes numbered 1 and 2 were classified as the first group of organizations where the situation is unstable; and the institutes numbered 3, 4, and 5 as the second group with a relatively stable situation. The organization was considered unstable if 1/3 of its managers of the units thought it had actually disintegrated, and the others thought its situation was hard. This figure (1/3) was used as a counting threshold. The conversations held in the institutes have also shown that the situation in the organizations selected by this principle is close to critical.

Among the surveyed people there were 30% working in two unstable institutes, and 70% in three relatively stable ones. But what is the actual difference between military institutes of two types? Firstly, the unstable organizations are characterized by a high degree of instability in the personnel situation (Table 3).⁵ The differences in assessments of stability of the research groups between the types of institutes are statistically significant: the share of stable groups in stable institutes is more than twice that of the unstable ones. The latter are characterized by the groups with a stable personnel nucleus (and mobile other parts of personnel) as well as by the disintegrating one. Thus, by the managers' assessments obtained, there are about 40% of non-viable, disintegrating groups in unstable institutes, while in relatively stable organizations their number is only slightly over one fourth.

Secondly, unstable military institutes are mainly those which have mostly retained their previous R&D. And on the contrary, the organizations which have refrained from

⁴The data do not account for "the other replies". The answers "the situation is normal" were adjoined to the replies "the situation is hard, but the main scientific potential remained" because there were not many and it did not distort the general picture of estimation differences.

⁵The staff of the research units in the institutes: laboratories, sectors, departments, etc., is meant.

Table 3: The Differences in Research Groups Stability Assessments by Managers in Unstable and Stable Institutes (%)

| Types of Institutes | Research Groups | | | Total |
|---------------------|-----------------|----------------|----------------|-------|
| | Stable | Stable Nucleus | Disintegrating | |
| Unstable | 21 | 40 | 39 | 100 |
| Stable | 46 | 26 | 28 | 100 |
| Average | 39 | 30 | 31 | 100 |

Table 4: The State of Prospective R&D in Stable and Unstable Military Institutes (assessments by managers, %)

| Types of Institutes | Prospective R&D | | | Total |
|---------------------|-------------------------|---------------------|-----------------------------|-------|
| | Everything is Continued | Partially Curtailed | Almost Completely Curtailed | |
| Unstable | 46 | 37 | 17 | 100 |
| Stable | 9 | 74 | 17 | 100 |
| Average | 19 | 64 | 17 | 100 |

even prospective military R&D, have found themselves in a far better situation (Table 4).⁶

Although ceasing promising R&D took place in both more or less stable and unstable organizations, the types of research being curtailed in these two types of institutes were different. Military R&D were mostly curtailed in stable organizations, and civil ones in unstable institutes (Table 5).

Of course, R&D in the institutes surveyed were not only curtailed but also initiated: about 3/4 of the units started new research in the organizations of both types in 1992–1993. However they initiated different research: military R&D relatively more often in unstable institutes, and civil ones in stable organizations (Table 6). One should notice, however, that in both types of institutes civil R&D were initiated more often than military ones.

Following on from what is mentioned above in contrast to the unstable institutes, those which managed to better adapt themselves to the changes in the country possess relatively more stable personnel and are more oriented for conversion and changing their R&D for the demand of the civil sector. The unstable organization, on the contrary, despite high mobility of the personnel, remained more conservative and reacted insufficiently and slowly to the changing demand for R&D. But before discussing the reasons for those variations, the differences in social moods and behavior at enterprises of different types will be considered.

⁶The table is based on managers' replies to the question: "Was your unit forced to curtail prospective R&D in 1992–1993 which, in your opinion, had to be continued?"

Table 5: Types of R&D which were being Curtailed in Relatively Stable and Unstable Institutes (%)

| Types of Institutes | Mainly the Following R&D were Curtailed | | | Total |
|---------------------|---|----------------------------|----------|-------|
| | Civil | Military and Civil Equally | Military | |
| Unstable | 27 | 46 | 27 | 100 |
| Stable | 11 | 55 | 34 | 100 |
| Average | 13 | 54 | 33 | 100 |

Table 6: Types of R&D which were Initiated in Various Military Institutes in 1992-1993 (%)

| Types of Institutes | Mainly the Following R&D were Initiated | | | Total |
|---------------------|---|-------|----------------------------|-------|
| | Military | Civil | Military and Civil Equally | |
| Unstable | 32 | 44 | 24 | 100 |
| Stable | 24 | 53 | 23 | 100 |
| Average | 26 | 51 | 23 | 100 |

As a result of the differences in the situation the social moods and economic behavior of people is notably diverse in the institutes. These differences in moods are revealed in the assessments by managers of the future in their organizations (Table 7).⁷

Those managers thinking their organization will no longer exist or nothing will be changed constitute a relative majority in unstable organizations. The managers of the stable institutes expect more changes. Some of them think their organization will become a non-state institute or stop R&D completely. And these opinions have sufficient grounding.

The managers in the stable institutes on the whole are more optimistic and confident about the future. The same mood is evidently typical for the personnel in these institutes. Consequently the possible leakage of military technologies abroad is less likely in these institutes (Table 8).⁸

These data confirm a rather common but rarely adequately grounded conception of the MIC danger proportional to social tension. The detente of social tension is urgent not only for its own sake, but also for the security of society.

⁷The estimations were obtained from the answers to the question: "How do you imagine your institute in 1-2 years? How will its economic status and profile change?". Since the respondents were allowed to choose more than one variant the total does not equal 100%.

⁸The assessments were received from the replies to the question: "What do you think, if the present tendencies remain, will you be compelled to sell military R&D abroad in the nearest future?"

Table 7: The Estimations by Managers of the Future in their Institutes (%)

| Types of Institutes | The Potential Events will Emerge: | | | | |
|---------------------|-----------------------------------|---------------------|---|----------------------|------------------------------|
| | R&D Level will Increase | Nothing will Change | The Institute will No Longer be State Owned | There will be No R&D | The Institute will be Closed |
| Unstable | 9 | 59 | 0 | 21 | 16 |
| Stable | 10 | 42 | 16 | 39 | 11 |
| Average | 10 | 47 | 11 | 34 | 12 |

Table 8: Diversified Assessments of Possibilities to Sell Military Technologies Abroad in the Nearest Future (%)

| Institutes | Will be Compelled | No | Total |
|------------|-------------------|----|-------|
| Unstable | 71 | 29 | 100 |
| Stable | 38 | 62 | 100 |
| Average | 46 | 54 | 100 |

Social tension and potential danger from Russian MIC forced the analysis of the factors of variation among stable and disintegrating institutes in order to know why some of them have a relatively good position and others are in trouble.

The variation in question is provoked by two groups of factors: objective and subjective. The former are the branch of science and possibilities to conversion, quality of available equipment and instruments, structure of financing, loss of contacts with the institutes and plants from the former USSR republics, etc. These will be discussed in detail.

The analysis shows that objective factors explain, to a great extent, the differences in the position of the institutes of various types. First of all, the research facilities are notably better in stable organizations (Table 9). Almost 2/3 of the respondents from these organizations think that the research facilities are quite satisfactory although lower compared to world standards (only 1/3 think it is out of date). This is quite different in the unstable institutes where more than half of the respondents claim the equipment of their organizations to be out of date.

The state of instruments and equipment is, of course, an important factor determining the position of an organization under market conditions, however the availability of orders and financing is even more important. And here, paradoxical as it may be, the situation seems completely opposite. By managers' assessments in the stable institutes, their units are only financially provided for 44%, while in unstable ones this figure is almost 1.5 times higher and constitutes 61%.⁹

⁹This was found in the answers of the managers to the question: "How much is your unit financially provided approximately, taking into account the size of personnel and research capabilities, as well as equipment and instruments available?"

Table 9: Differences in Equipment and Instruments in the Institutes of Various Types (%)

| Types of Institutes | Equipment and Instruments | | | Total |
|---------------------|---------------------------|---|-------------|-------|
| | At the World Level | Lower than World Level but Satisfactory | Out of Date | |
| Unstable | 0 | 46 | 54 | 100 |
| Stable | 7 | 60 | 33 | 100 |
| Average | 5 | 56 | 39 | 100 |

Table 10: The Structure of Financing R&D in Military Institutes by Managers' Assessments (%)

| Types of Institutes | Financing Share on Account of: | | | | Total |
|---------------------|--------------------------------|-------------------|------------------------|-------------------|-------|
| | State Budget | State Enterprises | Russian Business Firms | Foreign Customers | |
| Unstable | 56 | 31 | 22 | 1 | 100 |
| Stable | 52 | 39 | 7 | 2 | 100 |
| Average | 53 | 38 | 8 | 1 | 100 |

This paradox may partially be explained if one considers the financing structure (Table 10).

The unstable military institutes have relatively more funding from the budget, while the stable organizations—on account of the orders from the state enterprises. The former ones receive more money from Russian business. Therefore, the stable institutes are actually the organizations which have retained their traditional links with state enterprises and work to their orders, despite the fact that the stable institutes are suffering from a reduction of budget funding relatively much more than the unstable ones. This is seen from the replies to the question: "Why was it necessary to stop R&D?". The reason for the unstable enterprises—"reduction of budget financing" occupies second place (indicated by only 47% of the respondents) and for the stable ones, first place (77%). The reduction of budget funding was presumably helpful for those working with better quality and close contacts with state enterprises which they managed to retain.

The third factor which aggravated the situation in a number of institutes is the loss of partners and customers in the former USSR republics. This loss, as a result of curtailing the work in unstable organizations, was indicated in the replies to the question almost three times more frequently (31% versus 11%) in the stable institutes. The situation was naturally more complicated for those possessing units, customers and consumers in the former republics of the Soviet Union than for those who did not possess any. They were simply unable to fulfill many contracts because of the lack of qualified personnel and

Table 11: The Assessments of the Adequacy of Fulfilled Civil Orders to Research Capabilities of the Institutes (%)

| Types of Institutes | The Adequacy of Orders: | | | Total |
|---------------------|-------------------------|------------|---|-------|
| | Adequate | Too Simple | Not Corresponding to the Profile of the Institute | |
| Unstable | 66 | 19 | 15 | 100 |
| Stable | 80 | 14 | 6 | 100 |
| Average | 70 | 15 | 8 | 100 |

necessary equipment. Evidently, neither relatively high funding from the budget, nor the orders from business, can still make up these losses.

And, finally, the fourth objective factor which caused differences in the position of the institutes—the kind of their specialization: whether it be narrow or wide. Those specialized in a strictly limited military sphere of R&D and possessing adequate instruments and equipment, personnel and experience of work, appeared to be in a worse situation (Table 11). Important evidence of such inadequacy is also the necessity of retraining personnel for making conversion. Thus, in their answers to the question: “What percentage approximately of your staff need to be retrained for the conversion?” the managers in stable institutes pointed out 24% versus one third of them in the unstable organizations. It is more difficult for the latter to find civil orders and to be able to fulfill them using the available experience of R&D, instruments and equipment without additional specialists from the outside. Therefore, even if there is potentially general demand for new civil R&D, the strictly specialized military institutes are unable to fully meet it.

Thus, there is a number of objective factors which have predetermined a hard situation in some military institutes. However, the total complex of these factors is contradictory. For example, the situation with financing of R&D in the institutes assessed by their managers as unstable, has turned out notably better than in the organizations, where, by managers’ estimations, the situation was relatively stable. It is impossible to explain exhaustively the revealed paradox within the frames of the considered objective factors. This testifies the necessity of a more profound analysis of the system of factors presently influencing the position of the military institutes.

Among the subjective factors determining the position of organizations are: the managers’ capability for conducting and actually conducting various types of policy in favor of their institutes, labor mobility, involvement of personnel into business activities, personnel’s identification with the organization, wages of personnel. The main factor, in actual conditions, (in the author’s opinion) is the policy that the managers implemented will be considered.

According to the analysis, the policy conducted by the administration in relation to their organizations varies greatly in the institutes of different types.

Table 12: The Estimations of Variations in Labor Mobility in Institutes of Various Types (in % to total number of personnel at the beginning of 1992)

| Types of Institutes | Leaving of Their | | | Reduction of in Number |
|---------------------|------------------|------------|----------|------------------------|
| | Dismissed | Own Accord | Entering | |
| Unstable | 13 | 18 | 4 | 27 |
| Stable | 23 | 15 | 1 | 37 |
| Average | 18 | 16 | 2 | 32 |

Table 13: Evaluations of Official Wages of Different Groups, Rubles

| Types of Institutes | Wages | | |
|---------------------|----------------|------------|---------------------|
| | Administration | Scientists | Technical Personnel |
| Unstable | 20,086 | 10,854 | 8,486 |
| Stable | 17,259 | 10,322 | 7,003 |
| Average | 17,960 | 10,458 | 7,368 |

The staff policy differs above all. It is rigid in stable institutes and consists of purposeful redundancy of workers with restricted employment (Table 12).

It is interesting to point out that stable institutes appear less stable than unstable if judged by purely quantitative data, which seems contradictory to the conclusions above. However, a relatively more significant reduction of the number of personnel in stable institutes is the result of purposeful personnel policy: the people relatively less frequently left their institutes on their own accord, but they were dismissed relatively more often.

So redundancy, as such, is not an unfavorable situation indicator in itself; it is important to know what processes determine this redundancy. In more stable institutes it evidently testifies to the improvement of the situation, to the normal adaptation of the institutes to new environmental conditions. They retain stability due to the policy of purposeful redundancies and a rather considerable decrease of the total number of personnel.

Besides the staff policy, the wages policy also differs greatly. As far as the official wage level is concerned, the situation seems also unexpectedly paradoxical at first glance: its level on the whole and by groups is somewhat higher in unstable institutes (Table 13). An endeavor to explain this will be made later.

It should be pointed out that the differences in the policy are more striking regarding payments in various units: in unstable institutes the discrepancy is three times and in the stable ones five times.

The important variations are taking place in the strategy of development of the business firms under the institutes. Their quantity, scope and nature of activity show the degree of involvement of the surveyed organizations in the business activity. The number

of such firms is considerably higher in stable institutes: nine versus three in the unstable ones. They are also different in the nature of their activities in institutes of various types. In stable organizations this activity is relatively more oriented at production-commercial targets—72% against 59% of the total output of the business activity, while in the unstable organizations it is aimed at the development and extension of R&D—33% against 26%. (8% in unstable organizations and 2% in stable ones are otherwise directed). Even the commercial success of R&D, more often achieved in unstable institutes, could not change the situation in them, not allowing to compensate the negative effect of other unfavorable factors. 30% of unit managers in the unstable institutes indicated that they had commercially successful R&D, reaching 18 R&D per unit on average, against 20% or only three commercially successful R&D per unit in the stable institutes.

A high degree of involvement of the institutes into the business activity where, by managers' estimations, the situation was relatively favorable, is ensuring considerable revenues not accounted by official wages. Therefore, relatively high wages in unstable institutes are presumably incomparable with the additional incomes obtainable from the business activity which is more practiced in the institutes of another type.

Therefore, the diversified policy conducted by the managers in institutes of various types was one of the main reasons why some of them have managed to adapt themselves to the changes and others could not. And consequently, some institutes appeared in a relatively stable situation and others are disintegrating.

5 Instead of a Conclusion: Is There Neo-militarism in Russia?

Two contradictory processes are developing in Russia now. The first is demilitarization including the reduction of the arms role in public and State policy. The second is the emergence of neo-militarism in Russia.

Demilitarization started against the background of sharp socio-economic and political contradictions. Beyond Russia's frontiers there were about 25 million ethnic Russians who found themselves under the pressure of dominating nationalities. This has given rise to constant tension in Russia's relations with the former republics of the USSR. The boundaries of the country are the scenes of endless armed conflicts, having a destabilizing effect on the situation in Russia.

In September 1993, 200 experts were asked to evaluate the closed results (half of the year period) of war conflicts on Russian boundaries. They answered:¹⁰

¹⁰We asked the experts: "What do you think about closed (half of the year) results of wars Russia participated in at the moment?"

| | (%) |
|---|-----|
| All war conflicts will be solved via political means | 9 |
| Only part of the conflicts will be solved via political means | 60 |
| All wars Russia is involved in will continue | 6 |
| Some new wars will emerge in addition to current conflicts | 24 |
| Do not know | 1 |
| Total | 100 |

Most experts did not expect the near termination of all the wars with Russia's participation. However, they were not pessimists concerning all conflicts. Temporary silence in Pridnestrovie, Abkhazia, Prigorodniy rajon, and some other regions, confirms that it is possible to get fragile peace in favor of political efforts.

Unfortunately some new war provoked factors have emerged recently. Firstly, the 3-4 October 1993 events, which gave the population and politicians the experience of real civil war in Russia. As a result of these events, some nationalist and communist groupings changed their behavior and concentrated on the illegal methods of opposition. These groupings are small in size but well organized and well trained. The militia and the Ministry of Security are in trouble now, the staff are focussing on their own economic problems and unlikely have the capabilities to control the activities of these groupings.

Secondly, the new war provoked factor is the election of Zhirinovskiy to the Federal Assembly. This event itself cannot provoke any war, but Zhirinovskiy (in spite of the fact that he is not a "pure Russian") is propagating the new ideological spirit of "protection of suffered Russians" in the republics of the former USSR and the creation of a new Russia in territories where Russians are dominated quantitatively. Certainly this may produce additional tension between Russia and some neighbors (particularly, Kazakhstan, the Baltic states, Moldova, and internal national autonomies such as Tatarstan, Bashkortostan, Chechnia, Buratiya, and Tuva). Except this consequence the aggressiveness among the population may also increase in Russia, favorably provoking the social climate for war.

A number of economic problems can hardly be resolved: inflation, slump in production, the decrease of the purchasing power of the ruble. Thus conversion faces serious difficulties. The privatization process is not fast enough, the conditions for private enterprise have not yet been created. Social problems are still sharpening: living standards are being reduced, the span of life is being shortened, crime and terrorism are rising. Under such conditions attempts at demilitarization are encountering opposition both on the part of the State and society.

Great pressure was being made by the army and MIC on the Government, forcing it not to reduce defense expenditure. Different State bodies were elaborating conceptions of toughening Russia's foreign policy as regards its attitude towards its neighbors. The conception of the so-called "economic conversion" has been, to some extent, popular of late among Russian MIC managers. This conception is based on the assumption that

genuine conversion can be executed only at a time when money for its implementation has already been secured by the sales of arms abroad. Consequently arms production should be intensified, the product sold, and it is only then that conversion could be started.

If one refers to military science, a note should be made about the danger of poorly controlled sales of Russian military technology abroad, caused by the position of military institutes becoming more complicated in conditions of increasing economic and political freedom. For a long time possible dangers in this sphere have already given rise to apprehension both in the West and in Russia (see, for example, Walker, 1992).¹¹ With a few exceptions, though, this apprehension is far from being ill-grounded. This has also been proved by the opinion poll of military institutes' managers carried out in 1993, when they were asked the question: "Are you writing a lot that military institutes are forced to sell their R&D abroad?"—55% of those polled answered affirmatively; 44% negatively. 90% of the managers noted that these were isolated instances; 7% stated that about half of R&D is sold abroad, and 3% were of the opinion that almost all R&D is sold out.

Although the majority of R&D sold abroad is probably officially permitted, there is a possibility of an undesired leakage of military technology because of the ill-balanced mechanism of Russia's foreign ties and the country's almost transparent borders with the former Soviet Republics.

Not only formal organizations slow down demilitarization in Russia. The residents of Russia, possessed by the fear of the growth of crime coupled with the inactivity of the militia, are trying to provide themselves with any means of defense: they buy knives, gas-cylinders, gas pistols, guns, and other weapons.

In the country some national-patriotic parties and various movements, possessing groups of well-trained fighters, were formed and joined unions. Private businesses created rather big and well-equipped security systems to defend their properties.

Little by little the climate of neo-militarism is emerging in the country. To put it differently, the neo-militarization of Russia from the bottom-up, now underway, can be looked upon as a sort of reaction to the most complicated political and socioeconomic problems which confront the country during the transition period. It is dramatically important to obtain the answer to the question which of these processes, demilitarization or militarization, will get the upper hand. At the moment it is not too late to stop neo-militarization.

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