

The Conversion Of Military Factories To Civilian Production

The dissolution of the USSR has led to a significantly lower requirement for the manufacture of arms both in the countries of the former Warsaw Pact (WTO) and NATO. New roles have therefore to be found for a significant proportion of the people and organisations involved with research, development, design, manufacture and maintenance for defence purposes.

Redeployment Of The Defence Industries

Aims In Every Country

Following the progressive reduction in military procurement budgets to -

1. Provide alternative employment for the personnel involved to their own benefit and to assist them to make contributions to the national economy
2. Minimise the disruptive effect on people, local communities of the removal of a significant and to date stable career in military procurement
3. Utilise optimally the resources invested in fixed assets
4. Contribute to the rehabilitation of environments spoiled by military and military procurement activities.

The contributions to the national economy of the military procurement apparatus have been very different in each country and consequently the weighting of the aims set out above will obviously be different in each.

However in general it is possible to differentiate the scale and therefore the aims between the countries of the two former alliances.

The NATO Situation

Western countries do not have a defence industry as such and so it is not easy to estimate more accurately the numbers of people directly and indirectly involved in design and manufacture of military equipment.

Prime defence contractors are few in number and most of them are occupied in dual tasks serving both civilian and military customers. They have been shedding employees, moving them from military to civilian tasks by one means or another. There are a few exceptions, particularly in shipbuilding and submarine manufacture for whom civilian tasks will continue be to hard to find. From the point of view of the national economy the West can in general afford to allow these firms to disappear but the economies of many local communities depend heavily on these firms.

The pattern of Western industry is organised such that prime contractors rely heavily upon sub-contractors for the design and supply of components and sub-assemblies. These firms in the main also supply a wide range of civilian manufacturers and end users. The effect of the planned reduction in defence procurement is therefore less significant for these sub-contractors. But they too have to identify and serve other

markets if they are to remain profitable and to continue to provide employment for their people.

The Situation In Former WTO Countries

The situation in the countries of the WTO and especially of the former USSR itself is very different.

In the former the role of the defence procurement budget had been estimated to lie at about 50% of the total industrial output. There were many thousands of military factories employing between 9 and 12 million people of the roughly 42 million in industrial employment. The infrastructure of the country, equipment in civilian industries were poor and lay decades behind those of advanced industrial countries. The range and quality of consumer goods were poor, as was their supply and after-sales service. With raging inflation the price reforms were in urgent need of support by large-scale supply of equipment and manufactured goods. The country's economy was that of a Third World country in that it exports in the main raw materials in order to import technology; it was critically short of hard currency.

The aims for conversion in the former USSR at least must therefore be widened, to:

1. Reduce the manufacture of weaponry to a level consistent with current political and economic realities.
2. Provide a basis of stability by providing benign occupation for the civilians and military procurement staff and work-force.
3. Create a means of satisfying the civilian needs for goods and systems across the board including agriculture, food distribution and processing, improving communications, industrial systems and equipment and consumer goods.
4. Provide means for earning foreign currency.

Problems Of Military Conversion

A Brief Introduction

One has to appreciate the political and economic background in order to understand fully the problems facing the defence industry in converting itself significantly to the design, manufacture and sale of equipment to modernise civilian industry and for the provision of mass consumption goods on anything approaching world competitive standards.

The Tsarist Empire was by no means the equal of its industrial contemporaries. Its basic extraction and metal working industries were State owned, badly run by bureaucrats who reported to largely amateur and incompetent ministers. Manufacturing industry was largely managed by foreigners and their chief customers were the Armed Forces and the State railways. The First World War, the ensuing foreign intervention and civil war brought the country to chaos and collapse. On taking power, Lenin sought to stabilise the national frontiers, giving away much but as little as possible. National defence against encircling, hostile, capitalist powers was seen as the priority. One of his basic slogans was "socialism plus electricity". Stalin followed this up by concentrating on heavy industry to support the army. The civilian population were firmly at the bottom of the priorities, for them it was "jam tomorrow" and tomorrow still had not arrived in 1992. Stalin plainly loved the grandiose in industrial terms as in everything else, factories were huge, the bigger the better. They were placed far apart across thousands of kilometres of

the far flung Soviet Empire with its appalling communications. Socialist dogma required not merely State central planning but led to monopoly suppliers, right down the chain almost to the provision of raw materials, certainly to the provision of sole suppliers of key basic engineering elements, which were ludicrously differentiated and sectorised. They still are; there is little or no effective competition in supply.

Monopoly led to its inevitable consequences - a "take it or leave it attitude". Outside the military everything was "in deficit", reinforcing the outlook of a sellers' market and indeed it tolerated a semi-black market even in the State system. The long distances and poor telephonic and ground communications, later added to by second rate airline and airport systems, ensured that customer-supplier relations were not easy, familiar and regular. Consequently education and normal management of the supply chain has been impossible. Suppliers of raw materials prefer to make a very restricted range of materials, be they metals, polymers or ceramics. Variety interferes with output and the quantitative requirements of the Plan. The Plan also stimulated everyone to go for volume at the expense of everything else - quality, diversity, poor maintenance, waste of materials in spillages of gas and oil and breakages at every level of distribution. The effect on the environment and upon the health of the people has been appalling. Products on the whole, even the military ones are "just good enough for the purpose"; there is no attempt to provide a proper finish where it is unnecessary even though it looks horrible and may even provide a hazard. This does not engender in design or manufacturing engineers a respect for improvement of quality in every sense. But the slogans are on the posters and like posters everywhere become part of the wallpaper and disregarded. Exhortation, however many times repeated, is no substitute for good leadership and motivation.

Soviet weaponry fulfilled well the purposes set by Soviet Military Doctrine, which was very different from that of the West. For example it meant that tanks and fighter aircraft in war time have a short life, perhaps two weeks. So there is no point in designing them for a long life as in the West, which requires them to last a decade or more of peace-time training and still be ready for war. So front-line equipment is designed for short life between maintenance periods, is returned to factories for anything more than first aid repair and maintenance and is backed up by huge reserves which are turned over regularly and replace the front-line material withdrawn for service. This method takes into account the relatively backward technical competence of military personnel which in turn derives from its conscription system. There is much to be said for this approach. But it is exactly the opposite of what is required for the economical production of high quality civilian equipment and of consumer goods.

The Soviet system doomed itself to be wasteful of all national resources both physical and human. To this day factories and infrastructure are decades behind. Factories are almost without exception in the same condition as that in which they were born; there is little evidence of the striving for constant evolution as seen in the best examples of Japan and the West. The same is true of civilian products.

The Military-Industrial Complex - the favourite son of Stalin - lives on, without its prime goal and not fulfilling a changed role. It has outlasted Stalin, his Communist Party successors and even those who claim to be reforming Russia today. Its organisation and mental outlooks still dominate post-Communist Russia, if that term is strictly accurate. Nothing has changed; the Soviet Press from the early 1920s through the periods when criticism was allowed under the authoritarian regime through to today is and has been full of the same complaints of poor quality and shortages.¹ It is the most crucial challenge to this generation to make the essential transformation to provide a stable

¹ See "The Development of the Soviet Economic System", Alexander Baykov, Cambridge University Press, 1946.

basis for the economic reforms and to allow the Russian people to live like Western Europeans instead of the Third World they have inhabited for far too long.

Let us now examine briefly the obstacles to that transformation and then suggest some practical means of achieving that goal.

A Brief Summary Of The Obstacles To Transformation Of Soviet Military Factories

These arise for historical reasons stemming from the Lenin-Stalin concepts as described above and also from more detailed aspects of Soviet Military Doctrine, as we shall see.

Factory Relations with Other Commercial Organisations

1. There is little if any experience in such factories of understanding market needs and wants, outside the military which as we have argued is a totally different relationship common in both East and West. This goes for quality, ergonomics, aesthetics, safety considerations, packaging to get products to the ultimate customer in good condition (because that was considered as a wasteful luxury by the dogmatists, as indeed by socialists in the West). Then there are commercial questions relating to the rights of the consumer, returns, after-sales service, relations with dealers and agents and insurance.

2. The relations between industrial customers and their suppliers do not accord with what is required. Much remains to be done to obtain logical and efficient relationships. For example data on materials and components as well as complete pieces of equipment must be tabulated and published and form part of the library of every design and factory engineering office. They should be able to decide what to buy at what cost and with what properties from catalogues rather than by the methods of the old Ministry of Supply and now of the chaotic commodity exchanges.

More important still is the need to educate suppliers, but to do this requires the establishment of competing suppliers preferably located regionally rather than across the old USSR. Every factory blames the poor quality and difficulties of delivery of his product on his suppliers in the commercial chain. Whereas there may be some truth in these reasons, ultimately they remain excuses which are unacceptable in a properly organised industrial system. These ultimately regress to the mines and other extraction industries and if true - as it certainly is - require education at each level by its customers and ultimately leading to continuous change and improvement of performance throughout the system.

A market economy in essence requires that each performer satisfies the objectives of his customer(s) who must have a practical choice of supplier.

External Factors Affecting Industrial Performance

Manufacturing and commercial firms cannot run their business nor plan ahead unless they can rely on stability in the framework of law, financial conditions and taxation. This is absent in former USSR. And is one of the most worrying features about improvement of performances of military or any other factory. What is needed is a logical method of considering proposals and of consulting interest groups before submitting them to parliaments. One finds, as in Kiev, that there are five separate governmental and parliamentary bodies each claiming to control the reform of the economy and trying to do

down the rest. Parliamentary consideration of proposals looks more like angry horse trading than a considered review system.² Especially needed are laws concerning:

1. The rights of private property.
2. The rights of foreign partners as investors, especially their right to repatriate their share of profits after paying taxes in hard currency.
3. Commercial and company law.
4. Freedom from interference especially in detail by Ministries. Firms must be free to determine the destiny of their income and to invest it according to their own criteria to improve the performance of the enterprise, for example in maintenance of the fabric and in replacement of fixed productive assets. Furthermore the factories must be free from the kind of stupid decrees and orders from central ministries which have been chronicled in Soviet civil and military press.
5. Stable, coherent and workable taxation systems at every level of taxing authority which provide proper incentives to perform well.
6. A properly working system for internal banking which ensures that customers can rely on receipts of monies paid by their customers. Over the past few months banks have been arbitrarily refusing to pay cheques into firms' accounts and thus preventing them even from paying the wages.
7. Firms who earn foreign currency must be able to use a proportion that they can count on to buy essential goods abroad without bureaucratic interference, or arbitrary seizure or customs duties.
8. As soon as possible normal commercial relations between firms should be established on a monetary rather than upon a barter basis.

These macro-economic and political issues cannot continue to be dodged by the competent authorities. Not only Western methods of internal management but also of government are urgently required if all the effort at industrial and commercial levels and aid by Western experts are not to be utterly frustrated.

Some Tactical Solutions

Chaotic as the supply position is it remains true that the military factories have the best supply connections, certainly more "clout" than their civilian counterparts to obtain what they need. They remain the best hope of stabilising the economy of the former USSR and therefore of the peace of Europe.

However, I have come, regrettably, to the conclusion after some years of participation in programmes to assist this process, that no progress toward the laudable aims has been or will be made in Russia. In my judgement, the Russian Government has no intention to proceed along lines that would assist the process; in this they are supported by a significant number, perhaps a majority, of the directors of the defence factories and research institutes as well as by the senior military, by many figures in the Duma as well

² See "Breaking Up Is Hard To Do", Euromoney, January 1992.

as amongst the nationalists, communists and extremists in politics, whether in opposition or not.

In my view this consensus of opinion has decided that to reorganise the MIC along western lines - the only road to its economic salvation and an avoidance of reliance on massive State subsidies - would be to destroy the basis of military power, its ability to project the mythology and illusions belonging to a Great Power through development, manufacture and sale of advanced hardware in large quantities both for its own armed forces and for export.

It therefore proposes to keep in being the essence of the old Soviet order in the MIC, which was and still is the kernel of manufacturing industry not only for military purposes but for the manufacture of consumer goods. These have never been competitive and have lost their internal market to imported products following the freeing of trade after 1991. The MIC still comprises about 4,000 manufacturing firms and about 200 Institutes responsible for R&D and design. These employ several million people and also retain a significant number - the majority - of qualified scientists and engineers in the country.

The intention is to pay for the continued existence of the MIC through an intensification of exports of arms. Objective analysis of the claimed sales suggest this is unachievable. Much of the claimed sales do not yield money. This is in part because much of the delivery is to extinguish old soviet debts to the recipients, other sales are to countries that will pay, as they did in soviet times, by barter for basic produce and goods which will have to be sold through State employed middlemen in the Russian Federation. These are not known either for their commercial skill or freedom from corruption. Consequently the amount actually reaching the factories is but a proportion of the sums claimed as the value of the exported arms. Yet further claims relate not to current but to purchases forward over a few years to come.

In short the intention is to retain the military nature of the MIC rather than to transform it with a view to earning an income by regaining its civilian markets and improving the efficiency of that as well as that of its kernel of military output. This is not achievable but is the only short term policy of muddling along that is acceptable to the hierarchy and its opponents.

A lot of words have been spoken and written since 1989 on "conversion" of the MIC, but there have been few positive results in practice, if we use our original definition of conversion. Conversion means different things to different people ...

In the beginning many Russian and western engineers assumed that the aim was to find alternative means of earning money for military factories who suffered from reduction in military orders. Opportunities were studied for selling existing products abroad, modifying them to suit western markets, looking for sub-contract work from abroad and finding entirely new products to compete with foreign goods at home and abroad. Unfortunately there have been very few successes in the civilian field. Whilst east-west military cooperation in science, technology and commerce as well as arms exports is developing, these steps are and will remain insufficient in order to sustain the still huge MIC. They also have nothing to do with "downsizing", reorganising or making profits from civilian production.

There is no alternative but to improve the competitiveness of Russian industry in civilian work. Since the MIC is by far the largest and the best sector of industry it is inevitable that this road has to be followed if financial survival is to be achieved. MIC firms cannot simply be reduced in size or put into liquidation as their western counterparts have been going through; there is simply no means of supporting the social consequences, which have to catered for by parallel programmes including retraining people. Furthermore

western experience shows that any process of change whatsoever requires a very long time, perhaps two or three decades before such an industry can appear in the first league of competence. This fact comes up against the familiar but illusory Russian love of BYSTRO - do it quickly! But it does help if one begins to walk down the right road. However, the process so far has been incorrect and furthermore in my view the Russian leadership does not wish to take any fundamental road to reorganisation let alone one likely to succeed.

The aim of financial survival requires that the industry becomes fully competitive in designing and making products for civilian uses, but it was very soon apparent that the structure of industry and of the factories themselves required major reorganisation to achieve this aim. The old system was not designed to achieve those aims, it was not capable of competitive performance and efficiency nor of making profits. A gradual but radical, planned restructuring of soviet commerce and manufacturing elements is essential for success. This is significantly absent both from the Russian side and from most western advisers. The one or two competent Russians who have grasped the point have abandoned this work in disgust and gone into other activities.

It appears, unfortunately, from many actions and pronouncements that the Russian leadership does not currently intent to carry out the necessary restructuring primarily because they do not share these aims and objectives with which we started out. For example let us consider the words of one important director, Lev Oleynikov, a departmental head of the Scientific Research Institute of the defence industries, reported in "Pravda", 4 June 1997, p1&5. This interview represents the typical views of many directors of institutes and factories in the MIC as well as in higher echelons of government and Duma as we have heard and read them over the past few years. This view has become increasingly emphatic in the past year or so. It is noteworthy for its frankness and start definition of conversion.

Oleynikov sees conversion of the MIC as - I quote:

"The production of dual use goods which can easily be adapted from civilian purposes to military and vice versa. That and nothing else."

Implicit in the argument is the retention of factories and institutes which are also capable of turning out products for the civilian as well as in the military markets. Indeed he states that the process was very damaging to the MIC, although he admits he does not retreat from its aim such as "effective use for their production, people, innovation potential, creation of more work places in the civilian sector, growth of exports and reduction of imports". He finds an easy target in the fumbling conversion process of the years 1992-95 but demonstrates his lack of understanding and a rejection of the essence of a free market economy. But in criticising the loosening of government control and giving the firms freedom to act on their own, he has a point, when one remembers that such freedom has to be exercised by people competent to use it in a competitive market economy and there are not too many of those in the fSU. In Britain most of the privatisation of state enterprises was prefaced by a long period of reorganisation with competent people brought in from the private sector. However some of the Russian firms such as MIG-MAPO have learned quite quickly the skills of export marketing of armaments to a wide international market and designing for them.

Sooner rather than later devolution of full authority must take place from the ministries to a competent board of directors in order for firms to fulfil profitably both their military and civilian objectives. However his view, shared by many, requires a return to central direction and control.

He complains that there is no money for the defence industries and at the same time states that the primary objective is to re-equip the Armed Forces with modern weapons. He adds that they currently are equipped with only 20% of new weapons that are required. Plainly the second objective cannot be achieved without a lot more money. Earning sufficient money to achieve it is not possible unless the conditions of reorganisation just mentioned are achieved. So these aims are fundamentally incompatible. The methods which I have described in several papers form the basis of successful, profitable industries and of the resuscitation of ailing civilian industries the world over. In Russia, such a programme would result in a gradual improvement in provision of goods and service both to the home and export markets in military and civilian equipment. It would provide the financial muscle for the country to spend what was needed in defence, health, education, welfare, the environment and the arts. Russia would have a good chance to become a "normal" industrialised country.

But these steps are NOT seen by many Russian leaders, especially in the industry, as essential to the future well-being of Russia. On the contrary they are seen as industrial sabotage, leading to the destruction of Russia's military potential. They prefer to retain the old soviet structure and also increasingly to rely on exports of arms to provide a minimal income to sustain it. But this is a false hope.

This is understandable from people who have spent their lives working in the soviet system, which was apparently successful in achieving its aims especially that of providing a large, visible armed force. Furthermore such people are accustomed to seeing the West as its implacable opponent and therefore Western recommendations for reorganising the system, especially the defence industries, are seen as a Trojan Horse. Such views are reinforced by the consequences to the economy over the past eight years of applying the wrongly based financial reforms advocated by western economists and by the uselessness of much of the advice given by western consultants under programmes such as TACIS.

But the failures of macro-economic and financial reform cannot justify the rejection of sensible reconstruction of Russian industry whether civilian or military. Nor can the wrong paths and errors of western advisers and Russian directors alike be used to dismiss the road to recover which underlies the successful economies of the advanced industrial world; of which Russia is not one.

It appears to me that the real problem lies, not so much as with a misunderstanding of the process of successful industrial recovery and management but with a rejection of the aims I quoted above. The Russian leadership persists in rejecting the proper road that would allow it to become a good country to live in in favour of pursuing its illusions that bolster their view of Russia as a "Great Power".

The above views and analysis have received wide support from many informed Russian and foreign analysts; they were also presented at the TACIS-ACE academic meeting in Moscow on July 14 1997. None of the Russian, Ukrainian or Belarus participants disagreed with them. Nor did the Western discussants.