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**Tukhachevskii and Military-Industrial Mobilisation 1926-1937**

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# **SOVIET DEFENCE INDUSTRY PLANNING**

## **TUKHACHEVSKII AND MILITARY-INDUSTRIAL MOBILISATION 1926 - 1937**

**LENNART SAMUELSON**

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# **SOVIET DEFENCE INDUSTRY PLANNING**

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1926 - 1937

**LENNART SAMUELSON**



STOCKHOLM SCHOOL  
OF ECONOMICS

STOCKHOLM INSTITUTE OF EAST EUROPEAN ECONOMIES

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## ABBREVIATIONS

Gosplan	<i>Gosudarstvennaia Planovaia Komissii</i> , State Planning Commission
GVMU VSNKh	<i>Glavnoe Voенno-Mobilizatsionnoe Upravlenie VSNKh</i> , Main Military-Mobilization Directorate of the Supreme Council for the Economy
KO	<i>Komissii Oborony</i> , Commission of Defence by the Council of People's Commissars
NKO	<i>Narodnyi Komissariat Oborony</i> , People's Commissariat of Defence, successor to NKVM in 1934
NKVM	<i>Narodnyi Komissariat Voennykh i Morskikh Del</i> , People's Commissariat for Military and Naval Affairs
OGPU	<i>Ob"edinёnnoe Glavnoe Politicheskoe Upravlenie</i> , United Main Political Directorate (successor organ to the Cheka, i.e. the Secret Police)
Rabkrin	<i>Narodnyi Komissariat Raboche-Krestianskoi Inspektsii</i> , People's Commissariat of the Workers' and Peasants' Inspectorate
RGAE	<i>Rossiiskii Gosudarstvennyi Arkhiv</i> , Russian State Archive of the Economy
RGVA	<i>Rossiiskii Gosudarstvennyi Arkhiv</i> , Russian State War Archive
RKKA	<i>Raboche-Krestianskaia Krasnaia Armia</i> , Workers' and Peasants' Red Army
RTsKhIDNI	<i>Rossiiskii Tsentr po Khraneniui i Izucheniiu Dokumentov Noveishei Istorii</i> , Russian Centre for Preservation and Study of Documents from Recent History
RVS	<i>Revoliutsiinyi voennyi sovet</i> , Revolutionary War Council
RZ STO	<i>Rasporiaditelnye Zasedaniia Soveta Truda i Oborony</i> , Executive Sessions of the Council of Labour and Defence
SO	<i>Sektor Oborony Gosplana</i> , the Defence Sector of Gosplan
STO	<i>Sovet Truda i Oborony</i> , Council of Labour and Defence
VSNKh	<i>Vysshii Sovet Narodnogo Khoziaistva</i> , Supreme Council of the Economy

## A note on transliteration

Transliteration of Russian names is done using the Library of Congress System, with the exception of *miagkii i tverdii znak*.

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Part of the fascination of studying the Soviet Union is the exceptional nature of the sources for knowledge about that country. To paraphrase a famous dictum by Winston Churchill, who once said that Russia was "a riddle wrapped in a mystery inside an enigma", unravelling problems, putting missing pieces into puzzles and creating a better understanding of spurious processes have been the stimuli for my research on Soviet defence industry.

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*Lennart Samuelson*

# INTRODUCTION

## 1. The general approach

In a famous 1931 speech, Joseph Stalin almost prophetically proclaimed that Soviet Russia was fifty to a hundred years behind the advanced capitalist countries, and that she had only ten years to catch up. Referring to centuries of history, when Russia, because of her economic, cultural, political and military backwardness, had been beaten by the Mongols, Turks, Swedes and French, he called for increasing the pace of industrialisation.<sup>1</sup>

The great and shocking transformation - including the collectivisation of agriculture, the urbanisation and the accompanying establishment of one of the most totalitarian regimes of the 20th century - that the Soviet society and economy endured in this decade of Stalinism has been extensively studied. In economic history, attention has shifted from growth models to the social aspects of industrialisation. Despite the considerable extent of our present knowledge, there are still several aspects of the economic transformation that cannot be studied without access to the Soviet archives. The defence industry is one such area. A fundamental topic for this study is the linkages between the defence industry and the economy as a whole.

Was the Soviet military-industrial complex (SMIC) a systemic result of Socialist industrialisation? Or was it rather a specific historical phenomenon that emerged in unique internal and external conditions, and which might not have occurred under other circumstances?

This study attempts to trace the roots of the Soviet military-industrial complex by analysing the military's influence in the planning agencies for the Soviet defence industry, and thus the significance of military considerations on investment, location and production patterns.

### *Militarisation or deformed socialism?*

For the sake of simplicity, initially two major interpretations of a complex issue will be presented.

The first interpretation is the "militarisation" approach. This interpretation refers to the views of Defence Commissar<sup>#</sup> Mikhail Frunze in the mid-20s on the requirements for a "total

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<sup>1</sup> Stalin, Iosif V., *Sochineniia*, Politizdat, Moscow 1952, t. 13, p. 88-89.

<sup>#</sup> The full title was People's Commissar for Military and Naval Affairs, *Narodnyi Komissar po Voennym i Morskim Delam*. While the Russian has a suitable abbreviation in *Narkomvoenmor*, I will  
(cont.)

war".<sup>2</sup> This approach asserts that the foremost goal of Soviet policy was military expansion, and that the creation of a strong military was an essential aim of Stalin's modernisation campaign. This paradigm places the long-term Russian and Soviet geostrategic, structural and organisational patterns into focus. Already in the early 1930s, the Swedish military published a study, in which changes in Soviet society were analysed in terms of significant rearmament and an involvement of the population in defence preparations, thus forming the "militarised society".<sup>3</sup> The view of the Soviet Union as such a specific "militarised" society has later been elaborated by General William Odom, and recently by the American military historian James Schneider.<sup>4</sup>

The opposite interpretation of the "military dimension" of Soviet economic development might be called the "socialism-deformed-by-forced-rearmament" approach. In this approach, stressed in Soviet historiography, the negative results of Soviet history, such as a neglected consumer sector and lagging welfare, both in the pre-war and the post-war period, were caused by the constant threat ("the capitalist encirclement") that forced Soviet leaders to undertake extraordinary defence preparations. These had not, so the interpretation goes, originally been intended in the long-term plans. The final outcome of the defence industry's expansion was distortions of the original Socialist strivings.<sup>5</sup> For the 1920s and 1930s, this approach has focused on the 1927 "War scare" in the Soviet Union, the Japanese invasion of Manchuria in 1931 and Nazi Germany's revanchism and expansionism after 1933. From the 1950s onwards, the defence burden of the nuclear age arms race was, perhaps, *the* factor that caused the final implosion of the system.

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use the term Defence Commissar, respective the Defence Commissariat throughout this book. In 1934, the name changed to People's Commissar/iat of Defence, *Narodnyi Komissar/iat Oborony*.

<sup>2</sup> Frunze, Mikhail V., "Front i tyl v voine budushchego", in Karatygin, P., *Obshchie osnovy mobilizatsii promyshlennosti dlia nuzhd voyny*, Moscow 1925.

Frunze, Mikhail Vasilievich (1885-1925), member of the Bolshevik Party, serving in the Red Army during the Civil War as Commander of the Eastern Front and the Turkestan Front. Appointed Defence Commissar after the dismissal of Lev Trotskii in 1925. Frunze died under mysterious circumstances after surgery in October of 1925.

<sup>3</sup> Rydeberg, Frey, Kempff, C., Gärdin, G., *Det militariserade samhället, Några fakta om Sovjetunionen och dess maktmedel*, (The Militarised Society. Facts about the Soviet Union and its Armed Forces), Hasse W. Tullberg, Stockholm 1934.

<sup>4</sup> Odom, William E., "The 'Militarization' of Soviet Society", *Problems of Communism*, Sept.-Oct. 1976; Schneider, James J., *The Structure of Strategic Revolution. Total War and the Roots of the Soviet Warfare State*, Presidio, Novato, CA 1994.



The imbalance due to the arms race could earlier be traced mainly in terms of the growth rates (planned and actual) of heavy versus light industry, or for producer versus consumer goods. Both the categories "heavy industry" and "producer goods" included military as well as civilian production. Attempts to estimate the share of the defence industry in any total, be it in terms of production, investment, employment or capacity were marred by large margins of uncertainty.

Given that it is now possible to study Soviet defence industry plans and programs for at least the period up to the Second World War, does the evidence at hand support the approach that regards the military build-up as systemic? Were there constant patterns for a planned rearmament that was reasonably independent of external threats? Was the actual development characterised by a series of events-induced shifts in plans and priorities that were not part of the original plans?

### *The roots of the Soviet military-industrial complex*

A related research goal would be to highlight the historical background of the Soviet military-industrial complex (SMIC). Whereas the existence of a specific Soviet MIC is undisputed in the West, as well as in present-day Russia, and the extension of the complex over the economy as a whole is more discernible today, there is still no historical description of the formation of SMIC. The term military-industrial complex in its Soviet context usually refers to the network formed among the factories subordinated to the defence industry ministries, the numerous military design bureaus and research institutes. The analysis of the SMIC mostly has started with the World War II experience. The Stalinist industrialisation as a formative period for the Soviet MIC has been comparatively less studied. The historical origins of SMIC have earlier been traced to a formative period in the early 1940s, when an administrative pattern had emerged in heavy and defence industry, with distinct structures and headed by technicians and future party leaders such as Aleksei Kosygin (then deputy prime minister and responsible for

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<sup>5</sup> The threat-diverted approach is present in Marxist treatises on Soviet development, see e.g. Dobb, Maurice, *Soviet Economic Development since 1917*, 6th. ed., London 1966, pp. 577-608.

evacuation of industry in 1941), Dmitrii Ustinov (then Commissar for Armaments) and Boris Vannikov (then Commissar for Ammunition).<sup>6</sup>

For the preceding period, however, there has been relatively little research on the evolution in the 1920s and 1930s of the industrial and military organisational structures. With the defence items seemingly forming a modest portion of over-all production, (compared to the Western countries at least during the early and mid 1930s), it may have been natural to view the new structures of SMIC as emerging only in the proto-war economy and during the war years. In this regard, the task of the present study is to use the evidence from the internal documents of the Red Army and the State Planning Commission (Gosplan) to highlight the crucial interconnections between the military's war planning and its economic considerations, on the one hand, and the integration of these dimensions into the emerging planning structure in the late 1920s, on the other hand.

## **2. Earlier research on the military and the defence industry of Soviet Russia**

This research has its foundations in the rich literature on Soviet military and industrial development. As background for the research, pertinent parts of the literature should be mentioned. The history of the Red Army in the inter-war year is described in numerous works, of which I have used classic studies of Dimitry Fedotoff-White, Nikolaus Bassesches, John Erickson and David Glantz.<sup>7</sup> These military histories of the Red Army, its doctrinal development and arms build-up contain a great deal of data concerning the process of weapons procurement. I have used Soviet biographies of the main military players in this study, Mikhail Tukhachevskii and Kliment Voroshilov, as a starting ground for the study on the links between the military and industry.<sup>8</sup> Data on the Party's and the Army's intentions for a technical

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<sup>6</sup> See, for example: Almquist, Peter, *Red Forge. Soviet Military Industry since 1965*, New York 1990; idem, "The Soviet Defence Industry in War and Peace", in *Contemporary Soviet military affairs*, ed. by Adelman, J. R. and Gibson, Ch. L., Boston 1989.

<sup>7</sup> Fedotoff-White, Dimitry D., *The Growth of the Red Army*, Princeton, NJ 1944; Bassesches, Nikolaus, *Den okända armén. Ryska arméns karaktär och historia*, (The Unknown Army. The Character and History of the Red Army) Stockholm 1943 (transl. of *Der unbekannte Armee*, Zürich 1942); Erickson, John, *The Soviet High Command. A Military-Political History 1918-1941*, London 1962; Glantz, David M., *The Military Strategy of the Soviet Union, A history*, Frank Cass, London 1991.

<sup>8</sup> To mention only some of the important works on Tukhachevskii for this study: Isserson, Georgii, "Zapiski sovremennika o M.N. Tukhachevskom", *Voенно-Istoricheskii Zhurnal*, 1963, No. 4., (cont.)

restructuring of the armed forces in the 1930s is readily available. The data about weapons production, however, whether for the study of intended production, of potential capabilities or of surge capacity, tends to be either unreliable or at least not verifiable in any primary sources. Soviet military historians have written the multi-volume works *Istoriia Velikoi Otechestvennoi Voyny Sovetskogo Soiuz* and *Istoriia Vtoroi Mirovoi Voyny*.<sup>9</sup> In the "glasnost" era, such official histories were criticised for their tendentiousness, particularly regarding the background to the outbreak of and the catastrophic initial period of the Soviet-German war in 1941. These Soviet military histories also were repudiated for consciously omitting significant aspects of the great Eastern Front battles, no figures ever being given for Soviet losses in man-power or weapons. They thereby precluded objective judgements about the victories or defeats. With special significance for the present project is the assertion that the economic preparedness of the country, as described in these official Soviet histories, had ignored a careful archival investigation. Vsevolod Tsaplin, former Director of the Central State Archive of the Economy (TsGANKh, now RGAE), writes that the authors of the economic chapters of *Istoriia Vtoroi Mirovoi Voyny* had not sufficiently enough used the archival materials from TsGANKh:

The economic analysis was therefore unsuccessful. The reader mainly gets acquainted with a number of positively biased facts, which cannot explain the complicated situation of the country in the first period of the war.<sup>10</sup>

Based on such archival sources, Tsaplin has undertaken an evaluation of the *actual* state of defence preparedness in the 1930s and in 1941.<sup>11</sup>

In a historiographical work, the Russian scholars A. and L. Mertsalov complain about the lack of serious Soviet research on the effective defence-enhancing contribution of Stalinist industrialisation as a whole. In their opinion, to this day it would be impossible to use the Soviet historiography to answer such fundamental questions as:

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idem., "Sud'ba polkovodtsa", *Druzhba narodov*, 1988, No. 5; Ivanov, V.M., *Marshal M.N. Tukhachevskii*, 2-e izd., M 1990; Akshinskii, Vasilii S., *Kliment Efremovich Voroshilov. Biograficheskii ocherk*, Izd. 2-e. Moscow 1976.

<sup>9</sup> *Istoriia Velikoi Otechestvennoi Voyny Sovetskogo Soiuz* (A History of the Great Patriotic War of the Soviet Union), v 6-i tomakh, Voenizdat, Moscow 1960-65, *Istoriia Vtoroi Mirovoi Voyny* (A History of the Second World War), v 12-i tomakh, Voenizdat, Moscow 1973-82.

<sup>10</sup> RGAE, *Lichnyi fond V.V. Tsaplina*.

<sup>11</sup> Tsaplin, Vsevolod V., "Oboronna gotovnist' promislovosti SRSR u peredvoenni roki" (The defence preparedness of the USSR in the pre-war years), *Ukrainskii Istoricheskii Zhurnal*, 1990, No. 8.

Did the industrialisation and collectivisation in their Stalinist form weaken or strengthen the defence of the country? Were there other solutions to this cardinal problem?<sup>12</sup>

The traditional Stalinist and later official Soviet Communist views on the industrialisation as a prescient and successful measure, consciously carried out by the Communist Party leadership,<sup>13</sup> found its expression in early post-war works by Gosplan Chairman Nikolai Voznesenskii and the historian P. Chesniakov.<sup>14</sup>

Since the early 1930s, it has been known that one goal of the Soviet forced industrialisation was to create the heavy industry foundations of a modern armaments industry. In the contemporary Western literature, a multitude of facts about this process is presented.<sup>15</sup> Swedish officers already at that time noted, as mentioned, the significant modernisation of the Red Army, whereas the extensive military preparation of the civilian population made them discern "a militarised society".<sup>16</sup>

A similar view of the Soviet Union in the 1930s was expressed by the then young American diplomat, George F. Kennan. He asserted that all the resources of the Soviet State were being applied to the construction of a giant military machine and that an enormous

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<sup>12</sup> For a recent critique, principally of the military defects in the official Soviet historiography, see Mertsalov, A.N. & Mertsalova, L.A., *Stalinizm i voina. Iz neprochitannykh stranits istorii (1930-1990-e gody)*, (Stalinism and the War. From the unread pages of history, 1930s - 1990s), Moscow 1994. For the economic preparedness, see *ibid.*, ch. 3, "Stalinskie traditsii v literature o vtoroi mirovoi voine", (Stalinist traditions in the literature on the Second World War), pp 150-152.

<sup>13</sup> I use the term "official" to denote the historiography when no independent, personal view would be allowed in print because an event or a process had been characterised in a Party resolution or decision. It comes close to the notion of "Party-line history".

<sup>14</sup> Voznesenskii, Nikolai, *Voennaia ekonomika SSSR v period Otechestvennoi voyny*, Politzdat, Moscow 1948, *idem*, *Soviet Economy during the Second World War*, International Publishers, /USA/ 1949.

Chesniakov, P., *Sotsialisticheskaia industrializatsiia - osnova oborony SSSR*, (The Socialist industrialisation - the foundation of the defence of the USSR) Moscow 1946.

<sup>15</sup> See e.g., Knickerbocker, Hubert, *Femårsplanen. Det röda hotet mot världens industri*, (The Five-year Plan. The Red Threat to the World Industry) Albert Bonniers Förlag, Stockholm 1931, pp. 59-69. The author emphasised the "plough-share and sword" aspects of the industrialisation drive, with particular reference to his visits to the Stalingrad and Cheliabinsk tractor plants which were built for potential tank production.

Eccard, Frédéric, *Caractère Militaire du Plan Quinquennal*, Les Editions des Vivants, Paris 1932.

Trachtenberg, Jacob, *Rotes Russland rüstet!* Jakob Trachtenberg Verlag, Berlin 1931.

<sup>16</sup> Rydeberg, et al, *Det militariserade samhället*, *op.cit.*

program of military industrialisation had been executed, "masked as a five-year period of ordinary economic planning".<sup>17</sup>

An important point of reference for the present study has been the Soviet Industrialisation Project at the Centre for Russian and East European Studies, University of Birmingham in the UK. The contribution to this project by the economists Julian Cooper and Robert Davies was important for defining the research "frontier". In addition, Davies has written about the defence industry in his *The Soviet economy in turmoil*. Since the 1970s, these scholars have enhanced our knowledge concerning the actual amount of defence production during the first Five-year plan, as well as concerning the share of non-military, civilian production at the defence plants both in the 1930s and later.<sup>18</sup>

My impression from the Soviet literature is that the technical development of artillery, aviation and tanks has been described fairly extensively.<sup>19</sup> On the other hand, armaments production previously was limited to Soviet secondary sources containing data of dubious quality. Until more data on the plans, the fulfilment of plans, investments in and costs of defence projects became available, the evaluation of the general economic plans with respect to the defence targets was usually based on indirect estimates, extrapolations and qualified guesswork.

The information available to contemporaries and the impressions gained by military observers at the grand manoeuvres of 1934 and 1935 in the Ukraine and Belorussia, as well as the series published later on armament production, (particularly tanks, aircraft and warships), displayed a striking, more or less constant arms-build-up.<sup>20</sup>

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<sup>17</sup> Kennan, George F., "The War Problem of the Soviet Union", Appendix A in Hochman, Jiri, *The Soviet Union and the Failure of Collective Security, 1934-1938*, Cornell UP, Ithaca and London 1984, pp. 176-183.

<sup>18</sup> Cooper, Julian M., "Defence production and the Soviet economy, 1929-1941", SIPS discussion paper No. 3; idem, "The civilian production of the Soviet defence industry", in *Technical Progress and Soviet Economic Development*, ed. by R. Amann & J. Cooper, Basil Blackwell, Oxford 1986; Davies, Robert W., "Soviet defence industries during the first Five-year plan", SIPS discussion paper No. 27; idem, *The Industrialization of Soviet Russia 3: The Soviet Economy in Turmoil, 1929-1930*, Macmillan, London 1989.

<sup>19</sup> For the development of Soviet aircraft construction, see e.g. *Soviet Aviation and Air Power. A Historical View*, ed. by Robin Higham & Jacob W. Kipp, London 1978; Shavrov, Vadim B., *Istoriia konstruktssii samolëtov v SSSR do 1938g.*, Mashinostroenie, Moscow 1994.

<sup>20</sup> For main weapons production, see *The transformation of the Soviet Union, 1913-1945*, ed. by Davies, Robert W., Harrison, Mark and Wheatcroft, Stephen G., Cambridge UP, Cambridge 1994, p. 298. Contemporary estimates from Soviet and German military journals, abound in Werner, Max

(cont.)

In previous times, it was only possible to list the raw materials and other goods that were of strategic importance for the armaments industries. The planned increases in such sectors would then indicate a non-quantified increase in arms production, non-quantified because there was no way to determine, say, how steel production would be allocated among producers of tanks, aircraft, guns, ammunition and so forth. Thus, such information in the plans as could be found, or deduced, did not provide a direct measure of defence industry targets.

I believe that both of the two analytical approaches discussed above, (i.e. the defence budget and the arms production), are insufficient to formulate a precise assessment of Soviet rearmament. My research therefore starts with a new analytical approach.

The Soviet war-economy 1941-45 is well described in Soviet economic, military and memoir writings.<sup>21</sup> These Soviet secondary sources from the 1960s and onwards also have formed the ground-work for several Western studies of the war-economy of the Soviet Union.<sup>22</sup> Until recently, it would have been impossible to verify the data on the armaments production during World War II. The researcher had the choice of using, or ignoring, the data. With few exceptions, statements in recent Soviet and Western literature on defence preparedness before the Second World War can be traced to either censored official publications, to statements by the Leadership or to party resolutions.

Less explored than the Second World War are the preceding two decades. Only the general outline of how the Soviet leadership planned the military build-up is described. The actual expansion patterns are known only in general terms throughout the late 1920s and 1930s. Except for some recent works, no analysis of how the actual production corresponded to production or mobilisation plans has been found.<sup>23</sup> Recent "glasnost-era" opinions that, to

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(pseud. f. Alexander Schiffirin), *Der Aufmarsch zum zweiten Weltkrieg*, Sebastian-Brant, Strasbourg 1938.

<sup>21</sup> Among the literature about the Soviet war-economy, I have used Kravchenko, G.S., *Voennaia ekonomika SSSR, 1941-1945gg.* (The War-economy of the USSR), Moscow 1963 and idem, *Ekonomika SSSR v gody Velikoi Otechestvennoi voiny* (The economy of the USSR in the Great Patriotic War), 2-e izdanie, Moscow 1970.

<sup>22</sup> Among these should be mentioned Harrison, Mark, *Soviet Planning in Peace and War, 1938-1945*, Cambridge University Press, Cambridge 1985; Segbers, Klaus, *Die Sowjetunion im Zweiten Weltkrieg: die Mobilisierung von Verwaltung, Wirtschaft und Gesellschaft im "Grossen Vaterländischen Krieg" 1941-1943*, Oldenbourg, München 1987.

<sup>23</sup> Among Soviet works, besides the above-mentioned *Istoriia Velikoi Otechestvennoi Voiny* and *Istoriia vtoroi mirovoi voiny*, that have been examined for this project, the following should be mentioned: Kirpichev, P.A., *Sotsialisticheskaia industrializatsiia i ee znachenie dlia ukrepleniia* (cont.)

some extent, attempt to revise earlier Soviet orthodox views on the defence preparations of the late 1930s, are found in several articles by G.A. Kumanev. In addition to archival materials, Kumanev utilised interviews with leading Soviet officials of the era.<sup>24</sup>

The Soviet discussion in the wake of the publication of new documents concerning 1941,<sup>25</sup> as well as the lively reception in Russia of the "revisionist" theses of "Viktor Suvorov",<sup>26</sup> the defector from GRU, have so far been limited to the situation in specific arms industries during 1940 and 1941.<sup>27</sup> The Russian historians have, however, not discussed Suvorov's claim about a Soviet theory of "secret mobilisation", formulated in the work *Mozg armii*, (The Brain of the Army) of Boris Shaposhnikov, a Tsarist army specialist, later Chief of the Red Army Staff.<sup>28</sup>

The present study had a starting-point in the British economist Stephen Tupper's 1982 dissertation. He analysed the relations between the military and the defence industry in the 1930s, using the then available data in secondary sources on weapons production and technological progress. Tupper also evaluated the balance of forces between the Soviet Union

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*oboronnoi moshchi* SSSR, (The Socialist industrialisation and its significance for strengthening the defence of the USSR) Moscow 1971; Zakharov, M.V., "Kommunisticheskaia Partia i tekhnicheskoe perevooruzheniie armii i flota v gody predvoennykh piatiletok" (The Communist Party and the technical rearmament of the army and the navy during the pre-war Five-year plans), *Voenno-istoricheskii zhurnal*, 1971, No. 2; Telpukhovskii, B.S., "Deiatelnost' KPSS po ukrepleniiu oborony SSSR v gody sotsialisticheskoi rekonstruktsii narodnogo khoziaistva (1929-1937gg.)" (The Activity of the CPSU for strengthening the defence of the USSR during the socialist reconstruction of the economy (1929-1937), *Voprosy Istorii KPSS*, 1976, No. 8.

<sup>24</sup> See e.g. Zverev, Boris I. & Kumanev, Georgii A., "O voenno-ekonomicheskoi gotovnosti SSSR k otrazheniiu fashistskoi agressii" (The military-economic preparedness of the USSR for rebuffing the Fascist aggression), *Voprosy istorii KPSS*, 1991, No. 9.

<sup>25</sup> See e.g., *Izvestiia TsK KPSS*, 1990, No. 1, pp. 173-174; No. 2, pp. 180-206.

<sup>26</sup> Suvorov, Viktor (pseudonym for Vladimir Rezun), *Ledokol. Kto nachal Vtoruiu Mirovuiu voinu?*, Vsë dlia Vas, Moscow 1993 (Eng. ed. *The Ice-breaker, Who started the Second World War?* Hamilton Hutton, London 1988); *ibid.*, *Den'-M. Kogda nachalas' Vtoraia mirovaia voina? Vsë dlia Vas*, Moscow 1994. (German translation, *Der Tag M*, Klett-Cotta, Stuttgart 1995). The industrial mobilisation planning is discussed by Suvorov in *Den'-M*, chapter 17 "O permanentnoi mobilizatsii".

<sup>27</sup> Important parts of the recent Russian debate are collected, together with a comprehensive bibliography, in *Gotovil li Stalin nastupatel'noi voinu protiv Gitlera?* (Did Stalin prepare an Offensive War against Hitler?), Ed. by G.A. Bordiugov, "AIRO-XX", Moscow 1995

<sup>28</sup> For excerpts about precisely the economics of war from Boris Shaposhnikov's voluminous work *Mosg armii* (The Brain of the Army), see *Voprosy strategii i operativnogo iskusstva v sovetskikh voennykh trudakh, 1917-1940*, Voenizdat, Moscow 1965, pp. 190-217.

and a possible hostile Fascist camp in the 1930s, and noted the disparate character of plans drafted in various organs.<sup>29</sup>

Mikhail Tsyarkin's thesis on the origins of the Soviet military research and development system contains references to the multitude of plans for defence. He also noted that it was not possible to form a clear picture of their inter-relatedness.<sup>30</sup>

The problem that is left unanswered in Tupper's and Tsyarkin's works can thus be formulated as follows: Were there special defence industry five-year plans? Given that the published five-year plan for 1928/29-1932/33 did not contain any precise figures for weapons production, this generally has been a matter of speculation. A whole host of plans for all the years from 1926 up to 1941 have been mentioned in Soviet military histories, and tend to present an image of smooth co-ordination between the start of the plan era and the technical reconstruction.<sup>31</sup>

There is no fundamental Soviet work on the history of Gosplan that can be said to have shed light on the defence industry planning for the period studied here. An early treatise on the planning system, written by the Gosplan economist Abram Gordon. He outlined organisational structures and changes in the 1920s, but gave no references to the planning framework of the defence industry.<sup>32</sup> A scholarly work about the early years of Gosplan was written by the Soviet historian Zinovii Zvezdin. Although he used Gosplan archives extensively for the early 1920s, he could only carry his study up to the launching of the first five-year plan in 1929. Even so, for the latter period his references to archive sources were sparse and the description tendentious and, finally, it did not include any original data on the defence industry.<sup>33</sup>

The Soviet defence industry reasonably must have been an object of research at specialised military academies and planning institutes in the USSR. My efforts at the Khimki

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<sup>29</sup> Tupper, Stephen M., "The Red Army and Soviet Defence Industry, 1934-41", Ph. D. Thesis, University of Birmingham 1982.

<sup>30</sup> Tsyarkin, Mikhail, "The Origins of Soviet Military Research and Development System, 1917-1941", Ph. D. Thesis, Harvard 1985, pp. 84-86.

<sup>31</sup> For Tupper's discussion of such plans, see *op.cit.*, pp. 9-12.

A number of plans were known from Soviet works and legal documentaries. A chronological listing of such plans can be found in Cooper, Julian M., "Defence Production", *op.cit.*, Appendix.

<sup>32</sup> Gordon, Abram S., *Sistema planovykh organov SSSR*, (The System of Planning Organs of the USSR), Izd. Kommunisticheskoi Akademii, Moscow 1930.

<sup>33</sup> Zvezdin, Zinovii K., *Ot plana GOELRO k planu pervoi piatiletki*, (From GOELRO [the State Electrification Plan of Russia] to the first Five-Year Plan), Nauka, Moscow. 1979.



section of the Russian State Library (formerly the Lenin library) to read a series of doctoral theses imply that even academic dissertations had various levels of classification. The few Soviet theses available did not reveal any significant information. They very much reflect the official "party line" and refer to few or no archival data concerning production or mobilisation plans.<sup>34</sup>

In text-books and other scholarly works on Soviet economic history, a set of general statements about the material basis for a war industry are normally found.<sup>35</sup>

Merle Fainsod has described this aspect of the industrialisation process as follows:

Tukhachevskii and other top Soviet commanders during the 20s declared repeatedly that the technical backwardness of Russia had to be overcome if the Red Army was to avoid defeat in future wars. ... This was one of the principal impelling forces behind the industrialisation program which was embodied in the five-year plans. The First Five-year plan laid the industrial base for a powerful armament industry.<sup>36</sup>

In his 1963 doctoral dissertation on Soviet planning, Benjamin Bast, who based his research on Gosplan official publications and periodicals, left the question concerning the extent of military priorities in the first Five-year plan\* open :

How much of the energy and capital expenditure during the Five-Year Plan went for the construction of military facilities *remains a Soviet secret*. ... The primary goal then is the drive for industrialisation in order to increase the power of the Soviet Union. Military power is based on heavy industry. And the

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<sup>34</sup> Some Soviet theses were obviously classified. Among the doctoral theses I requested and did not receive were: Nesen, G.D., "Deiatelnost partii po ukrepleniiu ekonomicheskoi i oboronnoi moshchi v gody 2-i piatiletki", (The Activity of the Party for Strengthening the Economic and Military Might in the Second Five-year plan), Dokt. diss., Moscow 1972

I did have the opportunity, but to little avail, to study the following, very ideological theses: Koniukhovskii, V.N., "Bor'ba Kommunisticheskoi Partii za ukrepleniie Krasnoi Armii v gody mirnogo sotsialisticheskogo stroitelstva, 1921-1940gg." (The Struggle of the Communist Party for strengthening the Red Army in the years of peaceful socialist construction), Moscow 1958

Recent changes in ideology are reflected in the candidate thesis of Khairov, A., "Stanovlenie i funktsionirovanie voenno-promyshlennogo kompleksa, ot zarozhdeniia do okonchaniia vtoroi mirovoi voiny (po materialam promyshlennosti Verkhnego Povolzhia)" (The Formation and functions of the military-industrial complex in the Upper Volga Region), Iaroslavl 1995.

<sup>35</sup> Dobb, Maurice, *Soviet Economic Development since 1917*, London 1966.

Erlich, Alexander, *The Soviet Industrialization Debate, 1924-1928*, Harvard UP, Cambridge, Mass. 1960.

Nove, Alec, *An economic history of the USSR*, Allen Lane, London 1969, ch. 8-9.

Zaleski, Eugène, *Planning for Economic Growth in the Soviet Union, 1918-1932*, Chapel Hill, N.C. 1971; idem, *Stalinist Planning for Economic Growth, 1933-1952*, London 1980.

<sup>36</sup> Fainsod, Merle, *How Russia is ruled*, Revised edition, Harvard UP, Cambridge, Mass. 1970, p 476f.

I use capital letters to denote the first, second and other Five-year plans that were launched by the government, and small letters, i.e. five-year plan, to denote the concept in general.

construction of heavy industry was to receive the major share of the accumulated capital of the Soviet system.<sup>37</sup>

This is a standard formulation of the matter: a military build-up requires a larger heavy industry, and since the Soviet leaders emphasised heavy industry in their growth strategy, a military bias could be surmised. More than some of the basic traits of a potentially strong war-economy, however, cannot be gauged from the expansion of heavy industry. Even when account is taken of the expansion of raw materials, fuels and transport capacity for weapons production, the picture of the actual planning for defence production is still very rough. The difference between industrialisation in general and industrialisation that truly enhances defence capability was understood by most Soviet economists already in the mid- and late 1920s.

In his book from 1985 on the Soviet planning prior to and during WWII, M. Harrison discusses general aspects of the military-industrial planning and particularly of contingency planning in the late 1930s.<sup>38</sup> Reviewing the "research frontier" concerning the Soviet defence industry planning, the analysis by Holland Hunter of the timing of defence and other investments should also be mentioned. In *Faulty Foundations: Soviet Economic Policies, 1928-1941*, which constitutes the sequel to earlier works on a model of the Soviet economy (KAPROST), the authors discuss the policy judgements behind the budgetary allocations for defence.<sup>39</sup> It was stated that:

The USSR in 1928 was by no means lacking in defence capabilities, but for the Bolsheviks, this was not enough. Adequate national defence meant, for them, not immediate mobilisation of the armed forces but building a heavy-industry base that could supply the armed forces with guns and munitions, tanks, aircraft ... required for war. Adequate defence would therefore come in two stages: first a period of purely economic construction and then a period of military procurement.<sup>40</sup>

The authors analysed the investment pattern to be expected: *first* a period with concentration on heavy industry, transportation etc. as the base and *then*, after a shorter or longer conversion period, munitions production. The longer the Soviet leaders delayed the conversion -

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<sup>37</sup> Bast, Benjamin F., *The Soviet Leaders and Planning, 1928-1934*", Ph.D. thesis, University of Pittsburgh, 1963, p. 104, (Italics here, LS).

<sup>38</sup> Harrison, Mark, *Soviet Planning in Peace and War 1938-1945*, Cambridge 1985.

<sup>39</sup> Hunter, Holland & Szymmer, Janusz, *Faulty foundations: Soviet economic policies, 1928-1940*, Princeton UP, Princeton NJ, 1992, Ch. 8.

<sup>40</sup> *ibid*, pp. 137-139.

in expectation of a coming war - the larger would be the base for mass-production of weapons. The accuracy of this interpretation will be discussed in the summary below.

Melvyn Hulse treated several topics in his Ph.D. thesis from 1990. Some chapters of his dissertation concern the subject of my research, namely the mobilisation of industry and the military aspects of industrialisation. In my opinion, Hulse's principal limitation is a heavy reliance on contemporary Soviet authorities, their directives and public statements. Based on the normative elements in such sources, Hulse tends to exaggerate the actual progress in Soviet industrial mobilisation.<sup>41</sup>

Niels-Erik Rosenfeldt has focused attention on the role of the secret departments or sections of the Party, State and factory authorities in the implementation of a wide-encompassing network of defence-preparedness of the whole society.<sup>42</sup>

In her thesis from 1995 on the sources of early Soviet military innovation, Sally Stoeker disputes a widely-held view that military considerations were prioritised right from the start of the first Five-year plan. Her interpretation is that the military had to struggle to inform the civilians political leadership about defence needs, and that this gave solid results only in 1932. Stoeker comes close to Robert Davies' opinion that a shift towards rearmament came about as the two-fold result of Tukhachevskii's struggle for a modern, mechanised army, and later, of the specific threat from Japan.<sup>43</sup>

James Schneider treats the emergence of the "Soviet warfare state" in *The Strategy of Strategic Revolution*. His analysis encompasses military, economic and political aspects of the transformation of the Red Army and of the Soviet society from the 1917 Revolution to the Stalinist industrialisation of the early 1930s.<sup>44</sup>

Walter Dunn Jr. analyses the Soviet Union's war-preparedness and its actual war-capability during the German-Soviet war of 1941-45. Dunn's approach is thematic, dealing with

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<sup>41</sup> Hulse, Melvyn A., "Soviet Military Doctrine, 'Militarization' of Industry, and the First Two Five-Year Plans: Developing the Military-Economic Mobilisation", Ph.D. thesis, Georgetown University 1990.

<sup>42</sup> Rosenfeldt, Niels Erik, *Stalin's Secret Department, A Comparative Analysis of Key Sources*, Copenhagen 1989, pp. 13-45.

<sup>43</sup> Stoeker, Sally W., "Forging Stalin's Army. The Sources and Politics of Military Innovation in Russia, 1928-1933". Ph.D. thesis, The John Hopkins University, Washington, D.C. 1995.

<sup>44</sup> Schneider, James J., *The Structure of Strategic Revolution. Total War and the Roots of the Soviet Warfare State*, Presidio, Novato, CA 1994.

the various weapon types (tanks, artillery) and the logistics, transportation and significance of lend-lease during the war-years. In contrast to the main part of the book - the sections on the war years 1941-45 - his introductory chapter on Soviet industrial development in 1929-1941 is only partly based on original research in the German military archives.<sup>45</sup>

This survey of earlier research has delineated areas, where question-marks on fundamental issues abound, and where controversies concerning interpretations flourish. The rival interpretations can only be sorted out after a careful mapping of the actual process of plan elaboration. The study will focus on the intersections among the high military, planning and political decision-making circles. Before the precision of the purposes of this study, it is necessary to see which sources are available. In other words, how far can the new archival access lead?

### 3. Sources

This study would not have been possible without access to the archives in Moscow, where I worked during June of 1993 and from September of 1993 to July of 1994.

Defence matters naturally were classified to various degrees in the Soviet Union as elsewhere. The different degrees of classification are: *ne podlezhit oglasheniiu* (for official use only), *sekretno* (secret), *sovershenno sekretno* (top secret) and *sovershenno sekretno. na pravakh shifra* (top secret. enciphered). These classification categories were applied to all printed documentation, whether proposals, appraisals of plans or decisions and directives. Although directives and resolutions of the Communist Party and Soviet government did include very general policy guide-lines on defence matters, such decisions, as a rule, were not published *in extenso* at the time.<sup>46</sup>

Does the classification category reveal anything concerning the reliability of the data, the dates and figures mentioned in a document? The relevant observation for my research is that for data on production, the tendency to distort or obfuscate is more marked in the "official use only" materials.

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<sup>45</sup> Dunn Jr., Walter S., *The Soviet Economy and the Red Army, 1930-1945*, Praeger, Westport, CT, 1995.

Secret decisions by the Political Bureau of the Communist Party (*Politburo*) were recorded in so-called "special files" ("*osobyie papki*"), and then distributed by secret police courier to the few responsible persons directly concerned with the decision. Such decisions were not to be divulged even to the Central Committee, and, of course, even less so to a Party congress or public meeting. Laws and administrative decisions by government organs likewise were classified. This implies that besides the published bulletins in *Sobranie zakonov i postanovlenii* (Collection of laws and directives), there existed a secret series of legal documents. Defence matters that were discussed within Gosplan were restricted. Only the members of the Defence Sector and specified, security-cleared persons in other sectors could obtain such information.

The regulations for how to classify various army and defence matters, which were themselves designated as secret by the state and the military, give a clear indication of how little could be mentioned in the public press. In the archives, there are also materials that show how vigorously the censors screened all publications. The mentioning of enterprises or their military production could result in severe reprimands, even against technical bulletins of scientific institutes.<sup>47</sup> The regulations prohibited the publication of data on the conditions, production or employment at individual enterprises in the defence industry. Not only was it forbidden to publish such data, but even information, "from which it could be possible to arrive at such data by logical conclusions, comparison or calculations", was banned. The names of enterprises in

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<sup>46</sup> It was, for example, only by mistake, that the economic paper *Ekonomicheskaiia zhizn* in summer 1927 revealed - formally - the top secret decision on the Defence Sector that had been established in Gosplan, see RGAE, f. 4372, op. 91, d. 43, l. 72.

<sup>47</sup> Some examples of how censorship worked: In the journal "*Tekhnika vozdushnogo flota*" data on the production at the "Baranov" and "Pavlov" factories had been revealed. (RGVA, f. 33987, op. 3, d. 687, l. 107); the journal "*Tsvetnye metally*" (Non-Ferrous Metals) was to publish the gold and silver production plan for 1934-37 in absolute figures. Data obliterated by censors (ibid, l. 108). In a collection of articles from the Moscow Mechanical-Machine-building Institute the "numbered" defence plants No 2 and 92 were not mentioned as they should have been "Kovrov Instruments Factory" and "Maslennikov factory" (ibid, l. 109); In the newspaper "*Krasnaia khimiia*" and "*Dzerzhinets*" production figure for liquid chlorine at the Chernorechenskii Chemical Combine had been published (ibid.). In the same paper, *Krasnaia khimiia* of the Chernorechenskii Chemical Combine, were reprimanded for the published figures on the production plan at the defence plant No 80 ("*zapreshchennye dlia opublikovaniia v pechati dannye o proizvodstvennom plane*").

the defence industry were successively changed to code numbers and no mention could be made that disclosed their former name or their location.<sup>48</sup>

The military and technical periodicals thus mainly served as a reference basis for theoretical, rather than practical issues of planning. Merely as background for the doctrinal debates, I have examined the periodicals: *Voina i revoliutsiia* (War and Revolution), *Voina i tekhnika* (War and Technology) (1928-31), *Mekhanizatsiia i motorizatsiia RKKA* (Mechanisation and Motorisation of the Red Army) (1931-1936), *Tekhnika i vooruzhenie* (Technology and Armaments).

Published Soviet sources, both contemporaneous public speeches and later military-historical literature on weapons production and defence preparations (transport, fortifications etc.) provide sporadic data of dubious use for any economic or military analysis. Some production series lump together averages for 2-3 years, others indicate production capacity and still others show the stock in the armed forces or the total number produced.

In sources from the 1930s, the growth of the armed forces was sometimes presented as percentages for the number of aircraft, tanks etc., with motorisation indicated by a crude figure for horse-power per combat unit. During my work, I encountered documents in which Soviet officials had prepared a more or less fictitious report to the League of Nations. This was very revealing, and calls for extreme care when handling the official data.

It turns out that this report took into account the percentages reported by Tukhachevskii in a public speech, and, so as not to destroy its credibility, reported that the Soviet forces had only 3 000 operational aircraft - the actual number was 4 500, and that the Navy had 80 submarines, - the actual number being over 100. Some weapons were not reported at all. The contemporary sources, for example data sent to the League of Nations' Yearbook, evidently misrepresented the extent of army, aviation and naval construction, and substantially under-reported defence preparations that were covered by civilian commissariats. This procedure

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<sup>48</sup> For secrecy regulations, see e.g. the 1925 directives *Perechen svedeniï, sostavliaiushchikh tainu i ne podlezhashchikh oglasneniiu v tseliakh ograzhdeniia voennykh interesov SSSR*, RGVA, f. 33988, op. 3, d. 81, ll. 68-69. § 5; *Prikaz RVS SSSR i OGPU pri SNK SSSR*, 9.07 1927, RGVA, f. 7, op. 10, d. 404, l. 38; *Sekretnyi prikaz RVS SSSR No 020. 25.02 1933g. Postanovlenie o sovershenno sekretnom i sekretnom deloproizvodstve*, RGVA, f. 4, op. 3, d. 3284, ll. 6-43ob.

could be done in a way that prevents previously published percentages from being revealed as false.<sup>49</sup>

In the Soviet era, there seems to have been no data on defence production in the published annual and five-year plans. Even in the only "secret" (i.e. classified *ne podlezhit oglasheniiu* or *sekretno*) plan available for study - a copy of the 1941 State Economic Plan captured by the German army - very little emerged concerning defence expenditures and plans.<sup>50</sup> The reason for this is obvious; almost everything concerning the military and defence output was classified as "secret" or "top secret".<sup>51</sup>

It is well known that even the German Abwehr, one of the best informed inter-war intelligence services, severely underestimated how huge an increase in production and capacity the Soviet Union had achieved by 1941. This dramatic underestimation of Soviet defence capacity by Hitler's intelligence was one of the factors that led to the ultimate German defeat in the East.<sup>52</sup>

The danger of relying on the official Soviet data, as being the only sources at hand, is seen in German as well as Anglo-Saxon writing. Explicit evaluation of sources is frequently lacking.<sup>53</sup>

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<sup>49</sup> Calculations for the 1935 League of Nations Yearbook, approved by Gamarnik and Voroshilov, RGVA, f. 33987, op. 3, d. 712, ll. 6-8, and *ibid*, ll.153-155.

<sup>50</sup> *Gosudarstvennyi plan razvitiia narodnogo khoziaistva na 1941 god. Prilozheniia k Postanovleniia SNK SSSR i TsK VKP(b) No 127 ot 17 ianvaria 1941g.*, Classification note: *Ne podlezhit oglasheniiu*, Facsimile edition, Baltimore, Md. 1951. There were also other parts of the *State Plan for the Economy of the USSR* that were classified *sekretno*. See *Gosudarstvennyi plan razvitiia narodnogo khoziaistva na 1940 god*, RGAE, f. 4372, op. 92, d. 265.

<sup>51</sup> In the later Soviet military history, a summing up of the development of the manufacturing of arms in Leningrad could read as follows: "By 1932 the military production in Leningrad had risen many times in comparison with 1928." With an archival reference to TsPA, f. 80, op. 17, d. 8, ll. 5, 15 and to TsGASA, f. 4, op. 1, d. 319, l. 25. Not a single figure, however, was given in natural or in value terms. See Petukhov, V., "Voennaia Deiatelnost S.M. Kirova v gody tekhnicheskogo osnashcheniia armii i flota", *Voenna-Istoricheskii Zhurnal*, 1976, No 3, p. 86.

<sup>52</sup> See the estimates in the late 1930s in Germany, Kahn, David, *Hitler's spies. German Military Intelligence in World War II*. London 1978, Ch. 24 "The Greatest Mistake".

<sup>53</sup> An exception to this lack of source evaluation is the German historian Tatiana Kirstein. The frustration of relying on Soviet, indirect archival, data is apparent in her monograph on the Ural-Kuznetsk Kombinat, in which she sketches one particular decision-structure entirely from the Soviet historian S. Khromov's book about Dzerzhinskii and the metal industry. She wrote: "Dem folgenden Absatz liegt in der Hauptsache eine Arbeit von Khromov zugrunde. Khromov beschreibt mit grosser Ausführlichkeit den Kampf von Dzerzhinskii gegen STO und Gosplan. Leider ist die Arbeit einseitig auf die Person Dzerzhinskii zugeschnitten und stellt ihn in eine falsche Relation zu den anderen Politischen Akteuren, so dass manche Situationen in der Arbeit von Khromov unverständlich bleibt und die politische Situation insgesamt nicht überzeugend wirkt. Dennoch gibt sie wertvolle Einblicke in den Dschungel der Bürokratie und bringt, da sie zum grossen Teil auf Archivmaterial basiert ist, neue Informationen." in *Sowjetische Industrialisierung. Spontaner oder Planierter Prozess?* Nomos, Baden-Baden 1979, p. 95 (Italics here, LS.)

For a Western historian, the situation before "*glasnost*" was so complex that the "Party line" (*partiinost*) had to be carefully examined before a probable fact could be established. A more realistic picture of the general situation had to be formed before the researcher could proceed to distil scattered data from the restricted Soviet secondary sources. The awareness that the Soviet literature, as well as the primary printed sources like Soviet newspapers and journals, were not only heavily biased by a Marxist and party-line interpretation, but also carefully censored is seldom explicitly stated. On top of tabooed "white spots" (*belye piatna*) in Soviet history, scholarly as well as the memoir literature were scrutinised in many other respects, in a process that encompassed the author's research institute and the censorship authority, *Glavlit*.<sup>54</sup>

The "jungle", which Kirstein discusses in the decision-structure of the Urals industry, has parallels in my work. A series of commissions, directorates and other bodies involved in various military decisions were encountered. It was impossible to find a detailed, empirically based, Soviet work on the decision-making structure in the military-industrial complex during the late 1920s and 1930s. This was in absolute contrast to other parts of the State apparatus, where such works provide ample references to both the *de jure* and the *de facto* patterns of administration.<sup>55</sup>

The aforementioned circumstances would in themselves prevent a "traditional" research procedure, i.e. going from the literature to easily accessible printed sources and only then deciding which unprinted sources to examine. For a topic such as that of this study, it seemed

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<sup>54</sup> The new post-Soviet awareness of the "censored status" of their own academic and memoir literature is well reflected throughout Dmitrii Volkogonov's biographies of Stalin, Trotsky and Lenin. He notes that the memoirs of the Second World War were unreliable. "Every book went through a real cleansing. ... Any truthful statement, which did not fit the Procrustean bed of the established schemes, was so deformed that it became unrecognisable. ... Even Marshal Zhukov expressed regret that he had to comply with this state of affairs in the 1960s." *Triumf i Tragediia*, kniga 2: chast I, pp. 265-266.

As an illustrative confirmation, compare the uncensored, 10th edition of Zhukov's memoirs with the earlier editions, Zhukov, G.K., *Vospominaniia i razmyshlenia*, 10-e dopolnennoe izdanie, 3 vols., Novosti, Moscow 1990. Just in the chapter of direct relevance for this work, the decade preceding the World War, (*ibid*, vol. 1, pp. 299-370) all significant and critical assessments made by Zhukov were eliminated. The significance of the alterations that Soviet authors had to accept in order to publish would have deserved further discussion, if I had relied on secondary sources. These circumstances are noted in passing because my research has focused on a process that was so secretive that hardly anything has been written about it, neither in the scientific journals of the time, nor in the academic Soviet literature. A careful reading of the censors' efforts, however, allowed William J. Spahr to find substantial pieces of new evidence for his biography of Zhukov, *The Rise and Fall of a Great Captain*, Presidio, Novato, CA 1993.



even more rational to start from the heart of the decision-making and planning organs. In other words, to bypass the printed sources as swiftly as possible.

The study has been limited to a few decision-making levels in the network of mobilisation and planning organs. The Defence Sector at Gosplan (*Sektor Oborony Gosplana*) is one; the Red Army Staff and its Organisational-mobilisation Department, - the other. By analysing the contemporary sources, I have been able to establish the theoretical ideas and the practical contents of the military planning endeavours in the Soviet Union in the late 1920s and 1930s. In addition to these two organs, my work has utilised records of the highest Party decision-making body, the Politburo of the Communist Party, and from the highest management level of the war industry, the relevant directorates of the Supreme Council of the Economy (*VSNKh*). I have only casually sought information on plan targets from intermediate levels, such as the Supply Directorates of the Defence Commissariat or the trusts in the defence industry. Such records possibly could shed light on how the plans were implemented. When a certain target for artillery production had been decided on at the highest level, there followed a drawn-out process, before the orders were forwarded from the Artillery Directorate to individual factories. Similarly, the production process and the acceptance process (*priëmka*) of the military would have to be studied if the purpose is to find the most reliable primary data concerning actual plans and their fulfilment. As an example of this type of material, the planning of tank construction in 1932 is described and analysed in chapter 6. This analysis might develop some clues for further research on armaments production.

Because of the minimal amount of relevant facts published, I have limited my reliance on printed sources (newspapers, journals and books) from the 1930s as much as possible.

In 1992 there existed a guide-book just to the Russian State War Archive (*Rossiiskii gosudarstvennyi voennyi arkhiv*, RGVA). In general, my research had an exploratory character because our knowledge in the West of the conditions, the nature and extent of documents relating to the defence matters within Gosplan and to defence industry matters in the Red Army were next to nil prior to the present study. Basically, the research climate in the Russian archives used for this study were excellent; I browsed through inventories, and I got generous

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<sup>55</sup> Korzhigina, Tatiana P., *Sovetskoe gosudarstvo i ego uchrezhdeniia, 1917-1991*, (The Soviet State and its institutions), Rossiiskii gosudarstvennyi humanitarnyi universitet, Moscow 1994.

advice from the archivists. The source problem was not a paucity or selectivity of documents, rather the opposite! Still, the researcher is very much dependent on the specialists for knowledge as to how documents were originally gathered for the archives, and as to what selection process decided which types of documents were regularly destroyed rather than being sent to the archives. The files available for the present project include many from, for example, the Defence Commissariat, where matters were sealed under a certain heading in the 1930s, including preparatory reports as well as a final decision. When a file was sealed long after the event, however, say in the 1950s, the researcher is left guessing as to what criteria were used to establish the file.

In the Russian State Archive of the Economy (*Rossiiskii Gosudarstvennyi Arkhiv Ekonomiki*, RGAE, formerly TsGANKh, *Tsentralnyi Gosudarstvennyi Arkhiv Narodnogo Khoziaistva*), documents concerning the State Planning Commission (Gosplan) and the Supreme Economic Council (VSNKh) provided the essential basis for this study. The archives of Gosplan were approached in an exploratory way. When my project started in 1992, it was not even generally known whether defence plans were in the form of secret addenda to published plans, or if they were drafted in some other form. It has been part of the project to survey and evaluate the source basis concerning Gosplan's Defence Sector (*Sektor oborony Gosplana*). An initial task was therefore to establish a picture of the preservation of documents on planning structures and activities during the pre-war years. Following this survey, it became possible to focus on analysing the links between various plans that Soviet economists had elaborated in Gosplan's Defence Sector, on the one hand, and the military's war planning, on the other hand. The implementation of defence industry plans has been studied not only from reports of Gosplan and the military, but also from primary sources of concerned industrial agencies and individual factories.

The Russian State Military Archive (*Rossiiskii Gosudarstvennyi Voennyi Arkhiv*, RGVA, formerly Central State Archive of the Soviet Army, TsGASA) contain the files of the Red Army from 1917 up to 1941. This study is concentrated on the high-level decision-making process in the highest military agencies concerning the industrial needs of the armed forces. Documents on the long-term army restructuring and procurement plans, as well as the army's views on various drafts of five-year economic plans have been examined. These documents

originate from the Defence Commissar and his deputy, from the Chief of Staff, and from the Organisational-mobilisation department of the Staff.

At this decision-making level, there existed a network of military, planning and Party leaders. The military were represented by officers in Gosplan and the Supreme Economic Council. The planners regularly sent their proposals and drafts to the military. The military and the planners together formed the multitude of commissions that the State and Party organs usually established before an important resolution, directive or plan was adopted.

Among the permanent authorities for defence policy, the Executive Sessions of the Council of Labour and Defence (*Rasporiaditelnye zasedaniia Soveta Truda i Oborony*) proved to contain much information on the involvement of the military in the elaboration of the first Five-year plan 1928-29, as well as on the drafting of other plans of the defence industry and branches of the economy that were of particular interest for the military.

The threat assessments and debates about war planning are analysed through the reports written by the Red Army Intelligence Directorate, as well as by leading military officers. The actual functioning of the defence industries with regard to the military need is reflected in the reports by military procurement agencies.

The Party Archives (*Rossiiskii Tsentr po Khraneniui i Izucheniiu Dokumentov Noveishei Ery*, RTsKhIDNI, the Russian Centre for Preservation and Study of Documents of Recent History, formerly TsPA) were useful to provide clues to, and new insights on, the decisions at the highest Party level.<sup>56</sup> The Politburo decisions on defence, in the protocols and the so-called "special files" (*osobyie papki*), have been checked for the years 1926 to 1934. In most cases, the Politburo protocols only contain short notes on a particular matter. Those who spoke regarding each question on the agenda are listed. So far, no stenographic or similar records of the debates at the Politburo level have become accessible. Thus no new insights on such key issues as, for example, the attitude of Stalin on defence policy as expressed in this forum have been gained. In individual cases, namely when the report was prepared by the military or Gosplan's Defence Sector, a fairly good picture of a Politburo debate can be constructed.

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<sup>56</sup>A reference guide to this archive, see *Rossiiskii Tsentr Khraneniia i Izucheniia Dokumentov Noveishei Istorii. Kratkii putevoditel*, Moscow 1993.

## **The purpose and scope of the study**

From a logical point of view, it is obvious that a large military build-up must have occurred in the Soviet Union during some period preceding World War II. The purpose of this study is to analyse the military objectives of the Soviet leadership, to examine how such objectives were formulated in public statements and internal decisions, to determine whether they were supplemented or competed with industrialisation, and to see to what extent they were accomplished.

This study formulates *a new analytical approach* to Soviet rearmament as a process. My purpose in this regard is limited to establishing a framework for further empirical studies. Thus I will test this analytical model on a few selected branches, rather than give an exhaustive description of the whole Soviet defence industry. Given the archival access, the primary purpose is to determine exactly what kind of plans were designed by the military. As noted above, the existing Soviet literature has described the existence of several types of plans, but it has not been known how the targets in these plans corresponded with one another. Until recently, only the official Five-year and Annual plans for the economy of the USSR have been available, and in these plans virtually nothing was said about the defence industries. The question of which kind of defence-industrial plans existed, by whom they were drafted and through which organs and decision-making bodies they were processed before decisions were taken therefore will be explored.

Although Soviet military historians have referred to various types of plans for the armed forces, it was only with the recent archival access that a systematic analysis of these plans became possible. The success and failures of the military build-up can now be studied in detail.

Such an approach raises several questions: Was there a specific pattern of planning in the defence sector? Did the defence industry apply methods that differed from economic planning in general? Did the combination of military goals with those of the industrialisation in general form a specific Soviet model of planning? In other words, will the new knowledge concerning the military targets in planning change, or even require revisions of our views on the planning system as such?

To elaborate on this analytical approach, the scope of the study has been limited in time and space; to the years 1926-1937, to the defence industry in a narrow sense and to the highest decision-making circles in the Party, State, military and planning organisations.

The central actor in this study is Mikhail Tukhachevskii, acting as Chief of Staff at the time when this study commences, and as Deputy Defence Commissar and Chief of Armaments in the mid-1930s. Tukhachevskii's flamboyant career during the Russian Civil war and the Soviet-Polish war in 1920 had already made him a famous personality in the mid-1920s. The implications of Tukhachevskii's elaboration of new warfare doctrine for the industrialisation of Soviet Russia will be taken up. The two basic questions for this study are: Which were his strivings with regard to the new weapon producers? What was the result of his involvement in industrial management and mobilisation?

The study covers the development of Soviet defence industry planning from 1926 to 1937. The starting-point of 1926 was chosen because it was then that defence matters, for the first time since the Russian Civil War, were again high on the political agenda. The various ideas concerning preparing the country and the economy for a possible new war, which, previously had only been discussed in books and periodicals, took concrete shape in new organisations, and in the first formulations of the tasks for defence industry planning.

The choice of 1937 as the final year of this study is motivated by both historical factors and the available sources. By then, a clear pattern in the defence planning system had emerged. Several reforms designed to synchronise the military and planning organs had been implemented. In other words, a fixed structure for defence industrial planning had taken shape.

Thereafter, in the "Great Terror" of 1936-38, a whole generation of cadres from the Party, state and industrial authorities was wiped out, while the Red Army literally was beheaded. Several of the "main players" in the present study were among the victims of the Stalinist Terror. A subsequent study would be required to analyse whether or not the organisation was sufficiently solid to make it possible for the newly-promoted successors to continue the preparations of the country for war.

This study is limited in space so as to highlight the specific decisions and plans for the defence industry. When it had become accepted that a future armed conflict would require the resources of the whole economy, and that a new kind of warfare - including long-range aviation

and chemical weapons - would inflict damage far behind the front-lines, war preparations came to include most sectors of the economy, the administration, and the educational and transport systems. When the Soviet leaders foresaw a total war, their war-preparedness naturally came to include most sectors of society. The scope of this study is limited, however, to the drafting and implementation of plans for the armaments manufacturers and, to a certain extent, also for the principle suppliers to the defence industry.

The central "player" in this study is Mikhail Tukhachevskii.<sup>57</sup> His role as one of the ardent modernisers of the Red Army has been widely recognised and studied. In this work, Tukhachevskii's contributions to the Soviet military doctrine and his elaboration of war plans in the 1920s and 1930s form a principal element. Through the analysis of his war plans and studies on the future war, a picture emerges of how the Soviet military envisioned the necessary transformation of the economy. In comparison with his military thought, Tukhachevskii's notions on military-economic preparedness and industrial mobilisation were previously less known. Consequently, a systematic clarification of his proposals at crucial turning-points in the Soviet rearmament process are called for.

The purpose of the study can thus be summarised. First, the departure point for the present investigation is the disparate plans formerly only known by name and intent, not by result or content (plans with different time spans, for the various categories of the armed forces). Second, the archives may provide clear-cut answers concerning both the intentions and the implementation of such plans. Third, how did the military specify their requirements of industry? Fourth, to what extent was the Soviet economy capable of satisfying these requirements in the short and in the long run? And, finally, which were Tukhachevskii's particular contributions to Soviet defence industry planning and to military-industrial mobilisation?

To avoid possible misunderstandings about the scope of the present study, I want to emphasise that changes in the Communist Party and in Soviet society and debates on industrialisation and the collectivisation of agriculture are discussed only if that is necessary to

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<sup>57</sup> Mikhail Tukhachevskii (1893-1937), nobleman, finished War College in 1914, served in World War I, prisoner-of-war in Germany 1915-1917. In the Red Army since 1918, advanced to Army Commander during the Soviet-Polish War 1920. Numerous articles on modern warfare in the 1920. (cont.)

illuminate the military's concerns for the country's defence preparedness. The foreign policy of the Soviet Union will be discussed only in those aspects where it had a direct effect on the military build-up. Finally, although this study will provide a series of examples where leading Soviet military officers promoted the most advanced types of weapons, I do not intend to cover the various steps in and the factors behind the development of weapons technology during this epoch.

A terminological question should be cleared out here. The armaments producing factories in the Soviet Union were referred to indistinguishably as *voennaia promyshlennost*, i.e. the "war industry" or *oboronnaia promyshlennost*, the "defence industry". While the object is the same, it may be argued that the former sometimes has negative connotations and the latter rather a positive tone. No such implication is to be inferred from my use, as a matter of consequence, in this study of the term *defence industry*, whether the original sources have the Russian word for war (*voina*) or defence (*oborona*).

The following presentation is chronologically divided into three parts with a summary and a conclusion. Each part is structured basically in the following manner.

The first chapter in each part deals with the military's threat perception, its doctrines and its main proposals for the transformation of the armed forces.

The organisational network that linked the military, the planners and the high political decision-making bodies forms the following element of each part. In these chapters, I scrutinise both the formal processing of various plans and defence issues through the highest military, planning and Party organs, on the one hand, and the personal in-fighting that went on among outstanding military leaders, on the other hand.

These two elements provide the background for the war plans. The war plans are analysed not in their operational, but in their material dimension. The material requirements of the military, expressed in the long-term mobilisation requests (*mobilizatsionnaia zaiavka*) and the annual military armament orders (*voennyi zakaz*) were the centrepiece of the investment and production plans of the defence industry and its suppliers.

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Chief of Red Army Staff, 1925-28. From 1931, deputy Defence Commissar and Chief of Armament. Arrested and, after a show-trial, executed in 1937.

Thereafter, I analyse the military components in the first, respectively the second, Five-year plans and evaluate the military results of each of these plans. The results deal both with actual armaments production during these years, and so far as the indirect estimations allow, with the eventual mobilisation preparedness of the industry.



## **PART I**

### **CONTOURS OF THE FUTURE WAR, THREAT ASSESSMENTS AND THEIR IMPLICATIONS**



## **Chapter 1**

### **LESSONS OF THE PAST AND FEARS FOR THE FUTURE WAR**

The military's apprehension of expected future conflicts and of the combat capability of the Red Army forms a natural background to an analysis of defence industry planning. The primary purpose of this chapter is to examine major changes in Soviet military doctrine during the mid-1920s. Marxist thought permeated both the military and leading planning circles. These ideological convictions were combined with lessons drawn from the First World War. The ideological and theoretical implications were put to test in the surveys regularly prepared by the Red Army Intelligence service for the political leadership. The practical implementation of the defence industry policy was put to a test in the planning efforts carried out in 1925-1927. From the military's evaluation of the defence capability of the armed forces followed a number of demands on economic policy in general and planned industrialisation in particular.

#### **1.1 Marxist ideology and the inevitability of war**

The ideological foundation of the industrialisation programme was the Bolshevik belief in an inevitable confrontation between capitalism and socialism. At a certain level of the debates within the planning organs, when drafts for plans for the defence industry were discussed between representatives of the military and the planning agencies, the basis for the debates was often presented in the form of "theses" (*tezisy*). These programmatic statements contain few quantitative data. Rather they represent the ideological underpinnings of the whole military-economic planning enterprise. In order to place the aims of the Bolshevik leadership in proper perspective in terms of the mentality that reigned in these circles, a survey of Marxist thought on capitalism, socialism and the expected armed clash between the rival systems is called for. These common underpinnings can be summed up as follows:

The basic aim of capitalism was the annihilation of the Soviet state: in peace-time - through every type of pressure on its structure and economy, in war-time - through a direct defeat of its armed forces and, thereafter, the creation of economic and political chaos. There could only be two outcomes to the confrontation; either a full victory for one or the other side, or else a "half-victory". A half-victory would imply a new phase that the Bolsheviks called a

"breathing spell" (*peredyshka*) of "peaceful cohabitation" (*mirnoe sozhitelstvo*), where capitalism would withdraw to its previous positions and with the construction of socialism being retarded by the conflict.

In such a war, the Soviet Union would pursue an "active defence". The plan was that as a result of serious blows inflicted on the enemy armed forces, the war would change from a conflict between the capitalist states and the Soviet Union into an armed struggle by the proletariat in the capitalist states against the capitalist system. If no compromise was reached, the capitalist system as a whole could be definitively crushed.

If the total victory of socialism was impossible, however, a "half-victory" would still be preferable to the risks of an all-out confrontation. In either case, the 1928 perspective was of a protracted war and of a war that could lead to another "peaceful breathing space" and yet further preparations for war.

In the Defence Commissariat's rejection of, and demand for, a redrafting of Gosplan's proposed five-year plan in 1927, the military stated:

From the moment that the capitalist world lost hope of liquidating the first socialist state as a result of our internal contradictions, an armed confrontation between the two socio-economic systems has become just a question of time. Considering the strained tensions between the most aggressive capitalist states and the Soviet Union ... one must see the forthcoming five-year period as a pre-war time.<sup>1</sup>

Since the expected war would require involvement of the whole economy and an economic transformation, the strength of the economy would determine the likelihood of victory in the armed struggle and the capability of sustaining a protracted war. Therefore, the military concluded:

The basic task is how in the best manner to adapt the economy of the Soviet Union for war-time conditions.<sup>2</sup>

Only by a systematic study of defence tasks and a corresponding inclusion of them in the long-term plans would it be possible to eliminate the "bottle-necks" that otherwise would threaten the armed forces and the sustainability of the economy in war-time. The military argued that the "defence principle" (*oboronnaia ustanovka*) did *not contradict* the main tasks

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<sup>1</sup>*Zakliucheniia po perspektivnomu piatiletnemu planu razvertyvaniia narodnogo khoziaistva SSSR*, no exact date, by context - 1927, RGVA, f. 7, op. 10, d. 303, l. 123.

of the long-term economic plans, but only gave them a special "refraction". Capital investment in industry and transport, the raw materials question and the country's independence would all take on a particular hue in the light of an "inevitable" war.

There was a similar basic tenet in the arguments of the military economists in Gosplan in favour of the inclusion of defence preparations as dictated by the international situation:

If the war, with which the capitalist world threatens us, is an inevitable stage on the road to socialism, and if, furthermore, victory in this struggle is a condition for the construction of socialism, and if, finally, we see this war between the proletarian state and the capitalist world as an enormous exertion of human and material resources, the defence preparations must consequently occupy a corresponding place in our economic construction.<sup>3</sup>

An argument from the Gosplan supporters of a faster growth rate for the defence industry was that defence considerations would not contradict the basic tasks of the plan, "our general goal of constructing socialism". The drive to achieve faster development than capitalism by the rapid industrialisation of the country, by increasing the technical level of agriculture and by improving the welfare of the people, all these and other targets would be compatible with a strengthened defence capacity. The basis of a solid defence was a strong economy and a "correct relationship between the classes", which in the late 1920s meant maintaining the market relationship with the peasantry.

One major problem for the military authorities in formulating the defence considerations into a five-year plan was "unpredictability". It was impossible to "plan the war" or even to predict when it would most probably break out. If the defence preparations were to constitute a complex system of different measures to be executed in due order, however, then the planners would have to take the five-year plan as an optional framework and aim at the "optimum of defence capacity" for the next few years. The combined requirements of defence could best be understood, if an "economic plan of the war" and a special version of "control figures" for one year of war, (i.e. an annual plan for 1 year - of - warfare) were developed.

A not so refined, but acceptable, way to proceed was to start from the requests of the armed forces and then to calculate the resulting demands on the main branches of the

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<sup>2</sup> *Ob uchëte nuzhd oborony v perspektivnom planirovanii*, Zapiska Sektora oborony, 17.01 1928, RGAE, f. 4372, op. 91, d. 155, ll. 89-88.

<sup>3</sup> *Oborona v perspektivnom planirovanii (Predvaritelnye tezisy)*, Uchenyi sekretar Sektora Oborony Gosplana, 1928, RGVA f. 7, op. 10, d. 499. l. 15.

economy. All plans that were drawn up for war-time - whether it was an economic war plan, a war-time version of the control figures, distinct war-time material balances or a mobilisation plan - were all "arbitrary plan superstructures" (*proizvolnaia planovaia nadstroika*). They could be tested against reality only in war-time. Their correctness could not be otherwise tested. One way to deal with this problem was to use comparative analysis of a pre-World War economy with the World War changes, and by implication, to assess the structure of the present economy with regard to possible bottle-necks in a future war.

A comparison of the structure and the dynamics of the economy in the previous wars ought to provide a more or less likely perspective on the economy in the next war. On this basis, the planners were to set up a model of the economy. This model was to include the defence capability to be attained by the end of the five-year plan.

Such a plan would not to be isolated or separated from the basic Five-year plan.

We will not reach our target if we don't let defence matters be reflected in the tasks for the development of the Soviet economy as a whole, by which it will attain a kind of long-term optimum. *But we regard the first forthcoming years as a period of immediate preparation for war.* Therefore this sub-optimum is considered to include a possible maximum in defence capability.<sup>4</sup>

Having presented this ideological background, as it was debated in the military and economic circles in 1926 and onwards, it is now time to turn to the practical deliberations of the political leadership with regard to defence policy and industrialisation.

## 1.2 The Experience of World War I

In the decade following World War I, it was the common opinion in both the West and in the Soviet Union that the next war would involve the total capabilities of the participants to an even larger degree than had been the case in 1914-1918. In the Soviet Union, a lively debate on economic preparedness for war took place in the mid-1920s. Several basic slogans were coined and sweeping programmatic speeches concerning the economics of war were made by Lev Trotskii, the first People's Commissar for Military and Naval Affairs (*Narkomvoenmor*, hereafter called Defence Commissar) and in 1925 by his successor at this post, Mikhail Frunze.

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<sup>4</sup> *Ob uchēte*, op.cit., I. 86, Italics added, LS.

Trotskii advocated the expansion of air power, calling for a long-term plan to increase Soviet production of aircraft. It has been known that even during the "War Communism" period, Trotskii had been an ardent promoter of the principles of planning.<sup>5</sup> There is now new evidence indicating that even in the autumn of 1921, when shifts in economic policy were underway, Trotskii suggested a long-term planning approach. The military authorities were urged to prepare "a maximal military-economic program", even before the economic upsurge that was expected as a result from the New Economic Policy and, particularly, from foreign capital and technical assistance. A maximum program would, in his view, "... guarantee that the Red army receives the most modern armament and the most modern technical means", based on its war-time size and with reserves for a war of half a year to one year. Furthermore the program should:

... not be based on our present production possibilities, but instead on the needs of defence in the widest sense of the term. With this determination of our needs in quantitative and qualitative terms, we present our precise demands to industry.<sup>6</sup>

Trotskii initiated the co-operation with German industry and the Reichswehr in 1922. This co-operation between the "outcasts" from the Versailles Peace Agreement was expected to be mutually advantageous. Germany could secretly train officers and test new weapons in Russia. The Red Army could send officers to attend courses at German military academies. The ensuing agreements between the Red Army and German industrial companies were supposed to provide the necessary new technology and weapons to Soviet Russia.<sup>7</sup>

The war-economic debate in the Soviet literature during the twenties has been analysed by several scholars in the Soviet Union and in the West. A survey of the principle

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<sup>5</sup> For the debates about economic planning in 1920-21, see e.g. Malle, Silvana, *The Economic Organization of War Communism 1918-1921*, Cambridge UP, Cambridge 1985, p. 275.

<sup>6</sup> Trotskii, *Zapiska*, 7.10 1921, RGVA, f. 33987, op. 3, d. 65, ll. 231-232. Cf. also the brochure on the role of the air force by Trotskii, *Aviatsiia - orudie budushchego*, Ekaterinburg, 1923.

<sup>7</sup> The clandestine co-operation in the military field between Soviet Russia and Weimar Germany has been treated in many works. For the latest history that includes the most comprehensive coverage of the issue and is based on German archives, see Zeidler, Manfred, *Reichswehr und Rote Armee 1920-1933. Wege und Stationen einer ungewöhnlichen Zusammenarbeit*, Oldenbourg, München 1994, pp. 33-46, 89-99.

Some documents on this Soviet-German co-operation in Weimar period, originating from the Russian State War Archive (RGVA) are published in *Fashistskii mekh kovalsia v SSSR. Krasnaia Armia i Raikhsver. Tainoe Sotrudnichestvo 1922-1933. Neizvestnye dokumenty*, (The Fascist Sword was forged in the USSR), Ed. by Dyakov, Iu.L. & Bushueva, T.S., Moscow 1992.

See also Stoeker, S.W., *Forging Stalin's Army*, Ph.D. diss., op.cit, ch. vi.

protagonists is provided by Latnikov.<sup>8</sup> Since the main currents in the defence-economic debate have been studied, I will only briefly refer to the common ground and to some spurious beliefs held by the military and by the so-called military economists (*voennye ekonomisty*).

The main cause of the failure of the Tsarist, as well as the pre-war German, mobilisation and military plans were the incorrect assumptions of the General Staffs concerning the duration and extension of a modern major war. The ammunition supply norms and mobilisation calculations in the period from 1890 to World War I, as well as the demands on the defence industry in general, were basically designed to maintain a certain level of mobilisation reserves required for short wars. Effective preparations to mobilise their economies were not undertaken by the belligerent states until 1915.<sup>9</sup>

The basic lesson of the World War for the Soviet military was that a future war would require a very different degree of involvement of the whole economy.

A future war cannot be won by the accumulation of mobilisation reserves. The forthcoming bloody struggle with capitalism can only be secured by an industry that operates intensively during the war, and which is well-prepared in advance for a fast transition to production of arms and ammunition.<sup>10</sup>

In a 1926 lecture, the military specialist Abram Volpe advocated a precise plan of industrial mobilisation.<sup>11</sup> He talked frankly about "our obvious backwardness" compared with the West in the domain of mobilisation preparedness of industry and the economy. He referred to contemporary works such as that of the French general Bernard Serrigny, *Réflexions sur l'art de guerre* and of the German economist Arthur Dix, a translation called

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<sup>8</sup>Boetticher, Manfred, *Industrialisierungspolitik und Verteidigungskonzeption der UdSSR 1926-1930*, Droste, Düsseldorf 1979, Kap. IV. "Militärökonomische Forderungen an den ersten Fünfjahrplan", pp. 206 - 233

Latnikov, V., "Razvitie sovetskoi voenno-ekonomicheskoi mysli v 20-e gody", (The Evolution of Soviet military-economic thought in the 1920s), *Voenna-istoricheskii zhurnal*, 1976, No. 1.

<sup>9</sup>For "traditional" mobilisation requirements, see Goldstein, E.R. "Military Aspects of Russian Industrialisation. The Defence Industries, 1890-1917", Ph. D. Thesis, Case Western Reserve University 1971; For the Russian mobilisation of industry, see e.g. Siegelbaum, Lewis H., *The Politics of Industrial Mobilization in Russia, 1914-17. A Study of the War-Industries Committees*, New York 1983.

<sup>10</sup>Dybenko, P., "Zadachi promyshlennosti po oboronosposobnosti strany", *Voina i tekhnika*, 1926, Nos. 8-9.

<sup>11</sup>Volpe, A., *Sovremennaiia voina i rol' ekonomicheskoi podgotovki*, (Modern war and the role of the economic preparedness), Voennyi Vestnik, Moskva 1926.

Abram Volpe (1893-1937), member of the Communist Party since 1917 and participant in the Russian Civil War. Finished the Red Army Academy in 1922, thereafter lecturer at the Frunze Military Academy. Later in the 1930s, Chief of Staff of the Moscow Military District and Head of the Red Army Main Directorate.



*War and Economy. The Experience of Germany in the World War.*<sup>12</sup> Obviously, the Russian experience of WWI, as well as of the Russian civil war, and the organising of a war-economy on Socialist premises in 1918-1921 had had a definite influence on the way that Soviet military economists thought about preparedness for a future military conflict. It is well worth emphasising, however, that in the 1920s and 1930s, Soviet writers placed much more significance on current Western ideas about industrial mobilisation than has hitherto been recognised, and not just in textbooks from the Soviet era. Tracing the origins of the "warfare state" from the Soviet military and economic writings of the period, the American military theorist James Schneider pays scant attention to the Western influence on the Soviet debate of the 1920s. It is a matter of emphasis, but the Soviet ideas about preparing the economy for war were not specific to, or even original for, the Bolsheviks. It was very much an attempt to "catch up" with French, British and American progress in the 1920s. Contemporary Soviet commentators recognised the progress in "militarization" of Western societies and economies.<sup>13</sup> What J. Schneider describes as the "Soviet warfare state" was in some respects mostly an attempt by the Soviet leaders to imitate, and to adapt to, a trend which in their view was already well advanced in the Western economies.<sup>14</sup>

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<sup>12</sup> Volpe, A., op. cit., p. 4, 13-14, 19-20.

General Serrigny had published his book anonymously in Paris in 1920. Volpe quoted the Russian translation, *Razmyshleniia o voennom iskusstve*, Voenizdat LVO, Leningrad 1924. Serrigny had earlier written on the economics of war, see *La Guerre et le mouvement économique, leurs relations et leurs actions réciproques*, Paris 1906. In the late 1920s, he organised conferences on economic mobilisation, cf. *La Mobilisation Economique*, Paris 1928.

The other work Volpe referred to was Arthur Dix, *Voina i narodnoe khoziaistvo po opytu Germanii v mirovuiu voinu*, GVIZ, Moskva 1926. The original work by A. Dix was the two-volume book, *Wirtschaftskrieg und Kriegswirtschaft*, of which the second volume was translated into Russian.

<sup>13</sup> Remarks about the "militarisation" of the West were frequent, see e.g. Zhigur, Yan, *Razmakh budushchei imperialisticheskoi voiny*, (The Scale of the future imperialist war), Moskva 1930, pp. 46-47.

The evolution of industrial and economic mobilisation in the West was regularly followed by the Soviet periodical press, see e.g. the articles by Vishnev, S., "Ekonomicheskaiia podgotovka k voine za rubezhom", *Voina i revoliutsiia*, 1928, No. 7; "Organizatsionnye problemy voenno-ekonomicheskoi podgotovki inostrannykh gosudarstv", *Zapiski Kommunisticheskoi Akademii, Sektsiia po izucheniiu problem voiny*, tom 4, Moskva 1930.

<sup>14</sup> Schneider, James J., *The Structure of Strategic Revolution. Total War and the Roots of the Soviet Warfare State*, Presidio, Novato, CA 1994, pp. 217 et seq. Schneider wrote: "Ideas foreign to the classical concept of strategy - like production, industry, infrastructure, resource extraction - came to be swept under the rug of grand strategy. Until after World War II few theorists in the West would have the temerity to peer closely into these dusty intellectual shadows."

In the early 1930s, when the initial model for economic and industrial mobilisation proved to be unsatisfactory, the military and planning leadership would once again turn to the West for assistance, sending responsible industrial managers to Germany and studying American war-economic preparations and economic war-games.

It is also important to distinguish between what was an expression of belief, as seen in the great expectations that some Soviet military thinkers placed on their socialist, planned order, on the one hand, and their later practical experience of managing the build-up of a defence industry and organising an industrial mobilisation system. The Soviet economy was generally presumed to have advantages over the anarchic, private market economies. In 1927, before planning was launched. Tukhachevskii could triumphantly write:

Capitalistic states cannot cope with this problem of militarisation in a planned, efficient manner because of the very nature of the anarchic capitalistic economy.<sup>15</sup>

In Tukhachevskii's opinion, the "anarchy of the free market" was a liability in time of war, and although the capitalist nations had a greater abundance of natural and industrial resources, a "militarised Soviet economy" would ultimately have the advantage because:

Our centralised economy permits us to prepare our mobilisation in a planned manner. On the one hand, we can squeeze out a greater percentage of military production and, on the other hand, because of the planned character (*planomernost*) of our economy, we can achieve a more economic and efficient approach to the solution of administrative problems and to prevent the ruination of this economy by war.<sup>16</sup>

These preconceived Marxist ideas of Tukhachevskii, as expressed in the mid 1920s, would turn out to have only a faint resemblance with the practical possibilities. After a few years of experience with industrial mobilisation, Tukhachevskii himself would realise that the Soviet industrial management, planning and mobilisation agencies had severe deficiencies. Instead of boasting of the inherent advantages of the socialist order, he would urge the responsible authorities to study German methods.<sup>17</sup> Furthermore, the Soviet military and

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<sup>15</sup> Tukhachevskii, M.N. *Voprosy sovremennoi strategii*, (Problems of modern strategy), 1926, in *Izbrannye proizvedeniia*, (Selected Works), Voenizdat, Moscow, 1962, vol. 1, p. 259.

<sup>16</sup> *ibid.*

<sup>17</sup> See below, Ch. 6.4.

military economists would throughout the 1930s closely follow practice industrial mobilisations in such countries as Fascist Italy<sup>18</sup> and the capitalist United States.

Economic factors were a self-evident component of any military campaign. After the supply-crisis in the initial phases of the World War, no one could deny the importance of the economy for the battlefield outcome. The only satisfactory answer to the new situation - how to achieve the economic war-preparations of a country - would be to draft not only traditional military plans, but also an economic mobilisation plan.

Volpe argued, and other military thinkers and military economists agreed, that just as Gosplan handled the plans for peace-time construction, a distinct organisation should draw up plans for the war-economy.<sup>19</sup> In a 1927 book on strategy, the renowned specialist of the Tsarist General Staff, Alexander Svechin, who in the 1920s worked as teacher in the Frunze Military Academy,<sup>20</sup> asserted a special role for the military in economic planning:

The economic general staff is a reflection of the current broader notion of the leadership of a war. If a war involves armed, class and economic fronts, military agencies responsible for directing preparations and for preparing themselves to lead these fronts must be organised in advance. *The organization of a military economic staff is an urgent measure.* ...The experience of the past has demonstrated that without a special military agency the activity of different extra-departmental agencies involved in overall preparedness for war may vanish (*Le Conseil National de Défense* organised in France twenty years ago) or concentrate solely on resolving current peace-time problems (the Council of Labour and Defence in the Soviet Union).<sup>21</sup>

In descriptions of these forms of military-industrial preparations, the organizational result is frequently referred to as a particularly Soviet development ("militarisation of the economy"). As noted, Volpe was not alone in referring to the French *Conseil Supérieur de Défense Nationale* and other Western organizations as a model for the Soviet Union. When the foreign influences on the various Bolshevik economic aspirations are discussed, a digression on the continuation of the German influence is appropriate.

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<sup>18</sup>For a study of Italy's preparedness for mobilisation of its aviation industry, see the report by the RKKA Air Force Directorate, 16.07 1933, RGVA, f. 33988, op. 3, d. 303, ll. 381-373.

<sup>19</sup>Volpe, op. cit., pp. 11-13.

<sup>20</sup>Alexander Svechin (1878-1938), finished the Mikhailov Artillery College in 1897, participated in the Russian-Japanese war 1904-05, thereafter in the General Staff and commanding posts during WWI. Joined the Red Army in 1918. Professor at the Frunze Academy of the Red Army from 1918. Numerous works on military history and military theory.

<sup>21</sup>Svechin, Alexander A., *Strategy*, Eastview Press, Minneapolis, Minn. 1992, pp.128-9, (Italics added LS).

It has become almost an axiom that the War Communism system (1918-1921) was based on the German war economy of 1915-1918. Subsequently, the Stalin "model of industrialisation" has been seen as a return to War Communism, and, thus, as a further refinement of the German war economy. Such an interpretation is found in Oskar Lange's definition of the Soviet planned order as a *war economy sui generis*,<sup>22</sup> and it is also mentioned by Moshe Lewin.<sup>23</sup> Contemporary sources, however, seem to indicate that Soviet industrial mobilisation was influenced more by Western discussions and organization forms in the 1920s, than by the experience of the war economies in WWI. The following episode may illustrate this:

In May 1927, Stalin and other party leaders had received a proposal from a Party member, Turov, who advocated a "systematic study" of Germany's experience with the mobilisation of agriculture, industry, transport and trade during 1914-1918. Turov argued that the "rich German literature on the militarization of the economy" should be studied and that "our personal contacts in military and business circles in Germany" should be used for this purpose. Turov's proposal was rejected by Yan Berzin, Chief of the Red Army Intelligence Service.<sup>24</sup> Berzin maintained that the literature did not contain any valuable information concerning the methods of militarisation or any useful statistics. Berzin was equally sceptical of Turov's idea of using the Soviet contacts in Germany. Such methods could only provide the Soviet agencies with laws, budgets, plans for war-time trade and production programs. Instead he argued that the ongoing preparations of the "Great foreign states" for future wars should be studied by his secret agents. He called for larger funds for economic intelligence and for a special military-economic bureau of the 4th (Intelligence) Directorate of the RKKA Staff. The

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<sup>22</sup> Lange, Oskar, "The Role of Planning in a Socialist Society", in *Papers in Economics and Sociology, 1930-1960*, Polish Scientific Publishers, Warsaw 1970, p. 102.

<sup>23</sup> Lewin, Moshe, *Political Undercurrents in Soviet Economic Debates, From Bukharin to the Modern Reformers*, Princeton 1974, p. 98.

<sup>24</sup> Yan Berzin, real name Kiusis Peteris, (1889-1938), underground revolutionary and member of the Bolshevik Party since 1905. Several arrests and internal exile before 1917. Participated in the revolutions of 1917. In the Red Army since 1918, after the Civil War as officer in the Intelligence, the Head of which he was from 1924 to 1935 and also in June-November of 1937, after serving as advisor to the Republican Spanish government.

bureau already published such materials in the secret "Military-economic bulletin" (*Voenno-ekonomicheskii biulleten*).<sup>25</sup>

During the following years, the information provided by the economic intelligence service concerning economic war-preparedness in the West evidently did not satisfy the planners. In 1929, Gosplan's Chairman Krzhizhanovskii complained that far too few intelligence resources had been devoted to the study of foreign experience in preparing the economy for large-scale war. He lamented that only three issues of the "Military-economic bulletin" had appeared and that it had ceased publication already in 1927.<sup>26</sup>

### 1.3 Current threat assessments and their implications

Not until the international situation worsened for the Soviet Union in 1926 did the High Command formulate a comprehensive war plan. The 14th Congress of the Communist Party in December 1925 had proclaimed the industrialisation of the country as the principal strategic target. The desire to overcome the Red Army's technical backwardness welded together the objectives of the military and the industrialists.

As newly appointed Chief of the Red Army Staff, Tukhachevskii had commissioned the study of war-economic preparedness of the Soviet Union by a group of economists, among whom were the renowned Vladimir Groman and Lev Kritsman.<sup>27</sup> In 1926, Tukhachevskii wrote a preparatory work for the first war plan to be submitted to, and be debated and

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<sup>25</sup>Turov, *Dokladnaia zapiska Stalinu, Rykovu, Voroshilovu, Unshlikhtu, Ordzhonikidze*, 23.05.1927, RGVA, f. 33988, op. 3, d. 81, ll. 72-74; *Zakliuchenie nachalnika 4-go Upravleniia Shtaba RKKA, Berzina po dokladnoi zapiske tov. Turova ob ispolzovanii germanskogo opyta voenizatsii narodnogo khoziaistva*, *ibid.* l. 71-71ob.

There was a current and close interest in Western industrial mobilisation as shown by the bulletin from the Auto-armour-tank Directorate of the Red Army, *Biulleten ekonomiki voiny i voennoi promyshlennosti*, No. 7, 1931 (December) *Itogi mobilizatsionnoi podgotovki promyshlennosti kapitalisticheskikh stran k nachalu 1932 goda*, see RGVA, f. 31811, op. 3, d. 37, ll. 3-14.

<sup>26</sup>Krzhizhanovskii, *Zapiska, Ob izuchenii inostrannogo opyta po podgotovke promyshlennosti k voine*, 1929, RGVA, f. 4, op. 1, d. 1086, ll. 9-9ob.

<sup>27</sup>This early study group is mentioned in Tukhachevskii's letter of 20.02 1927 to Voroshilov. RGVA, f. 33987, op. 3, d. 155, l. 12.

Vladimir Groman, former Menshevik, in the 1920s, member of Gosplan's Presidium and Section on conjuncture studies. Author of several statistical studies on the industrial development. In a 1931 show-trial, accused and sentenced to a long prison term for participation in a "counter-revolutionary Menshevik organisation".

Lev Kritsman, economist at the Supreme Council of the Economy since the Civil War. Author to the book *Geroicheskii period russkoi revoliutsii* (The Heroic Period of the Russian Revolution), Moscow 1923.

eventually adopted, by the political leadership. A broad threat assessment, which included economic conditions, was outlined by Tukhachevskii in this background material for the 1927 War Plan.<sup>28</sup>

By way of introduction, Tukhachevskii stated that, in themselves, the expansion of the Soviet economy, the fragile "stabilisation of capitalism" and the growing revolutionary movement in Europe had made war more and more of a realistic threat for the USSR (*delaiut ugrozu voiny dlia SSSR vse bolee i bolee realnoi*). He further distinguished between "sharp" and "immediate" threats on the western borders of the USSR. The report outlined the international political situation and alliances, posited enemy force levels under various conditions of coalition warfare and provided an estimate of the strength of the Red Army. Tukhachevskii concluded by listing what was required of the Soviet economy and industry.

In 1926, the Far East was of no immediate concern to Tukhachevskii, although the deficient infrastructure and extremely long supply-lines in case of a military conflict had to be remedied. The Western borders of the USSR, however, were regarded as the most probable theatre of war. In this perspective, a hostile coalition was expected to gather around a Polish-Romanian bloc. Such a coalition, however, would be incapable of waging a large-scale war without massive support from Great Britain and other Great Powers. A major strategic difficulty for an anti-Soviet coalition would be its relatively narrow territories and its lack of lateral railways, i.e. lines along front-lines as opposed those leading up to the fronts. This factor precluded the coalition from undertaking large-scale manoeuvres along the enormous length of the Soviet front. The Soviet Union, on the other hand, could use its vast territory to shift forces from one front to another, if necessary, through the interior of the country.<sup>29</sup>

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<sup>28</sup> *Doklad ob oborone. Materialy*. (Report on Defence. Materials). Draft to the 1926 War Plan by Tukhachevskii, RGVA, f. 33988, op. 2, d. 671, ll. 1-14. I have used an unsigned copy of the materials Tukhachevskii gathered for this war plan. The Soviet military historian Gorkov discusses the character of the war plans of the Soviet Union in the 1920s and 1930s, and refers to this war plan as *Zapiska ob oborone SSSR (1927)*, found in the Defence Ministry Central Archives, TsAMO, f. 16A, op. 2951, d. 25. Cf. Gorkov, Iu.A., "Gotovil li Stalin uprezhdaushchii udar protiv Gitlera v 1941g.?", *Novaia i noveishaia istoriia*, 1991, No. 3, p. 30.

For the debates concerning possible war contingencies and Soviet doctrine in the mid-20s, see Erickson, John, *The Soviet High Command, A Military-Political History 1918-1941*, London 1962, pp. 288-292.

<sup>29</sup> *Doklad ob oborone*. (Report on Defence). Draft to the 1926 War Plan by Tukhachevskii, RGVA, f. 33988, op. 2, d. 671, l. 139.

The Red Army could not withstand a protracted war, because of the "embryonic condition" of Soviet industry supplying materials for military operations, and because an armed conflict would probably be accompanied by a blockade.<sup>30</sup> "Only after a number of years, when industrialisation has made progress" would the ability to fight protracted wars increase.<sup>31</sup> Tukhachevskii recommended that the initial strategic task be to split the hostile forces in the initial period of a war, i.e. before they were fully mobilised and concentrated. Such a strategy would call for "maximum mobilisation preparedness" even in peace-time, because during the war itself, Tukhachevskii reasoned, the existing Soviet defence industry could not cope with the requirements of the armed forces.<sup>32</sup> As long as economic backwardness prevailed, the pattern of war preparedness that Tukhachevskii discerned was closer to the pre-WWI model of gathering large mobilisation reserves before the war, than to the total war that would be protracted and would require the mobilisation and involvement of large sectors of industry. Until the gap between Russia and the West had narrowed, the prospects for the Soviet side in a war against a Polish-Romanian coalition would worsen with every month as the struggle continued. Tukhachevskii concluded that the USSR would eventually lose such a conflict "unless the European revolution will come to our rescue".<sup>33</sup>

### **Were Western war preparations simply figments of Soviet imagination?**

It is somewhat of a paradox that the Stalinist thesis about an "immediate war threat" from the West has not been refuted with anything except the internal logic, or rather lack of logic, in the Soviet documents.<sup>34</sup> To my mind, such a refutation of the Soviet "propaganda thesis" should include an analysis of the war planning and military contingency planning in the French and

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<sup>30</sup> RGVA, f. 33988, op. 2, d. 671, l. 8.

<sup>31</sup> In the report that was published by the Red Army Intelligence Directorate two years later under the title *The Future War*, the authors, who wrote in close contact with Tukhachevskii sketched a five-year or even a ten-year perspective, before the Red Army could launch a "lightning fast", crushing operation with a chance to defeat such states as Poland. See below, Ch. 1.4.

<sup>32</sup> Tukhachevskii, *Doklad ob oborone*, op.cit., l. 141.

<sup>33</sup> *ibid.*, l. 140.

<sup>34</sup> Boetticher, Manfred, *Industrialisierungspolitik und Verteidigungskonzeption der UdSSR 1926-1930. Herausbildung des Stalinismus und äussere Bedrohung*, Düsseldorf 1979, pp. 94-138.

The Russian historian L. Nezhinskii argues that no evidence has ever been found that any General Staff, that the West had profoundly elaborated war plans for a large-scale attack on the USSR. The whole conception of an "immediate threat" was elaborated, according to Nezhinskii, by Stalin  
(cont.)

British General Staff from this time. Only the absence of such "anti-Soviet war plans" or other documents from the French, British or Polish General Staff's Operational departments, would definitely refute the Soviet "general war scare". The documents from Soviet military intelligence that have been used in the present study indicate that they carefully processed such anti-Soviet war planning in France and Poland. However, there is, to the best of my knowledge, no literature based on Western war archives that would indicate any extensive war preparations against Soviet Russia in the 1920s. One exception, however, should be mentioned - a British war plan against the USSR in 1927.<sup>35</sup>

It is also remarkable that in Soviet war planning and other studies, the military obviously counted on social revolutions in Western Europe as probable effects of a future armed conflict, or even as the cause of such armed clashes, even at a time when "socialism in one country" had been established as the official Party line, i.e. after the defeat in 1927 of the "Left Opposition" headed by Trotskii. Tukhachevskii had proposed in 1920 that the Communist International should set up a General Staff for the executing the World revolution.<sup>36</sup> The campaign which he, as Army Commander, led against Poland in 1920 proved to be a testing-ground for this sort of "revolution on the bayonets". The defeat of the Red Army outside Warsaw in August 1920 had wide-ranging implications. First, to many Bolsheviks, it seemed to put an end to their hopes for armed uprisings in the West, to be supported by Soviet intervention. Second, Tukhachevskii's ultimate defeat on the Wisla river would haunt him for years to come. The fact that Stalin was partly to blame for the Bolshevik defeat was a sore point in the relations between Tukhachevskii and the General Secretary of the Party even in the 1930s. It is testimony to the still open atmosphere in the higher circles of the country, to the frank relations between the General Secretary and the Deputy Defence Commissar, that Tukhachevskii in 1932 would approach Stalin on matters of the history of the Polish campaign.<sup>37</sup>

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and a few other Party leaders in contradiction to the realities of the day. Cf. "Byla li voennaia ugroza SSSR v kontse 20-kh - nachale 30-kh godov? *Istoriia SSSR*, 1990, No. 6.

<sup>35</sup> "Conflict Between Britain and the Soviet Union - 1926", document discussed and presented by A. Searly in *Journal of Soviet Military Studies*. Vol. 3, No. 3, September 1990.

<sup>36</sup> Tukhachevskii, M., *Voina klassov*, Moskva 1921, p. 59.

<sup>37</sup> In 1932, Tukhachevskii would complain directly to Stalin about the lectures read by Melikov at the Red Army Academy on the Soviet-Polish war. The lectures, according to Tukhachevskii, (cont.)



The Red Army Staff 4th (Intelligence) Directorate, headed by Yan Berzin since 1923, supplied political and military estimates, in both regular reports and in the major study *The Future War (Budushchaia Voina)*, concerning the British attempts to form an anti-Soviet coalition. What was perceived as a series of threatening diplomatic attempts by Great Britain to form such a bloc in Eastern Europe was reported in current Intelligence reports from 1926 onwards.<sup>38</sup>

### **Advantages for the defence of the Soviet Union**

In some respects, the Soviet Union had a numerical superiority over its close neighbour states, and it could thus feel a certain confidence in case of an armed conflict. On the other hand, a hostile coalition on the western borders of the Soviet Union (the Baltic states, Poland and Romania) could count on British material support. Therefore, the potential strength of the coalition would ultimately increase over time. The only option for the Red Army (RKKA) would be to have at least equal strength at mobilisation and during the first period of war. This would allow RKKA to launch an initial campaign before the enemy had completed his mobilisation. In this way, the enemy bloc could be split and a possible basis for British arms supplies be destroyed. Thanks to its system of lateral railways, the Soviet side could gather sufficient forces on different theatres in certain periods, and thus could solve the prime strategic task, to "disorganise the supply of British weapons and equipment". If this failed, Tukhachevskii concluded that the outlook for the Soviet Union would be truly "threatening".<sup>39</sup>

In peace-time, the border states (Finland, Estonia, Latvia, Lithuania, Poland, Romania) mustered a total of 66 infantry divisions and 6 cavalry divisions. Provided that this bloc of countries was formed along the western borders, the Red Army would encounter a total war-

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distorted the truth and spread an image of Tukhachevskii as an "adventurist commander". Cf. Letter by Tukhachevskii to Stalin, 5.01 1932, RGVA, f. 33987, op. 3, d. 155, ll. 217-220ob.

<sup>38</sup> For such Soviet Intelligence reports from the 1930s, see e.g. Report on the preparations of the British Air Force in the Near East for a war against the Soviet Union, RGVA, f. 33987, op. 3, d. 670.

<sup>39</sup> *Doklad*, RGVA, f. 33988, op.cit., ll. 140-141. The strategic considerations concerning the Soviet railway system were outlined in the War plan documents including calculations of the carrying capacity to the borders, showing an advantage for the Polish-Romanian side. See RGVA, f. 33988, op. 2, d. 671, ll. 18-22.

The military-strategic significance of railroad construction during the 1920s and 1930s has only barely been studied. The more general importance of railroads in the event of war is emphasised in Rees, E.A., *Stalinism and Soviet Rail Transport, 1928-1941*, Macmillan, London 1994, ch. 8.

time coalition force of more than 110 infantry divisions and some 10 cavalry divisions (see table 1.1). Tukhachevskii emphasised that the Red Army must be able to deploy at least an equal number as the coalition at mobilisation, and that the military-industrial requirements of such a war should be included in any industrialisation plan.<sup>40</sup> In the calculations (table 1.1), Tukhachevskii tried to estimate both the human resources of a border-state hostile coalition and its "maximum use of their man-power" in case of material support from the West.

Table 1.1

**Expected anti-Soviet coalition's war-time strength**

(in divisions, brigades and regiments)

	Infantry	Cavalry
Poland	60	4 divisions + 5 brigades
Romania	32	3 divisions
Latvia	5	2 regiments
Finland	6 + 2 brigades	1 division
Estonia	4	2 regiments
Lithuania	4	4 regiments
Total	111 divisions, 2 brigades	8 divisions, 5 brigades, 8 regiments

Source: *Doklad Nachalnika Shtaba ob oborone*, RGVA, f. 33988, op. 2, d. 671, l. 3.

Given their total population, the Western border states ("*limitrofy*" in early Soviet parlance) could supply even much larger armed forces than those shown in table 1.1,<sup>41</sup> provided that they receive substantial West European military equipment and financial assistance. Tukhachevskii estimated that a 50% increase in numbers would be plausible. This meant, that instead of the 111 infantry and 8 cavalry divisions, the Soviet side must count for rebuffing a possible army of 165 infantry and 15 cavalry divisions. Tukhachevskii concluded:

<sup>40</sup> RGVA, f. 33988, op. 2, d. 671, l. 8.

<sup>41</sup> In a book on the changing nature of war written in 1927 by Vladimir Triandafillov, Chief of the Operational Directorate of the Red Army Staff, similar calculations made for the peace-time and war-time strength of the border states can be found. See *The Nature of the Operations of Modern Armies*, Frank Cass, London 1994, tables on pp. 34 and 39.

For other views on Soviet war planning in the documents that the U.S. Intelligence obtained from its Polish and Baltic services at the time, see the maps from the U.S. Riga attaché and the analysis thereof, cf. Glantz, David, "Soviet Mobilisation in Peace and War, 1924-1942: A Survey", *The Journal of Soviet Military Studies*, Vol. 5, No. 3 (September 1992).

The enormous armed forces of our possible enemies ... compel us to plan the changes of the Soviet armed forces in a most careful manner.<sup>42</sup>

The decisive battles were likely to be fought by the land and air forces. The role of the Soviet Navy was assumed to be negligible for the foreseeable future, so the expansion and reconstruction of the 1920s would foremost concern the ground and air forces.

The huge territory of the USSR, with its underdeveloped railway system called for the disposition of a number of divisions along the periphery in Central Asia, Siberia and the Far East. According to the Staff's calculations, the strategic situation required a mobilisation deployment of 120 infantry divisions, 18 cavalry divisions and brigades and at least 1 200 aeroplanes. Since 1924, the army's mobilisation plans had called for 111 infantry divisions. But it was not yet possible to supply so many troops. The Red Army's leadership therefore had to be content with 91 infantry divisions. Since the de-mobilisation after the Civil War, the strength of the Red Army had dropped from over five million men, to a peace-time strength of slightly over 600 000 by 1924.<sup>43</sup> In war-time, the RKKA would deploy 3.1 million men.<sup>44</sup>

In *The Future War*, the strength of Poland, Romania and other neighbouring countries was calculated in detail. Surprisingly, however, even this ambitious study did not, just like Tukhachevskii's war plan documents, try to estimate the forces of the West European powers, or of those units which these powers might divert to a coalition war against the Soviet Union.<sup>45</sup>

Tukhachevskii's 1927 *Report on Defence* came to the pessimistic conclusion:

At present, neither the USSR nor the Red Army is ready for war. ... A successful defence of our country is possible only if we can disrupt the 'force composition'

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<sup>42</sup> *Doklad ob oborone*, RGVA, f. 33988, op. 2, d. 671, l. 41.

<sup>43</sup> For the period from 1925 to the mid-30s, the strength of the Red Army, after the de-mobilisation 1921-24, is usually given by a figure that refers to men called up for extensive training, e.g. 500 000 in the cadre divisions in 1926. However, another 1.4 million men were in short-term training in the territorial units. The correct figures should include an estimate of the soldiers who received just a few months training per year in the militia (territorial units). In certain data supplied to the League of Nations' Yearbook, the Soviet authorities actually added 1.4 million  $\times$  1/4 = 350 000 men/year as an approximation for the joint strength of cadre and militia formations.

<sup>44</sup> RGVA, f. 33988, op. 2, d. 671, l. 58.

<sup>45</sup> For a 1928 over-all comparison of the economic and military might of the USSR and its neighbours, see *The Future War*, table on p. 657, RGVA, f. 33988, op. 2, d. 688, l. 20. Although the USSR would have a superiority in manpower and economic resources, the strength of the respective armed forces would be approximately equal during the first month of war. This "excludes the opportunity of a fast crushing of all our Western neighbours" (ibid, l. 22).

of our enemies during the initial period. ... Only after several years of successful industrialisation will our capacity for a protracted war increase.<sup>46</sup>

The conclusions presented a year and a half later, i.e. in the spring of 1928, in *The Future War* were more comforting. The calculations of the actual capability of the neighbouring states showed that their organization and mobilisation strength was lower than their theoretical potential. Their industries and economies would probably be able to supply less than fifty per cent of the necessary items in war-time. In 1928, it was thus stated that:

As a consequence, an offensive war by our neighbours against us is only possible if they receive a substantial financial support and military supplies from one or several of the Great Powers.<sup>47</sup>

But since such support would require huge sums that, furthermore, would increase enormously during a war, *The Future War* argued that the Great Powers, i.e. Great Britain and/or France, would hesitate (*prizaduma'sia*) before undertaking such an "adventure".<sup>48</sup>

#### 1.4 A vision of the future war

In 1926, Tukhachevskii commissioned an investigation of the probable characteristics of future military conflicts. The task of preparing materials for that study originally was given to several Red Army Staff Departments.<sup>49</sup>

After two years, in May of 1928, *The Future War* (*Budushchaia Voina*) was published in a very limited edition of 80 copies. It was in the form of a multi-volume report written by Yan Berzin, A.N. Nikonov and Yan Zhigur<sup>50</sup> from the Red Army Staff's 4th (Intelligence) Directorate.<sup>51</sup> In line with Tukhachevskii's directives, *The Future War* analysed the changing

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<sup>46</sup> *ibid*, 140.

<sup>47</sup> RGVA, f. 33988, op. 2, d. 688, l. 90.

<sup>48</sup> *ibid*.

<sup>49</sup> Only the Intelligence Directorate's report, however, was evidently accomplished and preserved in the RGVA archives.

<sup>50</sup> Yan Zhigur (1895-1937), officer at the Red Army Staff and deputy Head of the Chemical warfare directorate in the 1930s.

<sup>51</sup> This study has been attributed solely to Tukhachevskii. See e.g. Schneider, J.J., *The Structure of Strategic Revolution*, op.cit., pp. 215-226. However, two leading military intelligence officers, Yan Berzin and A. Nikonov, as well as the chemical weapons expert Yan Zhigur seem to have been joint authors. In a personal letter to Tukhachevskii, who in the summer of 1928 had been posted as Chief of the Leningrad Military District, Nikonov wrote:

"Dear Mikhail Nikolaevich! Today, the first copies have arrived of the work that was accomplished under your guidance - *The Future War*. I rush to send you this, our collective offspring with expression of great thankfulness for the theoretical guidance and support, that the 4th [Intelligence] Directorate has received for this important task. I wait impatiently for your  
(cont.)

nature of warfare, the comparative strength relations of the Soviet Union and its neighbours, the determinants of a forthcoming conflict and the demands on the economy. This extensive study, prepared by a central organ of the Red Army, has only recently become available for scholars. Of the 80 copies that went into circulation in 1928, only the archival copy seems to have been preserved after the confiscation following Tukhachevskii's arrest and trial in 1937.<sup>52</sup> Since the work that went into this massive study exposes the internal debates and reflects the state of knowledge, as well as the calculations about Soviet comparative military strength, I consider it worthwhile to discuss it in somewhat greater detail.

*The Future War* provides the most appropriate answers to questions concerning what kind of war the Soviets expected, as well as about the likely outcome of technical developments and about what organisational changes had to be undertaken. Since it was prepared and written during and after the "war scare" of 1927 (see Ch. 1.5), it also highlights the military's original opinion of that crisis.<sup>53</sup>

To a certain extent, *The Future War* conveyed lessons drawn in other countries after World War I. Among these were: the failure of pre-1914 war plans drawn up by the Russian, as well as the German and Austrian, General Staffs, the unforeseen massive scale of the war, its trench warfare character and the role of new weapons such as tanks, airplanes and chemical weapons. Tukhachevskii's aim *essentially* was directed at finding ways to avoid a fixed position war in the future. He argued against those in the Red Army, who with reference to

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instructions and remarks about the views we have developed in the book. But I know that you will hardly have time to read it now during the summer. I expect your review in late August or early September. It is not necessary to explain how important this review would be for our further endeavours." RGVA, f. 33988, op. 2, d. 682, l. 1. Since this letter was sent "Personal. Top Secret" there seems no reason to interpret this as "Aesopian" language. It can therefore be concluded that the substantial parts of *The Future War* were written by Berzin, Nikonov and Zhigur.

<sup>52</sup> *Budushchaia voina, The Future War* RGVA, f. 33988, op. 2, dd. 682-688. References to this work have been made by R.W. Davies, S.W. Stoeker and J.J. Schneider, who translate the title as *Future War*. Since this Soviet military study already at the first page states that war between the capitalist world and the Soviet Union would be "inevitable" (ibid., d. 682, l. 14), I prefer to use the definite form. Consequently, the title is here translated *The Future War*.

<sup>53</sup> The study was divided into 12 parts: The General political situation, Human resources, Economic factors, The Economic basis of war, The Influence of technique on the character of the future war, Transportation, Influence of modern air power on the character of the future war, The role of naval forces in the future war, The Political factor in the future war, Important operational problems of the future war, Important organizational questions, and, finally, Conclusions about the military reconstruction of the Soviet Union.

Civil War experiences, expected a future war to be "lightning fast" (*molnienosno*) and based on the Red army's "revolutionary spirit".<sup>54</sup>

As the Soviet economy approached pre-war production levels, plans for future expansion were developed. Tukhachevskii expected that industrialisation would soon permit the Red Army to wage a war with huge amounts of artillery, chemical weapons and motorised troops. Consequently, the strategic, organisational and mobilisation concepts for a new kind of warfare had to be elaborated. The relevant lessons were to be drawn from the last years of the World War, rather than from the Russian Civil War. *The Future War* analysed two different situations in which the Soviet Union might be entangled in a major war. First, an armed attack by the "imperialist powers" against the USSR. Such an invasion could extend along the country's western, southern and far eastern borders. The analysis excluded attacks through the southern and eastern regions as being less likely, and solely investigated the "most probable" scenario, where a larger or smaller coalition would attack over the western border.<sup>55</sup>

Second, a successful social revolution in a "major nation" would call for an armed intervention by the Red Army. Although this revolutionary war "scenario" recurs regularly during the mid-1920s and later, there is so far only sparse evidence that shows how the Red Army conceived such "liberation actions" to be possible in the European theatre, or debates on what would make revolutionary wars feasible as the technical reconstruction of the Soviet Armed forces progressed. Military advice and assistance, as given to China in the 1920s and 1930s and to Republican Spain in 1936-38, could be considered as only "a lower degree" of the revolutionary wars envisioned.

*The Future War* noted that by 1928 the European Great Powers had increased the relative importance of artillery, aviation, armoured forces and engineering troops. But in Poland, Romania and the Baltic states, i.e. Soviet Russia's western neighbours and expected enemies, the armies had approximately the same proportion of infantry and artillery as in 1914. According to *The Future War*, a huge gap existed between the defensive power of the probable enemies and the offensive capability of the Red Army. This would preclude a

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<sup>54</sup> Quotes from Tukhachevskii's 1926 guidelines for *The Future War* investigation, RGVA, f. 33988, op. 2, d. 682, l. 8. On several occasions, the word *molnienosno*, i.e. "lightning fast", used in *The Future War* basically referred to the speedy cavalry operations of the Russian Civil war. In this sense, it had nothing to do with the term *Blitzkrieg* in Nazi Germany's military doctrine.

"normal" development of a war, i.e. it would be impossible for the Red Army to launch continuous and decisive operations.<sup>56</sup>

The goal of operations in a war would be either the "crushing" (*sokrushenie*) of hostile armed forces or the attrition (*izmor*) of their material and human resources.<sup>57</sup> The "offensive" doctrine aimed at victory through "crushing" was elaborated, step by step, by Vladimir Triandafillov, Head of the Operations Directorate of the Red Army Staff, and by Mikhail Tukhachevskii in the late 1920s.<sup>58</sup> Alexander Svechin, professor at the Frunze Military Academy, argued for a strategic defence posture that aimed at the attrition of an enemy who invaded the Soviet Union.<sup>59</sup> He vehemently opposed the new doctrine formulated by Triandafillov.<sup>60</sup> In practice, proponents of an offensive doctrine, notably Tukhachevskii, also proposed purely strategic defensive measures. An example of this standpoint was his insistence in early 1927 on construction of a wide network of fortifications along the Western border. Judging by his polemics with Defence Commissar Kliment Voroshilov, Tukhachevskii seems to have been the most ardent proponent of constructing fortified regions, whereas Voroshilov did not give this sufficient attention. In 1927, Tukhachevskii urged the fastest possible building of the fortified areas, otherwise our "border conflicts may take on a pitiful character and the whole war plan might be threatened".<sup>61</sup>

On the other hand, a proponent of a defensive strategy such as Svechin argued for "crushing" (*sokrushenie*) in another context. In a polemical memorandum sent to Chief of Staff

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<sup>55</sup> RGVA, f. 33988, op. 2, d. 682, ll. 18-19.

<sup>56</sup> RGVA, f. 33988, op. 2, d. 688, ll. 63-73.

<sup>57</sup> RGVA, f. 33988, op. 2, d. 688, ll. 15-23.

<sup>58</sup> For a survey of the development of this offensive doctrine, see Savushkin, Robert, "K voprosu o zarozhdenii teorii posledovatel'nykh nastupatel'nykh operatsii (1921-1929gg.), *Voenno-istoricheskii zhurnal*, 1983, No. 5. Triandafillov's views were most coherently presented in his *Kharakter operatsii sovremennykh armii*, English transl. *The Nature of the Operations of Modern Armies*, Ed. by J.W. Kipp, Frank Cass, London 1994.

<sup>59</sup> Svechin's view on these two doctrines are elaborated in his *Strategiia* from 1927. See Svechin, A., *Strategy*, op.cit., pp.94-98.

<sup>60</sup> See Svechin's very sceptical remarks about Triandafillov and Tukhachevskii in a letter to Boris Shaposhnikov, Chief of the Red Army Staff, in 1930, where he urged a general rebuttal of Triandafillov's ideas. Shaposhnikov in this instance tried to moderate the conflict. RGVA, f. 33987, op. 3, d. 347, ll. 29-30.

<sup>61</sup> RGVA, f. 33987, op. 3, d. 155, ll. 21-23. Cf. also RGVA, 33988, 2, 700, 23ob.

The construction of a strategic defence line all along the western borders of the USSR, the purposes, history and extension of the so-called "Stalin Line" in the late 1930s, as well as the very controversial issue of its dismounting, and the unsuccessful building in 1940-41 of new  
(cont.)

Boris Shaposnikov in 1930, Svechin debated the official war planning. The Soviet Union should, in Svechin's opinion, "crush" Romania, the weakest state in an anti-Soviet coalition. On the whole, Svechin expected that the main danger for the Soviet Union would originate from the South, i.e. from Romania, the Black Sea and Caucasus region, where French or British troops might land. Svechin obviously thought that only in the second instance could a threat come from Poland, or from the Western borders in general.<sup>62</sup>

*The Future War* concluded that the most decisive results of an operation could be achieved by action on the enemy's flank and rear by encirclement. The Intelligence experts of RKKA concluded:

The existing means and organization of our Western neighbouring armies, as well as the resources of the Red Army, can by no means guarantee success in such operations.<sup>63</sup>

Therefore, if the Red Army was to be able to undertake decisive operations, it must receive appropriate equipment and education. For the probable theatres of war, the Red Army would need:

- 1) motorised infantry-machine gun units, reinforced with large tank units that are equipped with fast-moving tanks and motorised artillery,
- 2) large cavalry units, which must be strengthened with armoured forces (armoured cars, fast-moving tanks) and fire power (a maximal saturation of automatic guns) ...
- 3) huge air attack units.<sup>64</sup>

However, the authors of *The Future War* did not specify any numbers for the required strength of these forces. This was perhaps logical given that in 1927-28 no Soviet industry yet existed that could handle large-scale tank construction. Furthermore, the tank forces were seen largely as reinforcing the infantry and the cavalry.

With regard to the general deficit in case of war, the Soviet defence industry would consequently have to expand so as to supply enough shells, cartridges and guns for such swift operations.<sup>65</sup> The level of the necessary armaments production would, according to these

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defence lines, i.e. after the annexation of former parts of Poland, see Tarleton, R., "What happened to the Stalin Line?", *Journal of Soviet Military Studies*, vol. 5, Nos. 2, 3 (1992).

<sup>62</sup> See the hand-written memorandum that Svechin sent to Boris Shaposhnikov, Chief of Staff, in 1930, *Budushchaia voina i nashi voennye zadachi*, RGVA, f. 33987, op. 3, d. 347, ll. 13-30.

<sup>63</sup> RGVA, f. 33988, op. 2, d. 688, l. 18.

<sup>64</sup> RGVA, f. 33988, op. 2, d. 688, l. 18.

<sup>65</sup> RGVA, f. 33988, op. 2, d. 688, l. 72.



estimates, be on a scale far larger than in 1916-17, i.e. the maximum during the World War.<sup>66</sup> The maximum duration of a war against a possible coalition was estimated to be three to four years. Thus, everything would have to be done to prepare the armed forces, and the whole economy, for what would probably be a protracted war.<sup>67</sup> The study concluded that: "The Red Army does not have sufficient means to suppress the fire and defensive system of an enemy and to execute decisive offensive actions."<sup>68</sup> The basic outcome of the survey was that: "During the first period of war the Red army will not have a superiority of forces that could secure a lightening fast crushing of all its enemies."<sup>69</sup>

On the other hand, the Intelligence Directorate calculated that Poland's maximum deployment, approximately 70 infantry divisions, would overwhelm the country's resources. Poland could not even withstand the exertions of a single year of warfare. Even half a year of warfare was likely to cause a social and political explosion. The economic, and particularly the political, stability of Poland depended on assistance from the European Great Powers.

In principle, *The Future War* considered 5-6 months to be the minimum duration required for military and political victory against a country like Poland. That would require, however, at least a two- to three-fold numerical superiority for the Red Army over the Poles, as well as sufficient mobilisation reserves and a defence industry that could guarantee uninterrupted, decisive, offensive actions. Furthermore, the Soviet Union would need a transport system that could ensure an unhindered supply to the attacking forces.

However, in 1928-29 and, for that matter, during the next five years we will not have enough preconditions, neither in the military nor the political sense, for securing such a strategy of lightning fast, crushing operations.<sup>70</sup>

Therefore, the "general line" of the Soviet armed forces' development for the next several years should be the strengthening of technical equipment and, in the first instance, the means of suppression, namely artillery, tanks and aviation.

To sum up, the Western theatre of war scenario of *The Future War*: Through concentrated actions of the Red Army, small countries, such as Estonia and Latvia, could be

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<sup>66</sup> RGVA, f. 33988, op. 2, d. 688, l. 91.

<sup>67</sup> *ibid*, l. 92.

<sup>68</sup> *ibid*

<sup>69</sup> RGVA, f. 33988, op. 2, d. 688, l. 56.

<sup>70</sup> RGVA, f. 33988, op. 2, d. 688, l. 60.

crushed and sovietised within the first few months of war. Even under the most favourable conditions, however, assuming no West European assistance, it would still take half a year to subdue Poland. A protracted war against Poland would eventually drain its limited human resources, but that could take up to three years. The sovietisation of Romania was to be undertaken only after victory over Poland. Tukhachevskii and the other authors of *The Future War* expected it to take five to ten years before the Soviet Union would have enough resources to equip its army and air force for a mobile campaign against a country like Poland. In 1927, the Red Army therefore had to plan for a war of exhaustion (*istoshchenie*), a protracted war with some highly mobile, manoeuvre periods as well as with trench warfare on parts of the front and stationary intervals between operations. The training of the RKKA had to include offensive as well as defensive operations.

Even in the negative reasoning against a Russian Civil-war based form of "Blitzkrieg" (*molnienosnaia voina*), which is found in *The Future War*, the Soviet theorists had implicitly made some assumptions about the modern form of "lightning fast operations", namely the combined-arms operation of armour, aviation and infantry aiming at fast penetration of the enemy's defence lines. During the years 1922 to 1933, the clandestine co-operation with the German Reichswehr included courses at German military academies, the training of Soviet officers in Germany and technical testing and manoeuvres carried out by German officers in Soviet Russia. The flow of ideas between the two armies was very intense.<sup>71</sup>

Some of the principal trends in military thought, as discussed in this section, as well as in Part II and Part III, are depicted in the following figure:

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<sup>71</sup> Some of these historical circumstances of the Soviet and German *Blitzkrieg* doctrines are studied in Zeidler, op.cit., pp. 163-227.

Fig. 1.1  
 The main stages in the Soviet military doctrine development, 1914-1935.

1914	1920	1925	1930	1935
Transform the Imperialist war > Socialist revolution	World revolution Communist General Staff	"Socialism in one country" Defensive posture & doctrine Industrial build-up 1927 onwards		Triumphant socialism? Spain, China, Mongolia  Offensive military doctrine
World War One 1914 - 1918	Civil War 1918-21 Polish-Soviet War 1920	<i>Consecutive Operations</i>	<i>Deep Battle</i>	<i>Deep Operations:</i>  Rebuff & defeat the enemy on his own territory.
New automatic weapons cause stalemate and positional war, trench warfare. Emerging new chemicals, tank.	Swift manoeuvres with cavalry and some aircraft.	Adoption of the new ideas for mechanised war: tanks, aviation & chemical weapons.	The evolution of an early Soviet version of <i>Blietzkrieg</i> , i.e. massive tank forces, motorised infantry & mass air armies, to disrupt the enemy's concentration and mobilisation.	

The first row indicate the goals and strivings of the Bolshevik Party prior to and after the revolutions of 1917. The second row shows the main military events of the period, and the consequent changes in military doctrine of the Red Army. Finally, the third row indicates some of the most significant changes in military technology.

### 1.5 The "War Scare" of 1927

In the spring of 1927, the international situation of the Soviet Union seemed to take a drastic turn for the worse. In a police raid on the Soviet trade delegation in London, the British government found incriminating documents and accused Moscow of interfering in the internal affairs of the United Kingdom. In May, Great Britain broke its diplomatic relations with the Bolsheviks. In April, the Chinese Communists had been suppressed by their one-time ally, the Kuomintang. Events such as these, as well as what was seen as serious British diplomatic manoeuvres to form an anti-Soviet military alliance, produced a fever pitch atmosphere in Russia, where the leaders and the press launched a campaign warning of an "imminent war threat".

Whether the Bolshevik leadership itself really believed in an immediate war threat in 1927 has been the subject of scholarly debate.<sup>72</sup>

In order to put the "War scare" into perspective, and to assess some objective factors surrounding the psychological atmosphere, it is enlightening to study a report from the Army Intelligence Directorate.<sup>73</sup> In a survey of the international situation in early 1927, Yan Berzin presented a complex picture of latent threats and positive changes. The report analysed the international environment in terms of "unfavourable" and "advantageous" factors. Harmful to Soviet intentions were, for example, Great Britain's increasing influence among USSR's neighbour states, Germany's closer links with the Western Powers, attempts to solve the Polish-German conflict and Marshal Pilsudski's take-over of power in Poland in 1926. On the other hand, a much feared Polish-Baltic alliance had not yet been formed, and the economies of Soviet Russia's neighbours were crisis-ridden, while Britain was troubled by strikes and by its rivalry with France for the domination in Europe. Despite some rearmament that had taken place, the Berzin report sounded comforting.<sup>74</sup>

In general, during 1926 our Western neighbours have significantly increased their military strength, particularly their air forces, their technical weapons and guns, increased their mobilisation reserves and have developed their defence industry. However, in what was undertaken during 1926 and is anticipated for 1927, we do not see any immediate war preparations during 1927.<sup>75</sup>

The Soviet leadership, even at this stage, was aware of a threat from "Japanese imperialist policy" directed against the USSR and aiming at the elimination of Soviet influence in Northern Manchuria and other parts of China. Referring to Japanese secret plans and to Chinese war-lords, it noted:

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<sup>72</sup> For more detailed descriptions and analyses of the Soviet reactions to the events in 1927, see Sontag, J., "The Soviet War Scare of 1926-27", *The Russian Review*, Jan. 1975, Vol. 34, No. 1; Meyer, Alfred, "The War Scare of 1927", *Soviet Union/Union Soviétique*, 5, Pt. 1 (1978).

In a recent article, where the Russian historian Nezhinskii disputes the long-established Soviet dogma the "war scare" of 1927 is also treated, see "Byla li voennaia ugroza SSSR v kontse 20-kh - nachale 30-kh godov? *Istoriia SSSR*, 1990, No. 6.

<sup>73</sup> For an interesting survey of the probable threat appraisals by the Soviet military and intelligence in this period, which, however, as is stated in the article, could not yet rely on any Soviet Intelligence reports, see Erickson, John, "Threat Identification and Strategic Appraisal by the Soviet Union, 1930-1941", in *Knowing One's Enemies. Intelligence Assessment before the Two World Wars*, ed. by May, E.R., Princeton 1984.

<sup>74</sup> *Otsenka mezhdunarodnogo i voennogo polozheniia SSSR k nachalu 1927 goda* (Assessment of the International and Military Situation of the USSR at the beginning of 1927), RGVA, f. 33987, op. 3, d. 128, l. 24.

<sup>75</sup> *ibid*, 24.

In general, in the Far East a very serious military-political situation has arisen, which requires that maximum attention be paid to the strengthening of our political influence on the liberation forces in China.<sup>76</sup>

Berzin's report concluded by listing targets for the Soviet diplomacy "to avoid a war against our country by the capitalist world and to improve our military-political situation". Among the goals mentioned were achieving a serious, separate agreement with Finland, which would guarantee her neutrality in case of war between the USSR and a third country. The conclusion of a Polish-Baltic Pact should be thwarted. In the Far East, the aim should be to foster a deterioration of the US-Japanese relations and to hinder a British-Japanese settlement of their China dispute.

The deteriorating international situation caused a change in the Soviet Union's defence policy in 1926. The Intelligence report by Berzin nonetheless concluded that a conflict with capitalist states was beyond the horizon:

In general, our international position in the West has worsened, and chances for an armed operation by our Western neighbours have increased. On the other hand, unresolved conflicts between our neighbours, and between Poland and Germany, as well as the difficulty of common action by the West European Great Powers to support our neighbours in a war against us - makes military action in 1927 unlikely (*malo veroiatnym*).<sup>77</sup>

To sum up, in the war plans and other studies, the Red Army leadership concluded that even if tensions were emerging between the Soviet Union and its border states in 1926-27, a new war had changed from an ideological "inevitability" to a "threatening reality". In Tukhachevskii's words, an immediate military conflict was unlikely in the immediate future. The border states, even if they could manage to form a bloc or coalition, could not muster the forces necessary for a successful offensive against the USSR. They would require vast

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<sup>76</sup> *ibid*, 23.

Jacques Sapir regards the tank and aviation decisions in 1929-30 as having been taken without there having been any external threat. He explicitly disregards the perceived threat from Japan at the start of the first five-year plan. "Dans la première moitié des années trente, soit avant le début du réarmement allemand et de l'aggression japonaise en Chine, l'Union Soviétique est le premier producteur d'armes du monde." *Le système militaire soviétique*, La Découverte, Paris 1988, p. 234.

M. Dobb, on the other hand, emphasised that since 1927 "... the increasing sense of danger of war in the East, following the publication of the notorious Tanaka Memorandum, in which Japanese schemes of expansion on the mainland were cynically outlined, encouraged an appreciable acceleration of the tempo of investment." *Soviet Economic Development since 1917*, Routledge, London 1966, p. 237. Although the evidence here presented is scant, on this particular point, Dobb's argument seems to have the better foundation in the contemporary Soviet source.

<sup>77</sup> *ibid*, 1. 26 (emphasis added, LS).

material support from Great Britain, France and other states, as well as military support in the form of technical troops, tanks and air planes.

In the summer of 1927, Stalin and other Bolsheviks claimed that a war was imminent (the "war scare").<sup>78</sup> Such statements should be balanced against the military's views, which were based on their objective strength estimates. There is every reason to assume that the political leadership must have been very well aware of the intelligence reports. Thus this new evidence from the military sources casts further doubt on the sincerity of the proclamations by Stalin and the Party majority, as well as by Zinoviev and the Left opposition, about a war possibility in the near future. As demonstrated above, the long-term planning explicitly relied on the assumption that five years of uninterrupted economic development lay ahead.

Given the backward situation previous to planned industrialisation, military resources were to be accumulated in order not only to withstand an (unlikely) coalition attack, but also - in a more distant future - to allow the crushing of states such as Poland and to establish Soviet regimes in the defeated countries. A technically backward Soviet Union could not successfully launch such a war. The war plans and the discussion in *The Future War* already in 1928 implied a "Blitzkrieg" concept in Soviet doctrine. This over-all task was a long-term, underlying preoccupation of the Red Army. This new strategic thought involved, first, new equipment and increased mobilisation capability from a brand new defence industry, and, second, the formulation of new doctrines for offensive action.

What was still a central part of Marxist ideology was a belief among the military that sooner or later the capitalist world would launch a war to liquidate the socialist state. Most military documents from these years do indeed refer to the "inevitable" forthcoming war between capitalism and the Soviet Union. On several occasions, however, Chief of Staff Tukhachevskii explicitly rejected an imminent conflict in 1927. For example, in a letter to Trade Commissar Anastas Mikoian in July 1927 he stated:

The Red Army proceeds precisely from the assumption that war would be unlikely during the next five years. Otherwise, if we assume war as probable before that date, it would not make sense to work on a 5-year plan, which in any case would be interrupted by the war.<sup>79</sup>

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<sup>78</sup> For Stalin's public attitude, see his article *Ob ugroze voiny* (On the war threat), in *Pravda*, 27.07 1927, in *Sochinenia*, op. cit., vol. 9, pp. 322-330.

<sup>79</sup> Tukhachevskii letter to Trade Commissar Mikoian, July 1927, RGVA f. 7, op. 10, d. 303, l. 104ob.

Tukhachevskii, however, being responsible for the annual plan 1927/28, ordered that as much as possible of the defence investments and other measures for defence should be put in the first half of the year, and that defence matters of minor importance should be postponed as long as possible.<sup>80</sup>

While there are no clues as to how cynical Stalin, Bukharin and other Party leaders might have been in launching the public campaign, the frank statements by Tukhachevskii in this context, and the real long-term planning that proceeded during these months, indicate that at the Staff of the Red army no-one took the risk of war in 1927 seriously.

The "war scare" of 1927 could have another meaning. The fear among the military was that Russia's defence industry in 1927 would not be able to supply the army for a protracted war. The Defence Commissariat thus had every reason to fear a large-scale war in the immediate future.

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<sup>80</sup> *ibid.*

## Chapter 2

### THE PLANNING ORGANISATION FOR TOTAL WAR

In 1924-28, the Red Army underwent a series of reforms aimed at creating a sufficiently trained cadre and militia army, while keeping the size of the standing army at as low a level as possible. These reforms started under Defence Commissar Mikhail Frunze in 1925. Besides the strictly military reforms, the war-economic issues soon came into focus. Concurrent with the changes in the military leadership after the dismissal of Trotskii from his post as Defence Commissar in early 1925, the Politburo instituted its permanent civilian-military commission for "problems related to defence". The commission was headed by Aleksei Rykov, Chairman of the Council of People's Commissariats (Sovnarkom), and was to be guided by the directives included in a report authored by the new Defence Commissar Frunze. In the Politburo records there are a few references to the commission, mainly concerning its changing composition, but few facts about what kind of surveys and inspections it undertook.<sup>1</sup>

#### 2.1 Defence policy in practice, 1925-27

Just as the Defence Commissar Trotskii had been accused of neglecting urgent defence and economic questions in 1924-25, so too did the Defence commission, chaired by Rykov, later come under criticism in early 1927. It was said to meet merely to discuss the defence budget, and then failing to keep a close watch on the current operations of the defence industry. It may well be that Defence Commissar Kliment Voroshilov and Chief of the Red Army Staff, Mikhail Tukhachevskii, who both criticised the Rykov commission as "inefficient" and "sporadic", did so more in order to justify their own reshuffling of the administration, than because of any mismanagement by the members of the commission.<sup>2</sup> During 1926, a series of measures had been taken for the reconstruction (*ozdorovlenie*) of the defence industry. For example, a joint military-industrial conference (*obedinënnoe zasedanie VSNKh - RVSSSSR*) had discussed the condition of the defence industry. On 5 July 1926, the Defence Commission by the Politburo (chairman: Aleksei Rykov, members: Defence Commissar Kliment

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<sup>1</sup> See RTsKhIDNI, f. 17, op. 3, d. 489, p. 21, *ibid.* d. 495, p. 18, *ibid.* p. 35; *ibid.* d. 505, p. 6; d. 511, p. 7; *ibid.* p. 37; *ibid.* d. 553, p. 43.



Voroshilov, VSNKh Chairman Feliks Dzerzhinskii, Kuznetsov, Unshlikht and Bubnov, co-opted members: Egorov and Tukhachevskii) had decided on a reorganisation of the management of the Defence industry directorate (*Voenprom*). It was also decided to draft a three-year plan for the industry. The death of Feliks Dzerzhinskii and other circumstances, however, had resulted in a standstill, both as to the re-organisation and the drafting of a long-term plan.<sup>3</sup>

The organisational problems of the defence industries were a major concern for the Chief of Staff, Tukhachevskii. Defence policy was being discussed in several forums besides the military organs and the Politburo, notably in an Inter-administrative Mobilisation Committee (*Mezhdovedomstvennaia Mobilizatsionnaia Komissia*) and in the government, in the Council of Labour and Defence (*STO*).<sup>4</sup> On 20 February 1927, Tukhachevskii called for the formation of a new supreme defence authority, which would replace some of the above-mentioned organisations. He emphasised that a major function of the Staff was to prepare the country for defence, as well as to study various forms of warfare and the connection between war and the economy. He reminded Voroshilov that he had initiated such endeavours in 1925 by summoning a group of economists,<sup>5</sup> but he felt that loose and informal contacts with economists from Gosplan and the industrial administration were not enough; the Red Army Staff must be more closely tied to the economic institutions of the country. Tukhachevskii blamed Voroshilov's deputy, Unshlikht, for the dissolution of that promising economists' group. He also complained to Voroshilov about the working conditions in the Red Army Staff. In despair over the hindrances he had encountered, Tukhachevskii exclaimed:

In general, an atmosphere is created, in which it is completely impossible to work. I must constantly fear, that in a number of cases something is going on behind the scenes and that measures for defence are discredited or not carried out at all. Thus I can never concentrate on any matter.<sup>6</sup>

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<sup>2</sup> Tukhachevskii, *Zapiska Voroshilovu*, December 1927, RGVA, f. 33988, op. 2, d. 700, l. 34.

<sup>3</sup> RGVA, f. 4, op. 14, d. 92, ll. 3-9

<sup>4</sup> *ibid.* See also *Doklad ob oborone*, Report on Defence, op. cit., section V, "*Sistema i sostoianie podgotovki strany k oborone*", RGVA, f. 33987, op. 2, d. 671, ll. 136-138.

<sup>5</sup> It may deserve mentioning that among these economists employed by Tukhachevskii were Vladimir Groman, a famous Menshevik, and Lev Kritzman, known for his book about War Communism *Geroicheskii period russkoi revoliutsii* (The Heroic Period of the Russian Revolution).

<sup>6</sup> Tukhachevskii, Letter to Voroshilov, 20.02 1927, RGVA, f. 33987, op. 3, d. 155, l. 13.

Tukhachevskii noted that during 1927 the preparations for defence were to be intensified:

Even more complicated tasks are ahead during a number of years, if the peaceful condition is drawn out. Is it possible, you may ask, to handle those tasks that confront us with the present situation in the central apparatus? I consider it impossible.<sup>7</sup>

By the end of 1926 and in early 1927, the political leadership, in a joint effort with the military, obviously had decided to define a long-term defence policy and to restructure the relevant organisations. The need for an all-embracing plan, that put the defence industries into focus had been argued by military spokesmen since the early 1920s. Both the first Soviet Defence Commissars, Trotskii and Frunze, had advocated the linking of mobilisation and restructuring with planning. The deleterious state of affairs is well reflected in a frank note of June 1926 from the RKKA Staff's 5th (Organisation-Mobilisation) Directorate:

All calculations connected with the mobilisation of industry and the supply of its products to the army are built on sand, (*postroeny na peske*) as long as the calculations do not encompass the whole economic system ... as long as they are not elements in a unitary economic plan in case of war." (*edinyi khoziaistvennyi plan na sluchae voiny*).<sup>8</sup>

During the autumn and winter of 1926-27, defence matters seem to have been more often on the agenda of the Political Bureau (*Politburo*) of the Communist Party than was previously the case. The first months of 1927 seem to have been unusually hectic in terms of formulating the country's defence policy. Since these debates and decisions form the background for the plans that are the centre of this study, how Stalin, Voroshilov and other leaders viewed defence issues will be described as far as the sources allow.

At its session on January 13, 1927 Stalin delivered a report on the defence plan. Since party documents are as yet less accessible than military documents, it is only possible to surmise that Stalin's report, must have been based to a large extent on the Report on Defence that Tukhachevskii had written and on the war plan formulated in 1926.<sup>9</sup>

The Politburo then decided to hold a special, closeddoors session in mid-February where Defence Commissar Voroshilov would report on "the danger of war and the defence plan in

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<sup>7</sup> *ibid.*, I. 14.

<sup>8</sup> 5th Directorate of Red Army (RKKA) Staff, Note from June 1926, RGVA, f. 7, op. 11, d. 213, ll. 16-17, (emphasis in the original).

<sup>9</sup> RTsKhIDNI, f. 17, op. 3, d. 611, p. 4.

case of war". The Defence Commission chaired by Rykov was dissolved, but on 24 February 1927, the Politburo decided to establish its namesake, a Defence Commission (*Komissiiia Oborony*) as a subordinate body of the Council of Labour and Defence (*STO*). This new Defence Commission, which was to meet once monthly, could make decisions in the name of *STO*.<sup>10</sup>

It is no easy task to determine precisely which questions - *de jure* as well as *de facto* - were decided by *STO*, by its Executive Sessions (*RZ STO*), by its newly created Defence Commission (*Komissiiia Oborony pri STO*) or by the supreme military authority, the Revolutionary War Council (*Revvoensovet*). The standard scholarly work on the political and state organs, written by Korzhigina, who otherwise covered much of the state apparatus in the 1920s, does not include the defence organisation.<sup>11</sup> The decision-making structure may be reconstructed either from hitherto secret legal documents or from a selection of empirical examples.

Overlapping among the bodies mentioned above was common. In any event, most questions, whether they were passed on from *RZ STO*, *KO pri STO* or *RVS*, were reviewed and *de facto* decided on by the Politburo. For the early years, the archival materials available indicate that *RZ STO* often took somewhat broader questions (annual plans, organisational matters), whereas the Sovnarkom *Komissiiia Oborony* dealt with issues of individual weapon systems and, finally, that the highest military organ, *Revvoensovet*, had its say on such issues and also approved the military mobilisation plans.

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<sup>10</sup> RTsKhIDNI, f. 17, op. 3, d. 621, p. 34

Members of this powerful 11-man commission were:

Rykov, Chairman of Sovnarkom; Tsiurupa, Deputy Chairman of *STO*; Voroshilov, Defence Commissar; Unshlikht, Deputy Defence Commissar; Ordzhonikidze, Chairman of the Workers' and Peasants' Inspectorate (*Rabkrin*); Kuibyshev, Deputy Chairman and Head of the Military Inspection of the Workers' and Peasants' Inspectorate; Krzhizhanovskii, Gosplan Chairman; Rudzutak, Transport Commissar; Briukhanov, Finance Commissar; Menzhinskii, Commissar for Internal Affairs and Mikoian, Trade Commissar.

<sup>11</sup> Korzhigina, T.P., *Sovetskoe gosudarstvo i ego uchrezhdeniia. Noiabr' 1917- dekabr' 1991*, Moscow 1994, pp. 121-122.

In figure 2.1, the above-mentioned organs of the Party, the state, the planning and the military spheres are presented. On a formal level, decisions concerning defence were taken by either the Council of People's Commissars (*Sovnarkom*, abbr. *SNK*), the government, the special state organ created during the Civil War period, the Council of Labour and Defence (*STO*) or the Revolutionary War Council (*RVS*) - the supreme military organ. The Politburo not only debated all major defence issues, but also major appointments in the armed forces and industry.

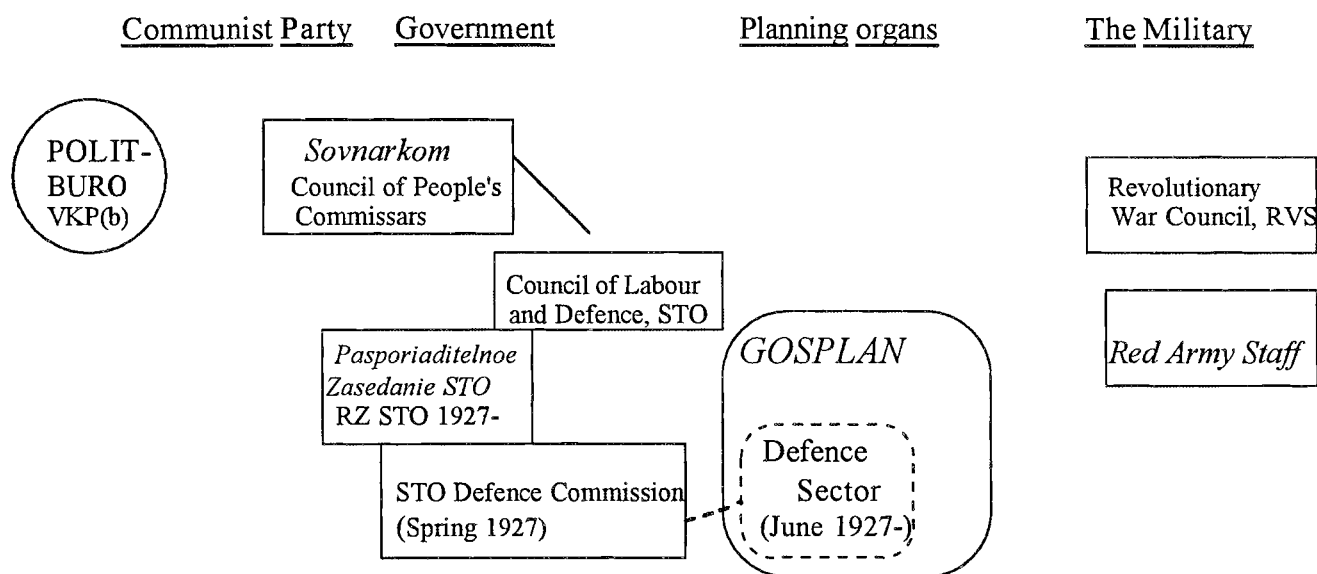


Fig. 2.1 The main military-political decision-making bodies in 1927.

In one of many efforts to concentrate defence matters to a definite forum within the government, a group within the STO was formed in 1927. It met weekly in Executive Sessions (*Rasporiaditelnye zasedaniia*, *RZ STO*). Once a number of defence issues had accumulated in the spring of 1927, after meetings at the highest Party level, where Defence Commissar Voroshilov had reported extensively on the conditions of the defence of the country and the situation in the defence industry,<sup>12</sup> *RZ STO*, in turn, formed a temporary commission to survey the state of defence preparedness. Various sectors were covered: industry, transport, agriculture and so on. It was proposed that this commission be made permanent and that it would constitute a new sector of the State Planning Commission (*Gosplan*). Such a sector was

<sup>12</sup> RTsKhIDNI, f. 17, op. 3, d. 621, p. 18.

consequently formed in the summer of 1927, labelled the Defence Sector of Gosplan (*Sektor Oborony Gosplana*).

At a Politburo session in February 1927, reports on the condition of the defence industry were presented by the industrial administration, VSNKh's Military-Industrial Directorate (*VPU*) and by the highest military body, the Revolutionary War Council (*RVS*). Co-reports were delivered by the Party's Central Control Commission and the Workers' and Peasants' Inspectorate. The Politburo protocols mention only the names of the speakers at the session: Voroshilov, Muralov, Unshlikht, Bubnov and Tukhachevskii.<sup>13</sup> It is therefore impossible to judge which opinions concerning the risk of a new war and concerning the country's defence capability were held by each member of the supreme leadership in early 1927. The final formulation of the resolution on the defence industry (drafted by Voroshilov) was delegated to yet another Politburo commission that was established on 24 February 1927 (members: Voroshilov, Rykov, Stalin, Kuibyshev, Ordzhonikidze and Tolokontsev).<sup>14</sup>

In May 1927 the Politburo after hearing a report by Commissar Voroshilov on the Defence plan, adopted a top secret resolution on the state of the armed forces and on defence planning. The resolution evidently stated that progress had been achieved in strengthening the armed forces since the reforms began in 1924, but it also pointed out severe problems in military technology, and the inadequate mobilisation reserves and, finally, concluded that Soviet industry was unable to provide sufficient resources for defence. Although the report by Voroshilov to the Politburo has not been found in the Party Archives, a document from the same month found in the Russian State Military Archives gives some clues to the Defence

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<sup>13</sup> It is not clear whether stenographic records were actually taken at the Politburo meetings. One source is Boris Bazhanov, one of Stalin's Politburo secretaries in the 1920s, who defected in the 1930s. In his memoirs, Bazhanov refers to the "procès-verbaux " and to the form of the protocols with classified matters. Bajanov, B., *Bajanov revèle Staline, Souvenirs d'un ancien secrétaire de Staline*, Gallimard, Paris 1978, p. 65.

During my research in the archives in Moscow in 1994, it was not possible to find out whether the Presidential archives in fact still have the stenographic records from the Politburo for this period. From the Party archives at RTsKhIDNI, I only have the Politburo's decision protocols. It is consequently only possible to guess the deliberations on this political level.

In the preface to a recent publication of documents, *Stalinskoe Politbiuro v 30-e gody. Sbornik dokumentov. "AIRO-XX"*, Moscow 1995, the point is made that stenographic records were in all probability only taken when important policy speeches were given, which were to be circulated within the Party. Otherwise, the secrecy of the deliberations was maintained by only including preparatory materials and the main decisions in the records.

<sup>14</sup> *O sostoianie voennoi promyshlennosti s tockhi sootvetstviia ee zadacham oborony*, *ibid.*, p. 18b.

Commissar's position on these questions. Further information on the May 1927 Politburo decisions can be found in a speech that Voroshilov's deputy, Unshlikht, made at a Central Committee session in 1928. Unshlikht stated that, on the basis of the defence plan report by Voroshilov in May 1927, the Politburo had adopted an exhaustive resolution. It noted certain achievements in the strengthening of the armed forces but it also underlined the unsatisfactory military equipment, the lack of mobilisation resources and the fact that the defence industry did not meet defence requirements. The Politburo further decided to increase the military budget for 1927/28 by 107 million rubles compared to that of 1926/27. Special sessions of the Council of Labour and Defence (STO) were initiated, the Mobilisation-Planning Directorate of VSNKh and the Defence Sector of Gosplan were founded.<sup>15</sup> In his report, Voroshilov thus probably outlined what the leadership recently had done to reorganise and reconstruct (*ozdorovlenie*) the defence industry. It had not yet produced, however, the long-term development plan that the STO authority had requested in 1926. The industry was in poor financial condition and was heavily subsidised. It did not meet the military's annual orders, and it struggled with steadily rising production costs. The general condition of the defence industry was still "one of crisis" and was "characterised more by negative than positive features."<sup>16</sup> The mobilisation request for a series of products could not be satisfied by the defence industry. Voroshilov listed the deficits for some vital arms, reproduced here in table 2.1.

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<sup>15</sup> Speech by Unshlikht, his own written version of a speech given at the Central Committee session, November 1928, RGVA, f. 33987, op. 3, d. 148, ll. 24-33. In this context a remark about the degree of classification may be noted. In a document that Unshlikht had to rewrite himself, since the stenographer had not taken down his speech, he enumerated the defence decisions taken by the Politburo in 1927. Aleksei Rykov, the Sovnarkom Chairman, wrote several exclamatory remarks about "the secret nature" of these resolution: "The Politburo decision was secret. It is prohibited to talk about that here! A.I. R/ykov/." In other words, such Politburo resolutions that were classified (*sovershenno sekretno*) must not be divulged even before the Central Committee of the Communist Party. *ibid*, l. 24.

<sup>16</sup> Voroshilov, *Doklad ob oborone*, Report on Defence Plan, April 1927, RGVA, f. 33987, op. 3, d. 250, l. 60.

Table 2.1

**Estimated production in war-time as percentage of NKVM mobilisation request**

Item	Mob.request	1st war-year production	2nd war-year production
Rifles (units)	900 000	50%	75%
Machine-guns (units)	18 000	30%	45%
Rifle cartridges (mln.)	3 250	29%	50%

Source: Voroshilov report on Defence Plan, April 1927, RGVA, f. 33987, op. 3, d. 250, l. 61.

These figures presented by the Defence Commissar show that the armed forces only could count on getting between a third and a half of their mobilisation requirements during the first war-year, and even in a second war-year, the Soviet defence industry could not meet the military requirements of a mobilised army of about 90 infantry divisions.

Even if the defence industry with difficulty manages to satisfy the peace-time requests and the build-up of mobilisation reserves, it [...] does not fulfil its function as a cadre for the mobilised industry. This makes it questionable if a planned mobilisation is possible. It also prolongs the deployment period (*razvertyvanie*).<sup>17</sup>

The mobilisation organs of the People's Commissariats constituted, according to Voroshilov, a "deplorable picture". They existed as mere appendages, without organic ties to the commissariats. A fundamental reason for the "deplorable" mobilisation work was "passiveness, inertia and unwillingness" among civilians to undertake the Defence Commissariats' assignments in preparing the country for defence.<sup>18</sup>

On the war materiel question, gun-powder was the most serious "bottle-neck". Supply could only cover 41% of war-time needs. The ammunition problem would thus be the most difficult to solve in case of war. Voroshilov also foresaw a large deficit in a number of raw materials, e.g. in saltpetre, copper, lead, aluminium and rubber.<sup>19</sup> The requirements for the armed forces, according to his calculations, could only be satisfied if production outside the

<sup>17</sup> A huge share of the war requests was expected to be produced outside the defence industry. For example, 3" field guns - 90%, 6" - 100%, shells tubes - 95% and explosives - 75%. The war industry was planned to be only the cadre that in peace-time supplied the army's current needs and the supply to mobilisation reserves, and which in war-time formed the core for development of the whole mobilised industry (technical personnel, blue-prints, forms and instruments).

<sup>18</sup> *ibid.*, l. 63.)

<sup>19</sup> On estimated war-time needs, domestic supply and imports, see table in Voroshilov's report, RGVA, f. 33987, op. 3, d. 250, l. 64.

defence sector using these materials was completely halted. Voroshilov severely criticised the Defence Industry Directorate (*VPU*) of the Supreme Economic Council (*VSNKh*). It had not yet linked the development of the defence industries to the plan for industry in general. Neither the long-term plan, nor the plans for restructuring of individual factories had been linked with the defence tasks nor with operational thinking. Except for *VPU*, there was actually no work being done in the *VSNKh* to ensure the functioning of state industry in case of war.

With planning for the defence industries high on the agenda of the political leadership in early 1927, the existing administrative structure for both long-term planning and current management of these industries also came under criticism. The proposals made during this year concerning the planning organisation indicate a conflict between the more and the less, ardent supporters of military control over these parts of the planning system. The striving for a more effective division of tasks among the various levels of policy formulation, plan establishment and war-time contingency planning had no domestic or foreign "model" to fall back on. Given the generally agreed target - to enhance industrial capacity in case of war within a medium-term (up to five years), it was still a matter of dispute who in the political and military hierarchy should have decisive influence.

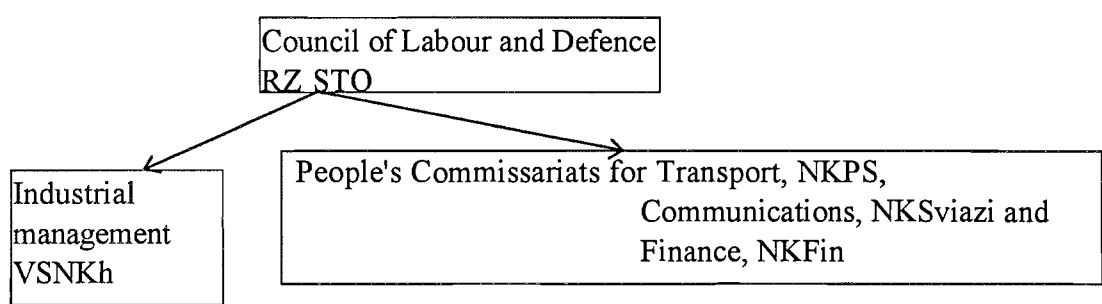
## **2.2 Integrating defence in the planning organisation**

The government institution formally responsible for defence matters was the Council of Labour and Defence (STO). In an effort to make the handling of the more frequently recurring defence questions, STO formed a separate body of its members in the spring of 1927. This organ was supposed to pay close attention to defence issues, and it met in so-called Executive session (*Rasporiaditelnoe zasedaniie*, abbreviated RZ STO). RZ STO had ten ordinary members and three consulting members, all of whom were chosen from the Council of Labour and Defence. The military were represented by Defence Commissar Voroshilov as one of RZ STO's ordinary members, and by the Chief of the Red Army Staff, Tukhachevskii, as one of the consultative members.



At its meeting on May 7, RZ STO heard Voroshilov report on government decisions concerning defence. Based on his report, RZ STO issued directives on defence and economic policy to all the involved Commissariats. These were the Supreme Economic Council (VSNKh), the People's Commissariats of Transport, Post and Telegraph, and Finance, respectively. These People's Commissariats were to specify their plans and requests for the mobilisation period and for one year's war. All requests should be cleared by the RKKA Staff.

Fig. 2.2 The government defence decision-centre RZ STO in 1927-1930.



It was further decided to form a Military Commission (*Voennaia Komissia pri STO*) attached to STO. This commission was to control the requests (mainly for armament, weapons and military equipment, transport and communications) from the People's Commissariats and co-ordinate them with the economic resources of the country.

The tasks of the Military Commission were broadly defined: to formulate a plan for the whole economy in war-time, to link the five-year plan with defence requirements, to analyse questions of economic mobilisation and warfare for the Council of Labour and Defence (STO), and to co-ordinate individual branch plans so that mobilisation requirements were assured. Further, the Commission should control the current fulfilment of the war industry's plans. The members of this Military Commission were the economists G.F. Grinko, S.G. Strumilin (from Gosplan), M.I. Bogolepov, S.V. Bernstein-Kogan and Kuznetsov (People's Commissariat of Finance). Tukhachevskii was the representative of the military. The defence industry was represented by Postnikov, Head of the Mobilisation-Planning Directorate

(MPU) of the Supreme Economic Council (VSNKh).<sup>20</sup> At this time, it was also decided that a military official, appointed by Revvoensovet and Gosplan, should be added to Gosplan's Presidium, and that military representatives should be added to the Presidia of several of Gosplan's Sectors (industry, budget-finance, transport) and in the Commission that was working on the five-year and on the long-term plans.<sup>21</sup>

### 2.3 Military leadership of the key planning agencies?

When the issue of preparing the country for defence emerged clearly in 1927, the ultimate question was who in the last instance should be in control of the division between the general industrialisation and modernisation of the country, on the one hand, and of the preparedness of the Soviet Union in the event of war, on the other. The scope of the total war meant preparing not only the fronts, the theatre of war and the armed forces for meeting any situation. The battle-field, with new arms like aviation and chemical weapons, would make large parts of the country vulnerable to hostile attack. The mass character of the expected war further called for the preparation of large sectors outside the traditional war industry, in order to supply the enormous amount of artillery pieces, rifles and ammunition. Automatic weapons, armour and aviation required special consideration of industrial resources. To some extent, both the civilian economists in the planning organs and the military economists in the directorates of the People's Commissariat for Military and Naval Affairs (NKVM) were aware of the conflicting aims of providing war-time necessities, of preparations for war and of simultaneously restructuring the economy (industrialisation, collectivisation and technical restructuring of agriculture). Any feasible option that would ease the burden of defence was eagerly sought, as long as the minimum requirements established by the military from their war plans could be met.

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<sup>20</sup> *Doklad Nachalnika Shtaba RKKA o sisteme organizatsii mobilizatsionnykh apparatov* (Report by Chief of Red Army Staff on the organisation system of the mobilisation apparatus), 9.06 1927, RGVA, f. 7, op. 10, d. 100, ll. 276-280.

<sup>21</sup> *Protokol RZ STO*, RGVA, f. 4, op. 17, d. 61, ll. 8-9. The Revolutionary War Council in June 1927 appointed N.N. Movchin (from the Red Army Military Academy) as Scientific Secretary of the Commission. For other military representatives in Gosplan's Sections, see RGAE, f. 4372, op. 91, d. 43, l. 13. Morev - Transport Section, Vasiliev - Construction Section, Germonius - Industrial Section and Botner - Section for General and Perspective (15- and 5-year) Planning.

In 1927, Mikhail Tukhachevskii expressed the most far-reaching demands for a complete military control over the whole drafting of the industrial mobilisation plans, not just the traditional war and army mobilisation plans. In a report written to the Military commission (*Voennaia komissia STO*), Tukhachevskii distinguished between two forms of mobilisation preparedness. First, the co-ordination of long-term plans with the defence interests should be handled by a Military Commission at Gosplan and thereafter referred for decisions to STO. Secondly, Tukhachevskii observed that the mobilisation plans were entirely dependant on the mobilisation of the Army. These plans should not be decided by STO, but by the RKKA Chief of Staff and members of a Collegium, representing the Mobilisation Sections of the concerned People's Commissariats.

Since the mobilisation plans of the People's Commissariats must be based on the army's mobilisation plan, on the war plan and on NKVM's mobilisation requests, the RKKA Staff should have the right to direct and control all mobilisation work.<sup>22</sup>

In a subsequent report, Tukhachevskii stated that strictly centralised control through Gosplan's Defence Sector was necessary because of the isolation in which the Soviet Union would most likely find itself in case of war. "Bourgeois states" supposedly could switch their heavy and machine-building industry to military production. Foreign trade could provide some of the consumer goods. The Soviet Union, however, would have few foreign states to rely on.<sup>23</sup> Since a war would probably come swiftly, this eventuality must be planned for in advance. Because there would be no time for "improvisations", Tukhachevskii proposed that a Defence Sector should be divided into four sections according to their tasks:

- 1st section: Formulation of war-time alternatives to the general economic plans,
- 2nd bureau: Operational section, preparedness for regulation of the economy during mobilisation and its organisation according to the mobilisation plans,
- 3rd section: Peace-time economic restructuring with defence considerations,
- 4th section: Scientific secretariat, research on the preparation of the economy for war and on the economy during war.<sup>24</sup>

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<sup>22</sup> Tukhachevskii, *O sisteme mobilizatsionnykh apparatov*, June 9, 1927, RGVA, f. 7, op. 10, d. 100, ll. 276-277.

<sup>23</sup> In *The Future War*, a division into four various categories of the foreign countries was made, from a group of "hostile countries" (Great Britain, France, Poland etc.) to "neutral" (Switzerland, the Scandinavian countries) and "friendly" countries (Turkey, Afghanistan). The latter two groups could provide, as had been the case during the Civil War, a "breathing-hole" during an expected blockade. *Budushchaia voina*, RGVA, f. 33988, op. 2, d. 682, ll. 43-47.

<sup>24</sup> Tukhachevskii, *Zapiska o sozdanii Sektora oborony v sisteme Gosplana*, RGAE, f. 4372, op. 91, d. 43, ll. 24-22.

The main task of an authority that prepared the economy for defence would be to study current economic processes, as well as the operational plans and their fulfilment. The plan for the case of war should be so flexible that it could come into operation at any time of the year, and then to take into account the changing military demands. Tukhachevskii argued that a special planning organ was necessary to account for defence needs in peace-time, and to prepare the direction of the economy in war-time:

The significant peace-time disproportion in our economy will inevitably increase in war-time. This compels us to influence the development of the economy so that "bottle-necks", which weaken our defence capability, disappear during the process of the economic restructuring and thus create a favourable economic environment for waging war.<sup>25</sup>

Gosplan's Military Commission was guided by a RZ STO resolution of May 4 1927. VSNKh had responsibility for the mobilisation of all Soviet industry. All appointments to mobilisation organs in the People's Commissariats were to be made in agreement with the military, and were to be selected from the officers corps of the Red Army.<sup>26</sup> RZ STO had left the question open, whether the Military Commission was to become a permanent body of Gosplan or not. Tukhachevskii proposed, as mentioned, that a defence sector be established within the Gosplan framework.<sup>27</sup> He then went on to plead for a central role for the military in this planning authority:

Since Gosplan's Defence Sector determines the general direction and development of the economy in regard to defence interests, the leadership of this sector must obviously be accomplished by the Red Army Chief of Staff, who shall also be a member of the Gosplan Presidium.<sup>28</sup>

The resolution of RZ STO of 25 June 1927 that established the Defence Sector of Gosplan did actually provide a larger role in planning for the Red Army Staff. It reflected some of Tukhachevskii's intentions. He had required "close links between all measures for the mobilisation of the country". In the organisation he proposed, the Staff was to prepare not only the war plan and the mobilisation of the army, but also the connection between the mobilisation of the army and the mobilisation of the country. The Staff was thus to have

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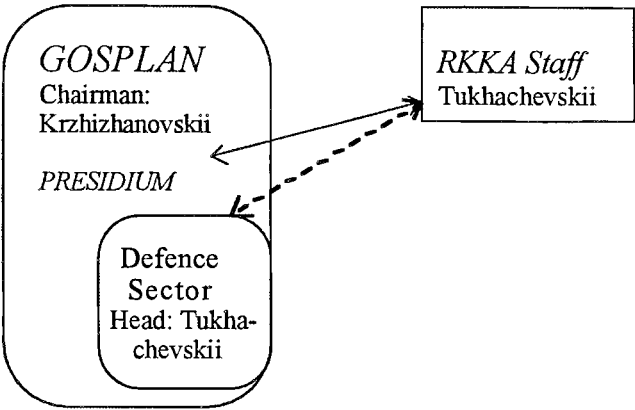
<sup>25</sup> Tukhachevskii, *Zapiska o sozdanii Sektora Oborony Gosplana SSSR*, (Note on the creation of the Defence Sector of Gosplan SSSR), June 18, 1927, RGVA, f. 4372, op. 91, d. 43, l. 23ob.

<sup>26</sup> *Postanovlenie RZ STO O sisteme organizatsii mobilizatsionnykh apparatov*, RGVA, f. 7, op. 10, d. 100, l. 278.

<sup>27</sup> RGAE, f. 4372, op. 91, d. 43, l. 23ob.

general control over mobilisation work and would participate in all deliberations on the economic development of the Soviet Union.

Fig. 2.3  
**Tukhachevskii's "project" for subordinating defence planning to the Red Army Staff<sup>29</sup>**



The STO directive of 25 June 1927, however, although giving the military a control role, also stated that Gosplan's Defence Sector should be *the main preparatory organ* in all matters of defence. By consulting the Revolutionary War Council, (RVS), Gosplan was to link economic plans to defence interests, set up economic mobilisation plans and study problems of a war-time economy.<sup>30</sup>

It has not been possible to determine why Tukhachevskii, despite his entreaties, did not succeed in getting the chairmanship of the Gosplan Defence Sector. The first Head of the Defence Sector was Mikhail Vladimirkii, the military representative who had chaired the temporary Military Commission. He would also have the responsibility for nominating the personnel of the Defence Sector in 1927. In polemics half a year later, Tukhachevskii would lament his own "lack of insight into Gosplan's affairs". At the same time, he pretended that the Staff had not wanted to take control of a civilian organ. That was obviously a sore point in

<sup>28</sup> *ibid*, l. 24. (Emphasis added, LS).  
<sup>29</sup> For a draft of the Statutes of Gosplan's Defence Sector, which in all respects corresponds to Tukhachevskii's above-mentioned letter, see *Proekt. Polozhenie O sektore Oborony Gosplana SSSR*, RGAE, f. 4372, op. 91, d. 43, l. 21.  
<sup>30</sup> For the directive of RZ STO, see RGVA, f. 4, op. 17, d. 61, ll. 36-41. References to this directive, and precision on the function and organisation of the Defence Sector were established in an order (*prikaz*) of Gosplan on July 11, 1927, see. RGAE, f. 4372, op. 91, d. 43, l. 61.

the on-going controversy between Tukhachevskii and Voroshilov.<sup>31</sup> On the other hand, the evidence shows that Tukhachevskii regularly attended sessions and conferences organised by the Gosplan Defence Sector during his time as chief of the Red Army Staff.

#### 2.4 Tukhachevskii and Voroshilov clash over defence planing in 1927

In his career after the Civil War, Tukhachevskii advanced in the central military apparatus in Moscow from 1922 up to 1937, with the exception of a period from June 1928 to May 1931 when he was relegated to be Chief of the Leningrad Military District (LMD). In the literature on Tukhachevskii, the explanation for his posting to LMD is usually that he clashed with Stalin and Defence Commissar Voroshilov over the issue of rearming the Red Army. Some archival evidence suggests a quite different interpretation. While possible conflicts about purely military and doctrinal issues might also have played a role, this study concentrates on military-economic matters.

In a biographical article about Tukhachevskii, General Georgii Isserson wrote:

A small circle within the Red Army Staff knew that in 1928, Tukhachevskii had written a memorandum (*dokladnaia zapiska*) on the necessity of restructuring our army and of developing the air force and the armoured forces. In the memorandum, Tukhachevskii noted that our army, with regard to its technological level, and our air force were lagging behind the European rearmament. It is necessary, he wrote, to initiate its complete technical rearmament, to create a mighty air force with long-range action and armoured forces with fast tanks, equipped with guns. The infantry and the artillery must also receive new weapons and modern communication equipment. ... To solve these problems, it is necessary to develop the defence industry and build a series of new factories. *For that time, the figures proposed were really grandiose.*<sup>32</sup>

Isserson then writes that the 1928 memorandum had received a hostile reaction from

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<sup>31</sup> For their different experience in the Civil war, and also in the Soviet-Polish war in 1920, when Voroshilov and Stalin had obstructed Tukhachevskii's order and thereby contributed to the defeat of the Red Army, as the probable origin of the conflicts between Voroshilov and Tukhachevskii, see. e.g. Rapaport, Vitalii & Geller, Iurii, *Izmena Rodine*, (High Treason), Moskva 1995, pp. 48-51, 151-154.

<sup>32</sup> Isserson, G., "Zapiski sovremennika o M.N. Tukhachevskii", (Notes of a Contemporary on Mikhail Tukhachevskii), *Voenno-istoricheskii zhurnal*, 1963, No. 4, p. 66. (Italics added, LS). Georgii Isserson, born in 1898, served in the Civil War, finished the Red Army Academy in 1924. In the 1930s, Head of the Operational Directorate of the RKKA Staff. Survived the purges in the army in the late 1930s, but was victim of the repression in the wake of the 1937 process against Tukhachevskii and the leading military officers. Rehabilitated in the 1950s.

Stalin and Voroshilov, who characterised it as unrealistic.<sup>33</sup> According to his biographer, the reaction to the rearmament proposal of Tukhachevskii was a major reason for his dismissal as Chief of the Red Army Staff. The story of a "grandiose rearmament scheme" that Tukhachevskii is said to have proposed already in 1927 is found in most works since Isserson's memoir article was published.<sup>34</sup> With archival access, it would be possible to check and analyse the figures merely mentioned by Isserson. But the search has, so far, proved to be difficult. No trace of a memorandum with such a content, written in late 1927 or early 1928 by Tukhachevskii has been found in the military archives (RGVA) or in the Party archives (RTsKhIDNI). The sources for reconstructing the main lines of Tukhachevskii's thought on military restructuring, organisation and planning are still abundant. A new interpretation will therefore be presented here.

### **Did Tukhachevskii call for a "grandiose" rearmament in 1928?**

After a year and a half as Chief of the Red Army Staff, Tukhachevskii on 8 May, 1927 sent a letter to Commissar Voroshilov and, "having carefully pondered the working conditions in the Staff", asked to be relieved of his post.<sup>35</sup> Tukhachevskii stressed that he on several occasions had tried to make Voroshilov aware of the conflict between the Staff and the Main Department (*Glavnoe Upravlenie*), headed by Sergei Kamenev. This conflict had made it impossible for the Staff to direct the work of all the central directorates in NKVM. Even appointments inside the Staff were outside his control. Although the Staff was responsible for the war plan, the Intelligence Directorate was not subordinated to the Staff.

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<sup>33</sup> Another Soviet biography of Tukhachevskii, by Shchetinov, Iu.A. & Starkov, B.A., *Krasnyi Marshal*, Moscow 1990, p 220, dates the report as written in *December 1927* although they merely seem to recount Isserson.

<sup>34</sup> An example to the contrary is found in an article by Serebriannikov, V.V. & Karnoukhov, V.A., "Vospityvat' istoriei", *Voenno-istoricheskii zhurnal*, 1989, No. 7, p. 49. These authors stated that the reaction of Stalin and Voroshilov in 1928 was correct and comprehensible. Tukhachevskii had, according to the authors, made "unrealistic" proposals about producing annually 50 000 to 100 000 "English Christie" (*sic*) tanks. As will be shown later in this study, Tukhachevskii did indeed later arrive at similar numbers for tank production. These calculations, however, were not the American tank models that the Soviet Union started to produce on license from Christie in 1931 and developed as their medium tank BT. Tukhachevskii had other tank types in mind, both in 1928 and the early 1930s. In 1928, the search was still going on for formulating the tank doctrine. In consequence, the brunt of Tukhachevskii proposals for the defence industry planning in 1927 was on the expansion of the artillery and aviation, whereas the tank force expansion would be dependent on the fate of the automobile and tractor industry plans.

Tukhachevskii complained about an "extremely abnormal situation" with respect to preparing the country for defence. Important questions were decided without hearing reports from the Chief of Staff. Within the Defence Commissar's Secretariat, "a nucleus of its kind" had been formed as "an extra Staff for the defence of the country".

One year before his eventual move to the Leningrad Military District in 1928, Tukhachevskii thus had mentioned a series of problems that concerned him in his capacity as Chief of Staff. "My further staying at this post will inevitably lead to a worsening and further tension in the existing situation", was his final remark in the May 1927 letter. What still prompted him to remain at his post in 1927 has not been determined. As noted above, during the coming months, Tukhachevskii continued with the formation of the new Defence Sector of Gosplan. The fact remains that Tukhachevskii already in May 1927 pondered resigning. It is a refutation of the version presented by those of Tukhachevskii's biographers, where only events during late 1927 or early 1928 are seen as causing his removal.

So far as the archival evidence permit conclusions to be drawn, there are the indications that Tukhachevskii in 1927 did formulate a plan for the restructuring of the armed forces, with the emphasis primarily on artillery and thereafter aviation, while only calling for 250 tanks, as a realistic target over the next five-year period.<sup>36</sup>

Thus any claims that he had called for a massive military expansion are dubious. It is evident that not only could he address himself to the highest political leadership in letters, but was also active in the defence part of Gosplan's planning activity and a member of the commission that during the spring of 1928 formulated the armed forces development plan.<sup>37</sup>

The wide-spread version of Tukhachevskii's drastic claims for a rearmament drive at this time, however, is cast into doubt by examining the content and character of a simultaneous memorandum from Tukhachevskii to Voroshilov, written in the spring of 1928. Tukhachevskii summed up four years of military reform and the accomplishments of the Red Army Staff. He stressed that the Staff had aimed at giving the Red Army such an organisational structure that

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<sup>35</sup> RGVA, f. 33987, op. 3, d. 155, ll. 19-21ob.

<sup>36</sup> Tukhachevskii, *Spravka po piatiletnemu planu stroitelstva vooruzhennykh sil*, July 1927, RGVA, f. 33987, op. 3, d. 190, ll. 1-10.

<sup>37</sup> For the 1928 proposals by Tukhachevskii to the five-year plan commission, see *Protokol No 1 zasedaniia Pravitelstvennoi komissii...*, 30.04 1928, RGVA, f. 7, op. 10, d. 1310, ll. 72-73, and *Protokol No 2, zasedaniia Pravitelstvennoi komissii...*, 5.05 1928, *ibid.*, ll. 74-74ob.



the existing conditions, the "real" material basis, permitted. Tukhachevskii wrote:

Of course, our extreme poverty, even with this "realistic" direction, will make itself felt, but in a planned manner the difficulties are overcome and anyway do not play any decisive role. ... While following the 'realistic direction' the Staff has also planned the armed forces development in line with the probable character of a future war.<sup>38</sup>

Thus the main emphasis had been on the land forces and on aviation, while the navy had received a secondary place in the strategic schemes of the Staff. Whereas Isserson wrote that Tukhachevskii had opted for a large increase in tanks at this time, Tukhachevskii in his memorandum only mentioned the tank forces in a short note in passing:

The plan for the tank units, which as yet are very weak, should be based on the principle of maximum means of suppression.<sup>39</sup>

Despite major improvements in the numbers and in the composition of the artillery, Tukhachevskii still considered it insufficient for future war requirements. The basic weakness in the artillery program was the lack of howitzers (*gaubizatsiia*). The Red Army Staff had developed the cavalry with a view to reinforcing it with technical weapons, armoured vehicles and air planes. The chemical weapons units had also made strides, but with the proper development of Soviet industry far more could be accomplished. Tukhachevskii went on to praise the achievements of the air force, which had grown from 341 planes in 1923/24, to 1 170 in 1927 with a plan for 2 052 in stock by the end of the Five-year period. Tukhachevskii added, that "this must be seen as a minimal program". He emphasised that a basic negative factor was the insufficient means of suppression (artillery and tanks to subdue enemy front machine-gun and artillery position) and that weapons technology was not up to contemporary standards:

While making enormous progress in the expansion of the armed forces (even though the future war will require even more), the preparation of the country for defence is lagging behind the preparedness of the army.<sup>40</sup>

It would be extreme to argue that the specific memorandum, to which Isserson referred, did not contain a kind of "grandiose" rearmament program. The tone of Tukhachevskii's

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<sup>38</sup> Tukhachevskii, *Zapiska*, hand-written memo, date by content, Tukhachevskii refers to "his two and a half years at the post as Chief of the RKKA Staff", i.e. since November 1925, which implies that it was written in spring 1928, RGVA, f. 33988, op. 2, d. 700, l. 30.

<sup>39</sup> *ibid.*, l. 32

<sup>40</sup> Tukhachevskii, *Zapiska*, op.cit., RGVA, f. 33988, op. 2, d. 700, l. 34.

report, however, indicates that he was not particularly bothered by the pace of restructuring or by the foreseeable state of armament development.

Tukhachevskii then mentioned that he had argued for a new Defence Council attached to the Government. But although Voroshilov had supported such schemes in principle, the actual role of the Staff was too limited in Tukhachevskii's opinion. Denying his earlier position, he now argued that:

The Staff never pretended to have the leading role in the defence preparations of the country ... but its working role in these questions is clearly necessary.<sup>41</sup>

According to Tukhachevskii, a series of directives had virtually excluded the Staff from contacts with the Council of Labour and Defence, STO. The Red Army Staff had thereby lost control both of the mobilisation work in the People's Commissariats and of industrial mobilisation. Tukhachevskii complained that the lack of insight into Gosplan's Defence Sector would lead to growing conflict in the future and perhaps even to the disclosure of military secrets. He emphasised that:

The undeniably successful reorientation of the state apparatus towards preparedness for war requires an ever more active engagement of the RKKA Staff in the mobilisation work [of the State].<sup>42</sup>

His bitterness against the Commissar was evidently rising, and, in another letter addressed to Voroshilov on February 12, 1928, Tukhachevskii was even more explicit in his criticism: "Your constant phrases: 'The Staff does not calculate with costs', 'the economy does not interest the Staff' and so on, ... cannot but undermine the Staff's authority in the eyes of other organs."<sup>43</sup> Tukhachevskii further mentioned that Voroshilov had refused to co-operate with the Staff, although the Staff was supposed to be the working organ of the People's Commissariat, and that it was to unite all the work of preparing of the country for war. Instead Voroshilov had often contrasted his own work to that of the Staff, e.g. in the matter of establishing fortifications and fortified regions (*ukreplennye raiony*). All this had, in Tukhachevskii's opinion, made the working conditions in the Staff "totally abnormal" and had hindered it from working productively.<sup>44</sup>

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<sup>41</sup> *ibid.*, I. 35ob.

<sup>42</sup> *ibid.*, II. 36ob-37.

<sup>43</sup> Tukhachevskii, letter to Voroshilov, 12.02 1928, RGVA, f. 33988, op. 3, d. 155, l. 26.

<sup>44</sup> *ibid.*, I. 24.

Confirmation of Voroshilov's attitude is found in a letter that he intended to send to Tukhachevskii at a later date. He claims that in 1927 there was profound disagreement over the responsibility of the Army Staff for economic preparations. Voroshilov wrote:

You insisted on concentrating this enormous power to the Staff of the Red Army. I was categorically against, because I considered that this task must likewise be accomplished by the civilian authorities and be directed by a government organ.<sup>45</sup>

Now, if Tukhachevskii had actually sent a memorandum of the kind his biographer Issersson claimed, and if it had been addressed to the Central Committee of the Party or to Stalin himself, and if such a memorandum had contained any long-term plans for the technical restructuring of the armed forces, and finally, if Stalin and Voroshilov had bluntly rejected such proposals in late 1927 or early 1928, then it can be surmised that such a rejection of Tukhachevskii's proposals would have shown up in these bitter letters of complaint and mutual accusation. The controversies, as they can be studied from these contemporary documents, however, seemed to have circled more around questions of control than about questions of quantitative military expansion.<sup>46</sup>

## 2.5 The formative stage of Gosplan's Defence Sector

In addition to the tasks mentioned in its original constitution, the Defence Sector was to co-ordinate all other Sectors and Sections within Gosplan in matters that were considered to be defence-related. It was stressed that "under personal responsibility" all leaders of Gosplan's sectors and sections would henceforth take defence interests into consideration when new

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<sup>45</sup> Voroshilov, draft of letter, with note "*never sent*", RGVA, f. 33987, op. 3, d. 155, l. 168.

<sup>46</sup> The final proof or disproof of my interpretation vs. the story of Issersson would be the inspection of the said memorandum from 1927, solid evidence about Stalin's reaction (that would either be in the Party Archive, RTsKhIDNI or the Presidential Archives) to this 1927/28 proposals. My search in the War Archive (RGVA) did, however, not lead to the discovery of any more clues about this matter than what is included in this chapter.

Finally, other circumstances should be kept in mind with regard to the Isserson memoir notes on Tukhachevskii. In the introduction of this study, it was emphasised that no Soviet military history escaped the censorship. It is possible that General Isserson's original manuscript was handled in the same manner as was the fate with Marshal Zhukov's memoirs. His intended full biography on Tukhachevskii was not cleared for publication in the early 1960s, presumably because the topic was considered too sensitive. In the *glasnost* era, other memoir articles by Isserson were eventually published. More to the historical matter is the problem of which sources Isserson had at the RKKA Staff in the late 1920s and during the 1930s, on the one hand, and, if he was free to use archives in the late 1950s, when the biography evidently was written.

projects were discussed. The extent of the involvement of Gosplan as a whole can be judged by a list of the personnel that was security-cleared by GPU to handle secret, defence-related matters.<sup>47</sup> In July 1927, some of the earlier mobilisation organs, which, as mentioned, were criticised for their inefficiency, were disbanded and the authority of Gosplan's Defence Sector was enlarged so as to encompass "all tasks related to the defence of the country".<sup>48</sup>

Concretely, these included: the formulation of the over-all economic plan in the event of war; co-ordination of the mobilisation plans of all economic commissariats; drafting of the country's mobilisation plan; co-ordination of the war plan, as well as the long-term plans for the army force development with the economic 5-year and 15-year plans; and consideration of the general defence aspects of all other economic activities.<sup>49</sup> Several planning activities were pursued within the Defence Sector, and work was proceeding, more or less simultaneously, on the five-year plan, the annual defence industry plan ("control figures") and the contingency plan for a first war-year. During 1927 and 1928 Gosplan elaborated three different contingency war-time plans. These were defined as follows:<sup>50</sup>

*A war version of the annual plan* should indicate:

- a) forms of distribution of the material means of the country among the main users during one year of war,
- b) the priorities and time-schedule for the transition of the economy from peace-time to war-time conditions
- c) necessary changes of and restrictions in NEP
- d) corrections to be introduced into the operational, long-term and general plans with respect to defence interests.

The military authorities strongly opposed a proposal by the Gosplan Defence Sector that would have limited their role to just defining military requirements in war-time. NKVM must participate in the drafting of an annual economic defence plan. They asserted:

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<sup>47</sup> *Prikaz Gosudarstvennoi Planovoi Komissii pri STO*, No 112, 11.07 1927, RGAE, f. 4372, op. 91, d. 43, l. 61. The June 25 RZ STO directive was classified "top secret" (*sovershenno sekretno*). Vladimirskii, newly appointed Chairman of Gosplan's Defence Sector, complained to Sovnarkom's Chairman Rykov that the Defence Sector (*Sektor oborony*) had been revealed in the newspaper *Ekonomicheskaiia Gazeta*. As a consequence, "so as not to give an incorrect impression of its tasks", the organisation and the role of the Defence Sector could henceforth be publicly mentioned.

<sup>48</sup> *Ob "iasnitelnaia zapiska* (Explanatory Note), RGAE, f. 4372, op. 91, d. 43, l. 28.

<sup>49</sup> *ibid.*

<sup>50</sup> STO Resolution on a war version of the control figures, RGVA, f. 7, op. 10, d. 310, ll. 7-10.

All questions of peace-time preparations, the adoption of tactical views, and finally, the whole conception of the operational war plan cannot be separated from conclusions about the structure of the Soviet economy in war-time.<sup>51</sup>

In May 1928, the first "Control figures for the economy during the first period of war" were finally sent to just five persons in key positions, under instruction to be kept as secret as the military war plan.<sup>52</sup> In 1928 as well as in 1929, "plans for the first year of war" were elaborated. These documents were sent to a few officers in charge in the military districts and to a few leading administrators. They were to be opened only in case of war, as was the case with the mobilisation plan for the troops.<sup>53</sup> The first plans for a war-year, however, were unsatisfactory and were not approved by the government. In an explanation, Gosplan officials complained that the war-time economic plans had been drafted simultaneously with other pressing matters such as the annual plan and the Five-year plan. The practical results during this period could thus best be characterised as a series of preparatory steps, in organisation as well as in the formulation of plans.

## **2.6 The organisational framework for defence planning in 1928**

In 1928, a new organisational structure for planning the defence of the country in a wider sense had been created. The State Planning Commission had acquired a separate Defence Sector. The Council of Labour and Defence had on a regular basis organised its Executive Meetings (*razporiaditelnye zasedaniia*). For industrial management, the Supreme Council of the Economy had formed the Directorate for current planning of the defence factories and for mobilisation planning. The mobilisation organs (bureaus and sections) in the civilian People's Commissariats were more closely linked to each other and to Gosplan's Defence Sector.

By then the organisations also were beginning to function in a co-ordinated manner. RVS had noted that the work on the war-time plans had resulted in a "close interrelations between the Defence Commissariat and Gosplan. A regular exchange of information, plan proposals

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<sup>51</sup> Letter from Defence Commissar Voroshilov to Gosplan Chairman Krzhizhanovskii, October 1927, RGVA, f. 7, op. 10, d. 316, l. 32.

<sup>52</sup> RGVA, f. 7, op. 10, d. 499, ll. 168-169.

<sup>53</sup> For the directives on these war-year plans, see *Postanovlenie o poriadke sostavleniia ocherednogo varianta khoziaistvennogo plan na pervyi period voyny*, RGVA, f. 4, op. 1, d. 921.

and conclusions circulated among the military, the planners and industrial management. Some examples will suffice to show the new practical accomplishments in defence planning.

On 29-30 December 1927, a conference was held concerning economic mobilisation, the economic plan for one year of war-fare and the evacuation plan. At the conference were gathered the heads of the mobilisation organs in the All-union and Russian Republican People's commissariats, Gosplan, OGPU, Rabkrin, on the one hand, and military officials from the Red Army Staff, the Political directorate and the Main directorate, on the other hand.

In February of 1928, Gosplan Defence Sector's Chairman, Mekhonoshin, summoned Chief of Staff Tukhachevskii to a meeting on February 14, to discuss the "basic propositions of the interests of defence in the Five-year plan."<sup>54</sup>

Gosplan's Defence Sector at this session criticised the first version of a five-year plan for the whole Soviet economy (*Predvaritelnye materialy*) for having paid insufficient attention to defence issues and merely incorporating them "mechanically". It was stated that:

If the war, with which the capitalist world threatens us, is an inevitable stage on the path towards socialism, if, furthermore, success in this struggle is one of the conditions that will secure the construction of socialism, and if, in this connection the war of the proletarian state with the capitalist world is seen as an enormous effort/tension of live forces and material resources, then the preparation for defence must occupy a corresponding place in our economic construction.<sup>55</sup>

Defence should not be regarded as contradicotry to the general targets of the plan. Nonetheless, the planners asserted that:

... Defence sets its own specific tasks particularly in regard to the volume and growth for certain branches, in the speed and sequence of construction of new branches, concerning the development of the productive forces in a regional setting, in transport construction, in the policy of reserves and stocks etc.<sup>56</sup>

Only by a step-by-step elimination of the gap between the demands of the armed front in war-time and the contemporary state of the economy can we set up as a complimentary task of reaching a higher mechanisation coefficient in the Red Army at the end of the five-year plan.<sup>57</sup>

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<sup>54</sup> *Oborona v perspektivnom planirovanii, Predvaritelnye tezisy uchenogo sekretaria Sektora Oborony Gosplana*, RGVA, f. 7, op. 10, d. 499, l. 13.

<sup>55</sup> *ibid*, l. 16.

For the various drafts of a five-year plan, proposed by Gosplan and other agencies in 1927-1929, see Zaleski, E., *Planning for Economic Growth*, op.cit., p. 53-58; for the estimated growth rates in these proposal, see particularly the table on p. 54.

<sup>56</sup> *Oborona*, RGVA, f. 7, op. 10, d. 499, l. 15.

<sup>57</sup> *ibid*, l. 16.

The overwhelming problem was to foresee the *functioning of the economy in war-time*. The industry had no preparedness for production in war-time and capacity reserves were largely unknown. Many important war industries were located in regions close to the frontier. The transport network threatened to be overburdened already in peace-time.

An analysis of the "bottle-necks", going from the war-time consumption to production, would make it possible to establish the tensions in all the branches of the economy in war-time. Then one must make corresponding comparisons of production in war-time and peace-time. All this combined will, in its turn, lead up to the respective coefficients for increase or decrease of production in war-time.<sup>58</sup>

In the scheme of Gosplan's Defence Sector, this calculation should thus form the basis for a program for economic defence preparations, and these should in their turn be the foundations for any long-term economic plan.<sup>59</sup>

From the outset, the military was heavily represented in Gosplan's Defence Sector. Even if the extreme degree of military predominance, which Tukhachevskii's advocated in the summer of 1927, in the form of a military control over essential parts of the planning process, seems not to have been accomplished, the initial composition of the Defence Sector closely corresponded to the requirements that Svechin had advocated in his discussion concerning an "Economic General Staff". Svechin wrote:

An economic general staff may be small, but its members should be very highly qualified. We believe that some of its members should be persons closely linked to the Red Army by their training and service. They must have graduated from military higher educational schools, have experience in industry and have done individual work on military economics. Some of the members should be outstanding economists and technicians with broad views and who have specialised in war-related economic issues. They should have spent time to become familiar with the history of several recent wars, strategy and administration.<sup>60</sup>

When the ideas about integrating the military into the planning organs took shape, the recruitment of personnel to the new Defence Sector of Gosplan followed the procedures advocated by Svechin.<sup>61</sup>

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<sup>58</sup> *ibid.*, I. 19.

<sup>59</sup> *ibid.*, I. 20.

<sup>60</sup> Svechin, A.A., *Strategy*, op.cit., p. 129. (Translation of the book *Strategiia* from 1927. Minor corrections to the translations are made, LS.)

<sup>61</sup> For the formation of the Gosplan Defence Sector in 1927 and the recruitment of civilian and military expertise, see the lists and correspondence in RGAE, f. 4372, op. 91, d. 35, ll. 95-96, 98, 116, 124-125. See also Appendix 1 below.

To sum up the new evidence on the military's involvement in the planning process: Previous historical descriptions of the Soviet defence policy changes in 1927 have emphasised a possible conflict over the expansion of the Red Army. The new evidence here presented opens for other interpretations of the conflict between Tukhachevskii and Voroshilov. The controversy over how much control the military authority should have over the planning process did not result in any definite solution by 1928. The most radical establishment of a military-planning complex, as Tukhachevskii's proposal would have implied, had been thwarted.



## Chapter 3

### THE RESTRUCTURING OF THE DEFENCE INDUSTRY

In order to get a comparative perspective on the topic this study, and thereby clarify the specific *Soviet* aspects of rearmament, a counter-factual hypothesis may be in order. Given a number of *ceteris paribus*, the geographical and the main political setting, how large a defence industry would a non-Bolshevik Russia have established in the 1920s and 1930s? It is, of course, mere conjecture to imply that the experience of a new type of war, or the total war for short, would by itself have compelled any Russian regime or military leadership - be it with the 1914 borders or other - to create the new industries for production of tanks, military aircraft, chemical weapons and so on. But suppose that such a thought experiment is permissible, would a similar defence industry complex have been called forward by the geostrategic conditions of any post-WWI Russia? If this example is accepted, however, it seems reasonable to state that the (hypothetical) increment over that ("all-Russia") level would constitute the specific, Soviet-form rearmament, the core of a "militarized economy", a "warfare state", basically the Soviet military-industrial complex.

#### 3.1 Long-term plans for the Red Army's expansion, 1927-1931

In the plans that Tukhachevskii, as Chief of Staff, formulated in the summer of 1927, he still had to make proposals - stressing the role of infantry, cavalry and air force units - that were constrained by the modest economic capability of the Soviet Union. To mention just one of the most pertinent matters, tanks were not at all emphasised in his 1927 five-year force development plan. At that time, prospects were that the USSR at the earliest would have its first domestically built tanks by 1929. The Armed forces plan anticipated the deployment of no more than 250 tanks during the early 1930s. Even at this time, the armoured forces played an important role in Tukhachevskii's theoretical articles. Similarly, the use of airborne troops was foreseen long before the aviation industry could supply the planes.<sup>1</sup>

The 1927 plan for the expansion of the armed forces pursued two principal goals: first, an improvement of the army's deployment at mobilisation through a build-up of reserves and

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<sup>1</sup> Glantz, D.M., *Soviet Military Operational Art: In Pursuit of Deep Battle*, Frank Cass, London 1991, p 24.

an modest increase in personnel. Second, it called for expanding the air force as much as possible and for a more modest increase in technical weapons. Laconically, the plan stated that: "The mobilisation requirements are extraordinarily large, the budget has always been limited."<sup>2</sup> The tasks for the next four years, according to Tukhachevskii, were to achieve as complete a mobilisation deployment as possible of the main weapon groups, to accumulate an ammunition reserve in case of war and to substantially improve all "technical weapons" (i.e. tanks, armoured vehicles and aviation) and the artillery. During 1927/28 and 1928/29, the goal would be to build up reserves for those units that would be engaged at the outbreak of war. During the following two years, 1929/30 and 1930/31, mobilisation requirements would expand for all other units as well as reserves for the first year of war.

In a retrospective note, written early in 1930, Tukhachevskii emphasised that the five-year plan for the expansion of the armed forces, elaborated in 1926 by the RKKA Staff, had emphasised that neither in industry nor in the social setting had there been such changes that a fully "reconstructive" approach could be undertaken.<sup>3</sup> In 1927, Tukhachevskii estimated that the Red Army would need approximately 4 000 million rubles in budget appropriations during the coming five-year period. This, in his mind, was a "minimal claim" that must in no way be diminished. The four milliard rubles that Tukhachevskii counted on over a five-year period for the defence budget implied only a modest annual increase. This military budget claim formed the basis for a comparison with the successive increase as the various plan drafts were debated during 1928 and early 1929.

### **3.2 The defence industry plan for 1926/27-1930/31**

Having thus noted some of the military requirements (for peace-time construction of the armed forces), it is now possible move to the next phases in the planning process. How did the defence industries cope with the demands of the military at this time? What were the main problems that faced these industries?

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<sup>2</sup> Spravka po piatiletnemu planu stroitelstva vooruzhennykh sil, Tukhachevskii, July 1927, RGVA, f. 33987, op. 3, d. 190, ll. 1-10, here l. 2.

<sup>3</sup> This passage is from Tukhachevskii's letter to Voroshilov, 11.01, 1930, RGVA, f. 7, op.1, d. 170, l. 11, where he also triumphantly hailed the "success of our socialist industrialisation, the accelerated tempo of industrialisation and the socialist reconstruction of the countryside".

In October 1926, the Council of Labour and Defence (STO), instructed the Supreme Council of the Economy (VSNKh) to draft a "long-term plan for the reorganization and development of the defence industry." (*plan ozdorovleniia voennoi promyshlennosti*). The VSNKh's Military-Industrial Directorate was to present its long-term reconstruction plan to the Revolutionary War Council in November of 1926, but it had requested a delay until the third quarter of 1927.<sup>4</sup>

The industry hesitated about how to proceed with its planning. On January 25 1927, Voroshilov inquired about the delay and three days later received an answer from the Defence commissariat's Chancellery (*Upravleniie delami*). In a hand-written comment on the enclosed note from deputy Commissar Unshlikht, Voroshilov exclaims:

If an inquiry about the state of affairs required exactly three days... the drafting of mobilisation figures will obviously take an endless amount of days, or maybe months. I am not talking about the quality of the work by such "qualified" organs and persons. I suggest that you personally ask Sovnarkom Chairman to explain the reason for the Staff's delay of its orders that were necessary for VSNKh.<sup>5</sup>

Tukhachevskii, who as Chief of Staff was responsible for a reconstruction plan (*plan ozdorovlenie*) of the defence industry, emphasised that basic elements of the plan should be the mobilisation tasks (*mobzadaniia*) for one year of war and the long-term military equipment orders (in peacetime). Mobilisation requirements, according to Tukhachevskii, had not changed since 1925, and therefore, VSNKh should use the existing requirement norms instead of waiting for new ones to be sent by NKVM.<sup>6</sup>

Exact information concerning the peacetime orders (*plan zakazov*), however, would not become available until after the Revolutionary War Council had adopted a plan for the expansion of the armed forces. Nonetheless, in April 1927, VSNKh's Presidium sent a preliminary version of its plan for the defence industry to STO. It frankly stated that the industry's mobilisation capacity was inadequate for the military's needs. For some weapons, capacity was a mere 10-15%. A substantial investment program, extending over 4-5 years, would be necessary.

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<sup>4</sup> RGVA, f. 33988, op. 3, d. 81, l. 210. Tukhachevskii, however, considered that VSNKh had by 1.02 1927 received enough data for the military long-term orders up to 1931.

<sup>5</sup> Voroshilov's hand-written comment on Unshlikht's note, RGVA, f. 33988, op. 3, d. 81, l. 1 207.

<sup>6</sup> *Doklad Tukhachevskogo*, 27.01 1927, RGVA f. 33988, op. 3, d. 81, l. 209-210.

The VSNKh preliminary outline of the defence industry plan also compared the five-year peace-time military orders with the five-year development plan for defence factories. It revealed the significant gap between relatively stable peace-time orders and sharply rising capacity. Thus capacity utilisation in peace-time was both low and decreasing. For some items, it was only a few percent of full (three-shift) capacity.

In April 1927, Tukhachevskii compared the VSNKh's draft of a long-term defence industry plan with the corresponding NKVM's five-year plan for military orders. In his opinion, the VSNKh plan had neglected defence concerns. Tukhachevskii even wrote that VSNKh tried to delay the formulation of a five-year plan for the defence industries. He wrote:

The Staff considers VSNKh's petition [for mobilisation tasks approved by STO] as another attempt to delay the presentation of a development plan to the Council of Labour and Defence.<sup>7</sup>

In early May 1927, the military received a draft of VSNKh's five-year plan for the defence industry. On May 10, Tukhachevskii sent a note to Head of VSNKh's mobilisation department (Postnikov), elaborating on the principal differences between this plan and the military's needs (ammunition, rifles, guns, chemical weapons and gas masks).<sup>8</sup>

On May 28, STO, the Council of Labour and Defence, decided that VSNKh, within a month, should revise its five-year plan for the defence industry with a view to link the weapons production with the civilian industry and to strive for a maximum work-load of the defence industries in peace-time. On the other hand, the military, i.e. Revvoensovet, was to provide STO with an outline of the Red Army's requests (in artillery, aviation, chemical and technical means) for the mobilisation period and for one year of war. Simultaneously, the military was to specify its five-year peace-time order. VSNKh was to formulate the mobilisation procurement of raw materials and semi-manufactured goods for defence production. The plan would thus indicate the degree of import dependency.<sup>9</sup>

Finally, the RZ STO session on October 2, 1927 was presented with a draft of a five-year plan for the defence industry. Gosplan was first to make a judgement on the plan and then to "link it to its report on the consideration of defence needs in the Five-year plan for the

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<sup>7</sup> RGVA, f. 7, op. 10, d. 1286, op. 108.

<sup>8</sup> *Zapiska Tukhachevskogo Postnikovu, Mobilizatsionnomu Upravleniu VSNKh* (Letter from Tukhachevskii to VSNKh Mobilisation Directorate), RGVA, f. 7, op. 10, d. 1286, ll. 100-102ob.

<sup>9</sup> *Protokol RZ Soveta Truda i Oborony*, RGVA, f. 4, op. 14, d. 6, l. 16.

development of the economy."<sup>10</sup> Thus, as late as the autumn of 1927, the long-term plan returned to Gosplan for amendments.

The main dilemma facing any plan for the defence industry at this time was its substantial over-capacity compared to annual peace-time production. Table 3.1 gives VSNKh's calculation for three-shift capacity by 1931 compared to the annual order in 1927 (the annual orders were not assumed to rise substantially in the next years) for a number of products. For the production of guns and rifles, the annual order/capacity ratio with one shift was estimated at levels from ca. 30% and up to 100 % for only one item (howitzer 48"). Compared to full mobilisation capacity, which presumably assumed not only three-shift production but also use of more machinery, the annual order/capacity ratio was at levels between 12 and 42%. The difference between war-time and peace-time levels of production is the most striking in artillery and rifle ammunition. The expected war-year production of shells (all calibre) was 16,5 million rounds. The annual order, on the other hand, was set at a mere 300 000 rounds. As shown in the table, the annual order/capacity ratio for artillery ammunition was less than 10%, while for rifle cartridges it was 16%.

Obviously, such differences between capacity and peace-time output would increase costs of both production and maintenance, thus making mobilisation preparedness more difficult to maintain. On the other hand, the existing productive capacity in the defence industries was considered to be far below mobilisation requirements. For the items of ordnance these factories, at full utilisation, could not cover more than a limited percentage of what had been indented by the military for one year of war. The data in table 3.2 shows the mobilisation preparedness in some of the defence industries. In some cases, as shown in the table, this share was extremely low, merely 10-15%. For more than half of the products the figure was not more than 50 %.<sup>11</sup>

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<sup>10</sup> *Protokol No 9 Rasporiaditelnogo zasedaniia STO*, 2.09 1927, RGVA, f. 4, op. 17, d. 61, l. 79.

<sup>11</sup> RGAE, f. 4372, op. 91, d. 75, l. 70.

Table 3.1

**Relative utilisation of projected capacity in defence production, 1927-31**

Item	Projected 3-shift capacity in 1931	Annual orders in 1927	Annual orders in % of capacity with	
			3-shift	1-shift
Rifles	900 000	225 000	25%	58%
Machine-guns (MGs)	16 500	3 250	19%	45%
SubMGs	27 000	9 000	33%	69%
Rifle cartridges (mln.)	2 310	375	16%	38%
1902 field gun 3"	1 450	174	12%	28%
1909 mountain gun 3"	70	20	28%	60%
1915Antiair gun 3"	400	150	37%	90%
1910 howitzer 48"	520	220	42%	100%
1910 gun 42"	120	30	25%	57%
Tanks	100	100	100%	230%
Tractors	150	100	65%	150%
Shell fillings	16 500 000	375 000	2 %	2%
Explosives (tons)	16 500	1 269	8 %	8%
Gunpowder (tons)	22 720	1 680	7%	7%
Time-fuses	4 950 000	300 000	6%	14%
Fuses	13 000 000	470 000	4%	10%

Source: VSNKh *Soobrazheniia o plane razvitiia osnovnykh otraslei voennoi promyshlennosti*, 5.04 1927, RGAE, f. 4372, op. 91, d. 31, l. 18.

Table 3.2

**Production capacity and mobilisation requests of the defence industry**

Item	Mobilisation requirement	Capacity 1/10 1927	Coverage of mobilisation claims in 1927	Projected capacity by 1932
Rifles (mln.units)	3 015	1 103	38 %	2.332
Machine-guns (units)	16 500	9 100	54 %	16.500
Guns (units)	2 500	586	23 %	2 279
Hand grenades (units)	5 000 000	200 000	4 %	500 000
Shell fillings (units)	17 000 000	2 243 000	13 %	18 000 000

Source: RGAE, f. 4372, op. 91, d. 75, l. 70.

Note: The figures are taken from a report of the Council of Labour and Defence.

The necessary reconstruction could be achieved only over a period of 4 to 5 years. The military lamented that the defence industry had not yet been included in the plan projections for the Soviet economy:

The mobilisation requirements of the Military Authority (*Voennoe vedomstvo*) have not yet been defined and confirmed, neither by the Government, nor by the Main Military Directorate of the VSNKh. VSNKh has initiated some

considerations for a long-term plan for the defence industry that should raise capacity up to the mobilisation requirements of the Military Authority.<sup>12</sup>

Capital investment of 363 million rubles over a period of three years was indicated as necessary to reach 100% coverage of the mobilisation request, i.e. to satisfy the needs for one year of war. The civilian industry had a substantial share in some of the basic ammunition supply and chemical weapons. The main bottle-neck in the military's long-term view, i.e. for the event of war, was the deficit in powder production in 1928. The actual likelihood that the defence industries could supply the war-time need for artillery shells was therefore very small. When NKVM scrutinised the annual plan for the defence industry for 1928/29, huge discrepancies were found. Given the insufficient surge capacity of trotyl and smokeless gun-powder, the industry would be able to supply only 9.8 million rounds, compared to the mobilisation requirement of 29.5 million rounds. For tubings, the situation was similar. Consequently, the ammunition deficit impeded the development of weapon systems. "All investments that are made in the defence and civilian industries lose any effect whatsoever, if there is a shortage of gun-powder", was the resignation expressed by the Head of the 2nd (Organization-mobilisation) Directorate of the Staff.<sup>13</sup>

### 3.3 Principal political views on industrialisation and defence

In their speeches to the 15th Party Congress in December 1927, Gosplan's Chairman Gleb Krzhizhanovskii and Defence Commissar Kliment Voroshilov gave indications on what was expected of the five-year plan in general and with respect to defence, in particular. The plan must cope with the possibility of an armed attack on the USSR and the preconditions for successful repulsion of the combined forces of the probable enemies.<sup>14</sup>

Whereas industrialisation determined the defence capacity of the Soviet Union in a broad sense, the military considerations (*soobrazheniia*) required a number of changes and corrections in the concrete industrial plans. The most urgent need was to expand the

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<sup>12</sup> Report to STO, 5.04 1927, RGAE, f. 4372, op. 91, d. 35, ll. 58-57.

<sup>13</sup> Nachalnik 2-go Upravleniia Sthaba RKKA, Rybakov, 30.09 1928, RGVA, f. 7, op. 10, d. 310, l. 185.

<sup>14</sup> 15-yi sezd Vsesoiuznoi Kommunisticheskoi Partii (bolshevikov), *Stenograficheskii otchet*, Moscow 1962. For Krzhizhanovskii, pp. 855-914, mention of relationship between heavy industry and defence on p. 870. For views on industry of Voroshikov, see *ibid.*, pp. 982-990.

production of ferrous, and particularly of non-ferrous, metals. The resolution on the Five-year plan, approved by the 15th Party Congress in December 1927, stressed the defence aspect:

Taking into account a possible military attack by capitalist states against the proletarian state, the five-year plan should be worked out with *maximum attention* devoted to the fastest possible development of those sectors of the economy in general, and the industry in particular, which play the main role in securing the country's defence and economic stability in war-time.<sup>15</sup>

However, "maximum attention" (*maksimalnoe vnimanie*) to defence-related sectors of the economy was still only a vague slogan. To some extent, it permeated the planning atmosphere. This was the case during the whole of 1928 and well into 1929. The Defence Sector jointly with other sectors in Gosplan, on the one hand, and the military, on the other, had engaged in several rounds of sessions, conferences and meetings to discuss various aspects of the Defence Industry. As will be demonstrated below, the military had reason to reiterate its position on defence preparedness in front of the seemingly more lenient civilian planners.

The Party congress resolution furthermore stated that economic development must guarantee the country's viability under a blockade. Dependence on foreign, capitalist countries should be reduced.<sup>16</sup> A Workers' and Peasants' Inspectorate (*Rabkrin*) commission had tested the mobilisation work in local administration and enterprises during 1927. In his speech, Voroshilov referred to the conclusions of this commission and to the decisions of VSNKh on the slow mobilisation preparation in a number of enterprises.

Everywhere, work goes on so slowly, as if there were no war danger. At the centre, they do not know much and don't care to find out. ... In the periphery, nobody tries to establish their minimal and maximal possibilities, to draft a mobilisation plan versions or suggestions, or to get decisions from the centre.<sup>17</sup>

In his speech to the delegates at the 15th Party congress, Voroshilov seems to have tried to soften the impression of shortcomings in the defence industry. In contradiction to what had been shown earlier in the reports, which Voroshilov himself signed, he proudly stated to the Congress delegates that the Soviet industry was a "sufficiently mighty basis" (*dostatocno moshchnaia baza*) for repulsing an attack from the imperialists.

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<sup>15</sup> *KPSS v rezoliutsiakh i resheniakh s"ezdov, konferentsii i plenumov TsK*, Moscow 1970, t. 4, p. 33 (italics added, LS).

<sup>16</sup> *ibid.*, p. 38.

<sup>17</sup> *XV s"ezd*, op.cit, p. 982.



Voroshilov, however, could not fail to mention the "bottle-necks" in the production of ferrous, and particularly non-ferrous, metals, steel and chemicals, synthetic silk and acid sulphur, as well as in the auto and tractor production. Tank construction had not yet even been initiated in the Soviet Union, although several projects were under way. The Defence Commissar insisted that all economic and industrial questions concerning defence should, in due time, be forwarded to the military for its opinion and verdict. Several military commissions were engaged in planning during 1928. Military opinion on the proposed Five-year plans, up to the final version of 1929 had been rendered.

In April 1928, the People's Commissariats were to enrol military representatives, at all stages, whenever an economic plan that involved defence-related problems was elaborated.<sup>18</sup> Until then, the military had been involved only at the final stage of the plan formulation.<sup>19</sup>

### **3.4 Sustainable economic conditions in one-year-of-war plans**

In late October 1927, Voroshilov wrote to Vladimirskii, Head of Gosplan's Defence Sector, and stressed that Revvoensovet supported the drafting of a one-year-of-war-version of the annual plan. Voroshilov, however, raised objections as to how the Council of Labour and Defence (STO) had been handling the matter.<sup>20</sup> Since the war-year version would depend on several factors, (the requirements of the army as a whole, the minimum consumption of the civilian population etc.), Voroshilov proposed that these problems should be solved through closer co-operation between Gosplan and NKVM (People's Commissariat for Military and Naval Affairs). The main tasks would be to specify all the materiel required by the Red Army in war-time, their composition, how they could be delivered, and how local resources could be used. Gosplan should formulate a version for the distribution of products to all consumers and users. Gosplan also should assure conformity between the structure of the mobilised economy and the consumption of the armed forces, the civil population and the investment requirements. Further, Gosplan was to schedule the speed at which the economy could be mobilised.

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<sup>18</sup> *Postanovlenie Raspriaditel'nogo zasedaniia Soveta Truda i Oborony*, RGVA, f. 7, op. 10, d. 499, l. 25.

<sup>19</sup> *Zapiska Predsedatelia SNK SSSR*, May 1928, f. 7, op. 10, d. 499, l. 170.

<sup>20</sup> *Zapiska Narkomvoenmor'a Predsedateliu Gosplana*, RGVA, f. 7, op. 10, d. 316, l. 26.

The war version of the control figures is after all a derivative of a series of entities, which require analyses and that has not yet been accomplished in the mobilisation sections of the People's Commissariats.<sup>21</sup>

In early 1928, Gosplan's Defence Sector had proposed a resolution which called for closer ties between military operational war-plans and economic plans in case of war. Gosplan even asked for a systematic operation of the separate plans in order to link them into "one unified, inter-connected plan". The Defence Commissariat protested vehemently; it would be:

totally inappropriate at present to have a closer link between the war plan and the economic plan. First, it would involve Gosplan's Defence Sector in the revision of the operational war plan, and secondly, this would divulge the secrets of this war plan.<sup>22</sup>

Thus there were two juxtaposed positions, with Gosplan's Defence Sector (and all the other members of Gosplan with security clearance for defence matters) asking for access to concrete war planning in order to plan the economic requirements. Objections were raised by the military which was not content with this limited influence on over-all planning, although they had key advisors within Gosplan and all the mobilisation sectors of the Commissariats.

The military sometimes referred to the coming plan period as a "pre-war time", implying that war was not likely before 1932-34. Furthermore, by that time, the contradictions between the capitalist world and the socialist state would probably have become sharper. A military resolution stated that, "we must regard the coming five-year period as a pre-war time".<sup>23</sup> Since the first Gosplan proposals for a five-year plan drafted in 1927 did not have this "pre-war perspective", the Defence Commissariat insisted that the plan proposal be re-drafted by Gosplan with a view to "the inevitable military collision" (*neizbezhnoe voennoe stolknovenie*). It was stated:

The five-year plan must become a plan for the economy on the conditions of a pre-war cycle (*predvoennaia kon'iunktura*).<sup>24</sup>

In another report (*zakliuchenie*) on a Gosplan proposal from 1927, NKVM criticised the lack of adequate defence considerations in the development program and the necessary

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<sup>21</sup> *ibid.*, l. 31

<sup>22</sup> *Zamechaniia NKVM po projektu postanovleniia RZ STO, "O meropriiatiakh po oborone na 1928/29"*, RGVA, f 7, op 10, d 504, l. 270, Emphasis added, LS.

<sup>23</sup> *Zakliuchenie po perspektivnomu piatiletnemu planu razvertyvaniia narodnogo khoziaistva SSSR*, RGVA, f 7, op 10, d 303, l. 123-128. For the context, see quote in chapter 1, note 1.

<sup>24</sup> *ibid.*, l. 123ob.

structural changes in the economy with respect to the "inevitable armed confrontation between the USSR and the capitalist world". In its reply to Gosplan, NKVM stated, however, that they assumed that the Soviet Union would not have to fight a war before 1931/32.

It is obvious that we can hardly... count on a second five-year period of peace, and, consequently, if a war erupts in 1932-34 the following reflections will turn out to be correct.<sup>25</sup>

In a letter to Trade Commissar Mikoian, Tukhachevskii stated that the Staff assumed that a war only would be likely *after* the five-year plan period. Otherwise, he emphasised, it would be irrelevant to construct a 5-year plan, which would most likely be interrupted by war in any case.

The consideration of the defence needs in the long-term plan cannot be limited to the introduction of corrections or extra demands for the development of this or that military product.<sup>26</sup>

The preparation of the economy for war comprised not only the supply of armament, but also the securing of economic viability during a probable blockade. For this reason, defence requirements must be included in the long-term plan. A plan should give the "optimal combination" of growth rates of various sectors of the economy so as to guarantee both the needs of the armed front and the normal, uninterrupted work in the rear.<sup>27</sup> Of particular significance would be the analysis of the structure of consumption and production in war-time, so that any strained disproportion and functional break-downs could be avoided. The 1927 Staff report, reflecting the opinion that the NEP policy towards the peasantry would continue, held that the maintenance of "the link" (*smychka*) between industry and agriculture was a central problem.

Economic projections for any given year should be juxtaposed to a variant of the model in case of war in that same year. This juxtaposition would answer many questions about the

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<sup>25</sup> *Zakliuchenie po piatiletnemu planu razvitiia narodnogo khoziaistva SSSR*, RGVA, f. 7, op. 10, d. 303, l. 137. (The date of this report can be ascertained by contents and remarks in the text to 15 May 1927).

<sup>26</sup> RGVA, f. 7, op. 10, d. 303, l. 104ob.

<sup>27</sup> *Zapiska zam. nachalnika Shtaba RKKA po voprosu: Uchet nuzhd oborony v 5-letnem perspektivnom plane razvitiia narodnogo khoziaistva*, RGAE, f. 4372, op. 91, d. 75, l. 151.

projected growth rates for the economy in general, and for industry in particular, as well as of defence needs in the long-term plans.<sup>28</sup>

### 3.5 The defence budget in the first long-term plans

Judging solely from the debates on the budget for defence expenditure, the central authorities paid relatively little attention to a military threat in 1927. This attitude was reflected in the first proposals made by Gosplan's Financial Sector for the defence budget. It was noted above that Tukhachevskii, as Chief of the Red Army Staff, had claimed that a defence budget of not less than 4 000 million rubles for the coming five-year period was required. In one of the plan drafts from Gosplan's Financial Sector from 1927, a draft defence budget of 3 500 million rubles was proposed for the next five years:

Table 3.3

#### Gosplan's proposal for the Defence Commissariat budget, 1926/27 - 1930/31

	Gosplan (Finance Sector) draft of the defence budget (m.rub)	% increase over preceding year	% of total budget
1926/27 (actual)	634.5	15.0	23.8
1927/28	674.7	6.1	7.5
1928/29	709.0	5.3	8.5
1929/30	746.0	4.9	7.6
1930/31	786.0	5.4	7.6
Total	3 550.2		

Source: *Zakliucheniia NKVM predsedateliu Gosplana SSSR, Krzhizhanovskomu*, June 1927, RGVA, f. 7, op. 10, d. 303, l. 27.

The Defence Commissar strongly objected to this draft, which projected only a modest, and even falling rate of increase of the defence budget. In his verdict on the Gosplan proposal, Voroshilov tried to bring in the international perspective:

The fast growth of armaments in the West European countries raises the question of a technical reconstruction of the army, construction and production of new weapons (aircraft, artillery, radio, projectors, chemical weapons etc.).<sup>29</sup>

The report anxiously included figures for the defence budgets of Great Britain, France, United States and several other countries purporting to show that the Soviet Union had spent

<sup>28</sup> *Zapiska Zam. nachalnika*, op.cit., l. 151ob.

<sup>29</sup> RGVA, f. 7, op. 10, d. 303, l. 28.

the lowest amount per capita (4.3 rubles per capita compared with 26, 15 and 12 rubles per capita for the above-mentioned states) and that its defence share of the budget was the lowest of all countries. It falls outside the scope of this study to test the veracity of the numbers that Voroshilov gave for the Western powers. How they were calculated in some of NKVM's departments and what the budgets represented in terms of armaments might be possible to trace. The point here, however, is to elucidate the perceived lagging behind in an on-going arms race. Voroshilov asserted that:<sup>30</sup>

When the economy grows quickly and the armed forces of the Soviet Union are lagging behind this growth, however, as a result of low budget assignments both in the past years and in the Gosplan 5-year plan project, the Soviet Union will not be able even to use the productive forces at hand, if a war would break out. Low budget assignments to defence in peace-time will transform the Red Army in its present peace-time composition to a "weak spot", that in itself will hinder its optimal development in war-time.<sup>31</sup>

In the opinion of NKVM, the minimum budget required for the armed forces to improve the living and training conditions of officers and soldiers and to procure new armaments would require 4 359 million rubles, i.e. approximately 800 million rubles more than what the Financial Sector of Gosplan had proposed. This implies that the annual budget increased by approximately 80 per cent over the five-year period, and that the share of the defence in the total budget would be at a constant level (cf. table 3.4).<sup>32</sup>

NKVM noted that the increase in the defence budgetary allocations were smaller than those for transport, communications, social and cultural expenditures. "The international situation, however, requires an increase of defence expenditures for the immediate future."<sup>33</sup> The key-word for the military was a resolution of the 4th Congress of the Soviets which stated that in all long-term plans and capital construction schemes, the defence requirements should "not lag in comparison with the average, general economic growth of the country."

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<sup>30</sup> *ibid.*, I. 27.

<sup>31</sup> *ibid.*, I. 28.

<sup>32</sup> *ibid.*, I 30.

<sup>33</sup> *ibid.*, I. 32.

Table 3.4

**The military's proposed budget for the Defence Commissariat, 1926/27 - 1930/31**

	The military's assessment NKVM budget (mn.rubles)	% increase over preceding year	% of total budget
1926/27	634.5	17.0	12.7
1927/28	800.0	26.0	14.7
1928/29	860.0	7.5	14.6
1929/30	1 060.0	11.6	15.1
1930/31	1 005.0	4.7	14.7
Total	4 359.5		

Source: RGVA, f. 7, op. 10, d. 303, l. 32.

Note: The budget figures were given in current prices. Since decreasing costs were expected over the five-year period, part of the difference between the military and civilian authorities might be compensated for by increasing efficiency in the defence industries.

The five-year plan proposals, however, according to NKVM, contradicted the rule of thumb of equally fast development of the defence industries. The plan would provide a diminishing share of the country's industrial resources to the armed forces in case of war. Even the projected growth of the metal and chemical industries of about 55% from 1926/27 to 1930/31, or the projected 285% growth of the defence industry, would not eliminate the disproportion.

The disproportion between branches, which serve weapons production, not only hinders a full deployment of the army at war-time strength, but also limits the rebuilding of a standard division to what the Staff considers as minimal.

The future war will not be possible by utilising only the existing fixed capital. In war-time, it will be necessary to produce new machines and instruments, replace old equipment and so on. A significant part of the equipment in the machine-building and machine-tool industry (*mashinostroitelnaia i stankostroitelnaia promyshlennost*) will be used for military production. This branch will be the main basis for the immediate supply of the army.<sup>34</sup>

As a result of a probable blockade of the USSR, about 40% of war-consumption would fall on the metal industry (mainly the machine-building and defence industry). The capacity needed from those industries consequently could not be achieved by separate mobilisation measures. The whole development of the metal industry, therefore, must be planned in accordance with defence needs.

<sup>34</sup> *ibid.*, l. 37.

### 3.6 An "ideal model" of the defence planning system

The exact nature and shape of Soviet military and economic planning in the late 1920s can now be formalised. The following model illustrates the "ideal" of how the various elements of the system were - in principle - to be linked together.

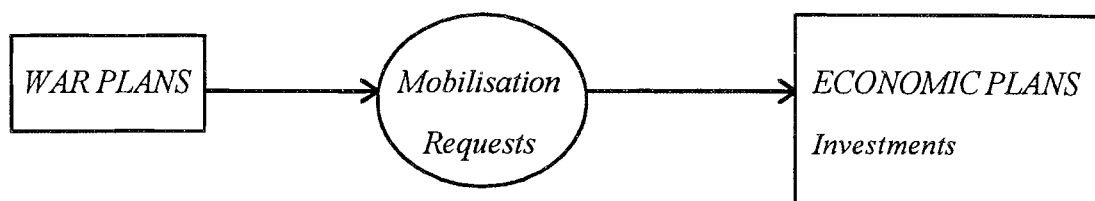
The many plans mentioned in the analysis may require some terminological clarification. The following two figures separate Gosplan and the military sphere, and indicate the interaction between these two main actors. The two types of plans are the military war plans (*plan voiny*) and the economic plans (*narodno-khoziastvennye plany*). The war plans include estimates of probable enemy strength, conditions in expected theatres of war, and requirements of the armed forces in various stages of an anticipated conflict. Based on these calculations, the military established the mobilisation request, (*mobilizatsionnaia zaiavka*) which formed the core of the investment part of the economic plan (fig. 3.1).<sup>35</sup> Whereas the military generally would have preferred to work within a framework where the war plans would directly determine the mobilisation requirements, the planners and economists pointed to the obvious feed-back from the economic plan to the war plan.<sup>36</sup> It was apparent to them that the targets in the economic plans were not solely a result of defence requirements, and consequently, that the approved economic plans must, in turn, influence the scope and character of the war plans. This feed-back mechanism was accepted by the military, who, however, did not want any civilian authority to have insight into the actual war planning. The economists wished to have more knowledge about the wars plans so as to be able to evaluate the military's mobilisation requirements. Such suggestions from the economists in Gosplan were categorically rejected by the military.<sup>37</sup>

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<sup>35</sup> For a later Soviet definition of the typical structures of the war plan, see Gorkov, Iu.A., "Gotovil li Stalin uprezhdaiushchii udar protiv Gitlera v 1941g.?", *Novaia i noveishaia istoriia*, 1991, No. 3, p. 30: "The operational war plan, a concentrated expression of the military doctrine of the state, represents the core element around which are linked as a unit the mobilisation plan, the plan for the construction of the armed forces, the program for weaponry and armament development, training of reserves and the plans for economic preparations."

<sup>36</sup> In a memorandum, (dated 1930) the Gosplan Defence Sector economist Lozovskii criticised the military planning methods for having been one-sided: taking the military requirement as the basis for its industry plans, and thus missing the chance to discuss various options of the War plan, depending on which growth and sector priorities were established.

<sup>37</sup> Proposals in 1927/28 at the formative stages of Gosplan's Defence Sector. For an example of the standard procedure, see RGVA, f. 4372, op. 91, d. 121, *Svedeniia o raskhodakh na* (cont.)



**Fig. 3.1 The link between war plans and economic plans.**

A distinction must be drawn between capacity (*moshchnost'*, *propusknaia sposobnost*) and production targets. Capacity can be seen as the basic indicator in military-economic planning. Only scant quantitative figures were formerly available from the Soviet statistics. Few data concerning *the military potential* could be estimated. It seems essential to emphasise these two basic types of pre-war Soviet planning, because only with this distinction in mind, is it possible to relate various plans and production results to each other. With documents from the archives, it is now possible to discern how the different planning authorities in the military and civilian (Gosplan) sectors co-operated.

Gosplan (as a whole, i.e. all of its sectors and sub-sectors) drafted the long-term plans for the economy. Gosplan's Defence Sector prepared the plans for the defence industry, military transport and other defence-related activities. The Defence Commissariat and the Operational Directorate of the RKKA Staff formulated the war plan (*plan voiny*), i.e. the operational plans for the armed forces in case of war. The pre-1941 War Plans have been available to Soviet historians, so the general character of these plans is known.

The economic defence plan (*khoziaistvennyi plan oborony*) was formulated jointly by the RKKA Staff and Gosplan's Defence Sector. It prescribed the mobilisation of the economy and the transition to a war economy. The economic defence plan, in turn, determined the mobilisation requests, i.e. the capacity that industry, transport etc. were to reach at a particular time. When the economic defence plan had not been up-dated, the ruling war plan determined mobilisation requirements. The armed forces development plan (*plan stroitelstva*

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*vooruzhennye sily dlia vedeniia voyny v techenie odnogo goda i perepiska so Shtabom RKKA o razrabotke smety voennogo vremeni.*



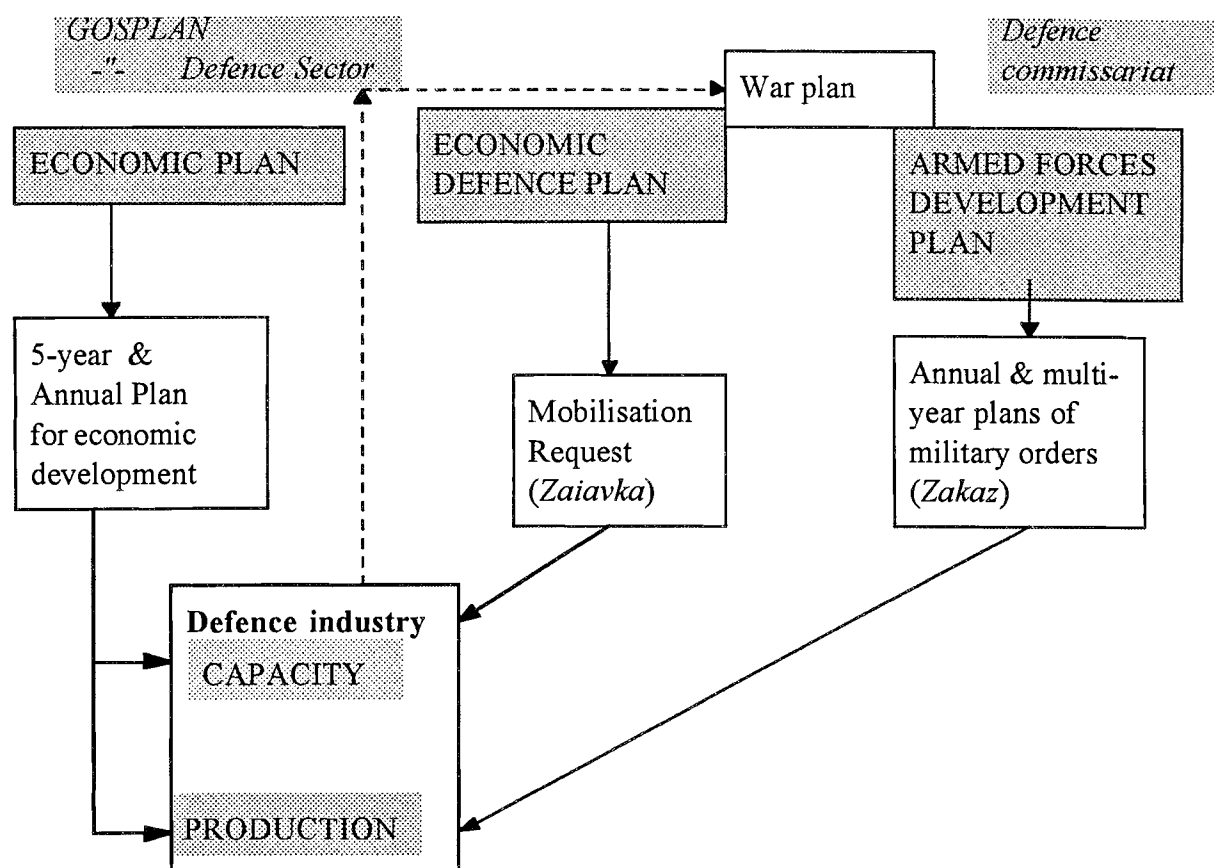
*vooruzhennykh sil*) was the military's long-term (sometimes three, but usually five years) outline for peace-time procurement. It determined the military's peace-time orders, and it was divided into annual segments. Figure 3.2<sup>38</sup> illustrates the connections between these plans. Capacity (*moshchnost*) was essentially a hypothetical figure, derived from calculations of maximum production with given supplies of machinery, tools, instruments, specialists and labour for each plant. Mobilisation planning evolved to take into consideration not only the demands of individual enterprises, but also the distribution of raw materials, energy and so on between the defence industry and the mobilised parts of civilian industry in the event of war. The balance calculated between the sectors was a rough equilibrium that could be maintained in a protracted war.

*Mobilisation capacity* was explicitly made the number one priority. Here this key indicator will be used systematically to evaluate the two first five-year plans. The intent is to shed new light on the rearmament process by including the mobilisation targets into the analysis of industrialisation. This capacity was calculated on a rather theoretical level by the mobilisation directorates of the industrial administration (VSNKh) and the military, but could to some extent be practically checked in so-called test conversions to military production.

Current *production* was thus *a secondary priority*. Nonetheless, current performance was very often used as an indicator of mobilisation capability. The aggregate mobilisation request for artillery shells was labelled "*vystrel*". This was one of several complex indicators of rearmament. The "*vystrel*" order was thereafter sub-divided by the NKVM Artillery Directorate into orders for rounds of various calibre. In the same manner, detailed mobilisation targets were established for the air force, the mechanized forces and so on. Raw materials and semi-finished goods requirements were also calculated in great detail, as were the metal components. An important aspect of these plans was the quantification of the demand for steel, non-ferrous metals and the chemicals. Since the purpose of the present study is to test a new analytical approach, only the aggregate mobilisation requests will be considered.

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<sup>38</sup> This figure is adapted from a scheme elaborated in the Red Army Staff, *Skhema podgotovki narodnogo khoziaistva SSSR*, 19.04 1928, RGVA, f. 7, op. 10, d. 316, l. 516.



**Fig. 3.2 Determinants of plans for capacity and production targets**

In peace-time, the Soviet defence industry had to produce the weapons needed for training and to maintain adequate inventories and mobilisation reserves. Special work-shops (*spetsstsekhy*) for experimental construction (*opytnoe stroitelstvo*) had the task of raising technological levels. The defence industry was to be prepared for rapid increase in production in case of mobilisation.

Strengthening the country's defence was definitely a priority of the leadership. This obvious fact, however, did not necessarily result in the construction of a large number of new factories. The emphasis was on building only a minimal number of defence enterprises, which were to form the "cadre factories" (*kadrovye predpriiatiia*) around which civilian and newly erected plants would be grouped in the event of war. The "cadre industry" was to maintain and develop technical skills in military design and production. The production level should be sufficient to support a sufficient number of highly qualified workers and technicians.

One way to increase armament production without constructing new factories was the so-called *assimilation* approach. The predominant part of military war-time needs, particularly for the artillery complex, was expected to come from civilian enterprises. In

peace-time, these were to fulfil their usual plans, but also to keep some reserve of machines and train their workers in weapons production. The annual orders were distributed with this training function in mind, rather than by simple economic calculation. In a prearranged way, they were obligate to accept military orders in war-time.<sup>39</sup>

A particular characteristic of the Soviet defence industry was that the traditional armament plants had a huge over-capacity (man-power, machinery, workshop floor space etc.). They were therefore expected to maintain a certain production for the civilian market.

On the other hand, many enterprises in the civilian sector, both in heavy and in light industry, were to maintain machinery, tools, raw materials, and sometimes even special workshops, where military orders could be fulfilled at short notice in case of mobilisation.

The academic discussion about the relative success of the Soviet industrialisation, as the basis for a military build-up, has been hindered by the scattered data on the defence industries and the Soviet armed forces. The information on military progress has been limited to a discussion of the fulfilment of those plans that were divulged at the time: mainly raw materials in physical terms and value data on heavy industry, plus some meagre data on armament production and the defence potential within the newly erected heavy industries.

Various indicators of the military build-up (such as production or annual plan fulfilment) have been used. One purpose of the present research is to describe the development of production, preferably in physical terms wherever possible. However, the Soviet defence planning - as co-operation between the military and the planners - was rather more pre-occupied with the capacity targets than with the annual production programs. Some examples with respect to earlier research may be appropriate.

From her analysis of development of the defence budget over the first Five-year plan, the American historian Sally Stoeker concluded that defence matters had had a low priority for the Soviet leadership in the late 1920s. Another interpretation is possible if the mobilisation targets instead of the annual defence assignments are considered. Likewise, the general influence of the long-term military considerations on the industrialisation, through the joint civil-military commissions and through the representatives of the military in the planning

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<sup>39</sup> *Osnovnye polozheniia mobilizatsionnoi raboty v promyshlennosti*, RGVA, f. 7, op. 10, d. 316, ll. 504-512.

agency, should, in my opinion, be taken into account. With the above-mentioned interrelations between defence industry plans in mind, a main objection to Stoeker would be that, by not explicitly referring to the crucial contingency plans, the mobilisation requirements (*mob-zaiavka*), as well as the plans for the first year of war, a major aspect of the military's influence on the planning is missed.<sup>40</sup>

In a classical book on Soviet planning prior to and during WWII, the British economist Mark Harrison discusses general aspects of military-industrial planning and, particularly, of contingency planning in the late 1930s. Since the original documents were not available, however, and his conclusions are based on Soviet secondary sources, the specific military-industrial plans escaped his attention. Harrison refers to the ordinary plans as a kind of mobilisation plans, where "contingency plans ran together with current mobilisation and conversion work". He concluded:

For those administering the economy as a whole, the distinction between contingency plans and operational plans disappeared, and economy-wide plans for realising military-economic potential in the event of war did not apparently exist independently of the long-term, perspective and current plans compiled by Gosplan.<sup>41</sup>

With reference to figure 3.2, Harrison's assumption seems to be that 'contingency plans', which are called "economic defence plans" in our presentation, were indistinguishable from the general set of economic plans (the five-year and the annual plans for the economy in general). Without saying anything about their coherence or realism, in case of war, however, it is clear that "economic defence plans" (*na pervyi period voiny, na pervyi god voiny*) were elaborated parallel to, but theoretically and organisationally distinct from, the defence industry plans and the plans for the economy. The "economic defence plan" had a direct impact on the peacetime plans.

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<sup>40</sup> Stoeker, S., "Forging Stalin's Army", 1995, op.cit., ch. ii.

<sup>41</sup> Harrison, M., *Soviet Planning in Peace and War 1938-1945*, op.cit., p. 54.

## **PART II**

### **THE ROLE OF THE DEFENCE INDUSTRY IN THE FIVE-YEAR PLAN: SOME RECONSIDERATIONS**



## Chapter 4

### NEW EXTERNAL THREATS AND WAR SCENARIOS

In order to determine how external threats determined or influenced the first Five-year plan, it seems useful to begin by relying on documents that were developed for the military's internal use. In my opinion, much of the earlier scholarly debate has been hampered by references to, and reliance on, the Bolsheviks' public speeches. Such performances had the likely purpose of mobilising the population for strenuous efforts, of uniting party members and of sending messages to international opinion. In other words, such statements did not necessarily reflect the true conviction of the leaders. On the other hand, it is reasonable to assume that the debate inside the military and top state or party organs were frank and outright.

With the threat assessment as background, it is time to analyse the military's plans for army expansion and restructuring. In this chapter, the intention is to compare the official, government-approved plans that were elaborated by the Red Army Staff with two radical plans that were presented by Tukhachevskii, then Commander of the Leningrad Military District, and by Snitko, a Gosplan military economist, respectively. The various army reconstruction plans form the framework of a detailed analysis of *how* defence considerations were incorporated into the five-year plan.

#### 4.1 External threat assessments in 1928-1930

During April - June 1928, Defence Commissar Voroshilov chaired a commission that reviewed the five-year plans for the peace-time development of the armed forces (*plan stroitelstva vooruzhennykh sil*). This commission also defined the mobilisation requirements (*mob-zaiavka*) at the end of the Five-year plan, i.e in 1932/33. As Chief of Staff, Tukhachevskii participated actively in, and reported to, this commission until May 1928. This circumstance is important to notice, since it constitutes a further argument against the interpretation that Tukhachevskii even then had advocated rearmament targets at great variance from those of the official commissions.<sup>1</sup>

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<sup>1</sup> The reason that I emphasise this is historiographical. First, to my knowledge, Tukhachevskii's Soviet biographers have not dealt with this period in detail. Second, his dismissal from the post of Chief of Red Army Staff has been linked with the publication of *The Future War*. However, that work contained no figures at variance with what the Voroshilov-chaired commission proposed in  
(cont.)

In its final report, the Voroshilov commission of 1928 depicted the balance of forces in the Western theatre of war as unfavourable and deteriorating over time. The likely enemy had more aircraft and tanks than the Soviet Union, even without taking into account the likely support from some West European states.<sup>2</sup> Against this background, the commission proposed a series of changes in the war-time size of the Red Army. In consequence, changes in the industrial mobilisation requirements were also called for.<sup>3</sup>

Table 4.1

**Red Army estimates of the military balance of power / the Soviet Union vs. Coalition**  
(units, unless otherwise indicated)

	Probable enemy coalition	Red Army
Infantry divisions	109	100
Aircraft	1 190	1 046
Tanks	401	90
Guns	5 620	7 034
Number of soldiers	3 100 000	2 660 000

Source: *Doklad , Osnovnye zadachi pravitelstvennoi komissii.*, RGAE, f. 4372, op. 91, d. 213, l. 109.

The Voroshilov commission of 1928 was working on the long-term prospects for the Red Army at a time when the already mentioned study *The Future War* had been completed. The basic threat patterns were analysed in *The Future War*. Although it is not possible to ascertain anything about the circulation and influence of this book, it was definitely a basis for the views of the military leadership concerning the economic development required for the new kind of warfare that was expected.

On the one hand, there was an "abstract" perception of a large-scale future war for which the Soviet Union was not prepared. On the other hand, the evidence shows a "concrete" threat perception, of varying intensity, that was centred on the actions of the Polish leadership under Marshal Pilsudski. During most of the first Five-year plan, the foremost "specified" war

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1928. Third, there is an interpretation of the early military proposals for the five-year plan as "moderate" or "conservative", being the products of Voroshilov and Shaposhnikov. See, e.g. Davies, Robert W., *The Soviet Economy in Turmoil*, op.cit., pp. 443. Although the evidence in this study are the decision protocols alone, none of the three mentioned statements seem to be correct.

<sup>2</sup> *Doklad , Osnovnye zadachi i rezultaty rabot Pravitelstvennoi komissii.*, RGAE, f. 4372, op. 91, d. 213, l. 109.



threat was expected to come from a Polish-Romanian coalition, supported by France.<sup>4</sup> This perceived threat influenced decisions concerning the transport network and the infrastructure in the western Ukraine, Belorussia and Crimea.<sup>5</sup>

In principle, a Soviet intelligence report can be just as tendentious as a Bolshevik public speech, both as to the *part of reality* it describes and *the manner* in which it is described. An intelligence report can also be assumed to have been adjusted in order to please the recipient. Nonetheless, compared with articles in journals or newspapers, documents written for the highest leadership are much more reliable.

Until recently, it was not possible to determine, at least not from original documents, how the Military Intelligence (*GRU*) or similar agencies reported about the outside world to the Soviet leadership. The Intelligence service's own estimates which seem to have influenced the inner circle of decision-makers are, therefore, relied on here.

For 1928, the Intelligence Department outlined its threat assessments in a report signed by the chief of this department, Yan Berzin, which can be assumed to be a representative intelligence report. The title of the report is *Military preparations against the USSR and the main questions of strengthening defence*.<sup>6</sup> It surveyed all the border regions of the Soviet Union, from the most threatened in Poland-Romania in the West to the latent threat perceived

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<sup>3</sup> *ibid.*, ll. 108-78.

<sup>4</sup> In the Russian State Military Archive (RGVA), war plans as elaborated by the Staff Operational Department and specifically by Triandafillov, who at this time was Head of the Operational Department, were not available to me. But for the "war plan dimension" of my work, I found numerous references to war plans in the files of the Defence Commissar and the Organisation-Mobilisation Department.

Concerning the more than 15 various Soviet war plans elaborated before the Great Patriotic War and their basic characteristics, see Gorkov, Iu.A., "Gotovil li Stalin uprezhdaiushchii udar protiv Gitlera v 1941g.?", *Novaia i noveishaia istoriia*, 1991:3, pp. 30-31.

<sup>5</sup> RTsKhIDNI, f. 17, op. 3, d. 683, p. 15; Politburo session of 19.04 1928, reports by Rykov (Sovnarkom), Vladimirskii (Defence Sector of Gosplan), Kirov (Leningrad Party Secretary) and Chubar (Kiev).

The Politburo resolution in question stated that since the military threat came from Poland, it urged the implementation of a Gosplan resolution concerning preparation of the theatre of war in the Western District (*Krai*), Belorussia, western parts of Ukraine and Crimea.

<sup>6</sup> *Voennaia podgotovka protiv SSSR i osnovnye voprosy usileniia oborony, Doklad Berzina, Nachalnika 4. Upravleniia Shtaba RKKA*, November 1, 1928. RGVA, f. 33988, op. 3, d. 109, ll. 303-334.

It was divided in the following sections: The Military and political situation at the end of 1928, The growth of armed forces among our Western neighbours, The growth of mobilisation reserves and supplies of our Western neighbours, and The basic problems of strengthening the defence of the USSR. The report also contains an appendix with estimates of the peace-time and the war-time strength of possible enemy armies.

from Japan in the East. Already in 1928, Berzin spoke of the "well-known plans and attempts of the military clique in Japan for enormous conquests on the Asian continent (China, Manchuria and the Soviet Far East)". As long as the Soviet Union did not experience serious internal trouble, however, Berzin comfortably judged that Japan would not risk any military undertaking.

Japan was thus seen as a potential, albeit no immediate, danger even in the late 1920s, i.e. well before the Manchurian invasion of 1931. The Japanese threat was a fixture in the general assessment from the mid-20s and onwards.<sup>7</sup>

A threat from Great Britain was perceived to come from India via Afghanistan, and particularly from Iraq, towards the oil fields in Baku. This British threat was of a vague character, but it frequently recurs during the 1920s: in the "future war" scenarios of Tukhachevskii, as well as in Svechin's 1930 war analysis prepared for Shaposhnikov.<sup>8</sup>

Another aspect of the Soviet threat apprehension was to base defence requirements not just on the "most probable", but also on the "most disadvantageous", premises. In another context, Voroshilov seems to indicate that the "worst case-scenario" should be a guide-line for military plans and for mobilisation preparations of industry. He wrote:

Whatever the conditions of war will ultimately be, we must base our calculations on the worst case, i.e. the defence of the Soviet Union in complete or almost complete blockade.<sup>9</sup>

This "scenario" implied that in peace-time everything should be done to secure self-sufficiency in basic defence materiel. The Soviets should work for a split in the trade blockade, just as they had done successfully during the Civil War of 1918-1920. Mobilisation reserves

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<sup>7</sup> This runs against Jacques Sapir, who, as mentioned above, argues that a Japanese threat could not have influenced the planning, since the Japan started its expansive policy versus China only in 1931. cf. *Le Système Militaire Soviétique*, La Découverte, Paris 1988, p. 234.

On the other hand, Maurice Dobb, *Soviet Economic Development*, op.cit., p. 237, considered that "the increasing danger of war in the East, following the publication of the notorious Tanaka Memorandum" must have caused an appreciable acceleration of the tempo of investment and a stepping-up of the targets for heavy industry. Dobb used this argument to explain why the consumption targets of the plan had not been met by 1932.

<sup>8</sup> It can be noted that very few studies have been possible in the archives of the French and British General Staffs for this period. It seems to be only exceptional circumstances that led to the discovery of a war plan against the USSR, elaborated within the United Kingdom. See the rare, not officially approved British plan for an attack on the Baku oil fields, in "Conflict Between Britain and the Soviet Union - 1926", document discussed and presented by A. Searly in *Journal of Soviet Military Studies*. Vol. 3, No. 3, September 1990.

should be accumulated, as well as stocks of equipment and spare parts. Voroshilov also stressed that all mobilisation planning should prepare for a protracted and intensive war that could last up to 3-4 years.

A further clue to the perceived, "specified threats" can be found in a budgetary debate during 1928. Deputy Defence Commissar Unshlikht stated in November 1928 that:

There is no doubt that a higher industrialisation tempo is a basic guarantee of our defence capability. But that is insufficient. It is also necessary, in as short a time span as possible, to prepare our industry and all sectors of our economy for the specific requirements of defence.<sup>10</sup>

Unshlikht then described in detail the threatening international situation. He noted that in July 1928, the military had submitted a demand for 960 million rubles for the budget year 1928/29. The government, (acting through the Council for Labour and Defence, *STO*), had reduced this to 890 million rubles in the first instance and then the Finance Commissariat had opted for a further cut to 840 million rubles. Unshlikht argued that such a reduction was unjustified. He pointed to such facts as that French generals had been travelling in Poland, Romania and the Baltic states, apparently to prepare a co-ordinated attack on the Soviet Union. Unshlikht noted that the British were supporting Ukrainian separatism or a Ukrainian union with Poland.

We face not a reduced, but an increased war threat. ... The international situation dictates that the period for war preparedness of the Red Army and the whole country is shortened, not drawn out. ...we must find the means that guarantee a complete fulfilment of our military program.<sup>11</sup>

Unshlikht complained that it had taken two years of "intensive work and heavy pressure" on industry merely to formulate a plan for the development of defence. This work would be wasted if the budget allocations were not received. The cut-backs announced by the Government would imply "a complete revision of all plans, which no doubt would lead to a worsening of the Red Army's fighting capability."<sup>12</sup>

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<sup>9</sup> Letter from Commissar Voroshilov to Trade Commissar Mikoian, RGVA, f. 7, op. 10, d. 454, ll. 60-60ob.

<sup>10</sup> Report from Deputy Chairman of Revolutionary War Council Unshlikht at the RKP(b) Central Committee plenary session in November 1928, RGVA, f. 33988, op. 3, d. 148, ll. 24-33.

<sup>11</sup> *ibid*, l. 29.

<sup>12</sup> *ibid*, l. 32.

## 4.2 Would Soviet Russia be invaded from the Black Sea?

Alexander Svechin, an officer from the Tsarist General Staff, was a teacher at the Frunze Military Academy in the late 1920s. Principally associated with a defensive Soviet strategic plan, Svechin's emphasis on a war of "attrition" (*izmor*) came under heavy attack in the military press by the late 1920s. Prominent in this anti-Svechin campaign were Tukhachevskii and Triandafillov, who stood out as proponents of Soviet offensive thinking, with the aim of "destruction" or "crushing" (*sokrushenie*). Their mutual disbelief was evident in many respects.

In a hand-written document, sent to the Chief of Staff Boris Shaposhnikov<sup>13</sup> on 8 March 1930, Svechin discussed the international situation and the war plans of the Red Army. Svechin assumed that a contemporary war would start without any formal declaration of war, and that the Soviet Union would have to fight against a broad coalition. This was about where his agreement ended with the line of Tukhachevskii, and the RKKA Staff. He stressed that a probable enemy coalition most likely would attack the Soviet Union from the South, i.e. from the Black Sea, Romania and the Caucasus. The enemy's goal, in Svechin's opinion, would be the rich economic resources of the Ukraine, southern Russia and the Transcaucasus.<sup>14</sup> Therefore, in contrast to the official war plan, Svechin proposed an initial attack against Romania - the weakest partner - in order to split the potential enemy coalition.

In his detailed reply to Svechin, Shaposhnikov listed the reasons why the basic threat would come from the West and not from the South. Shaposhnikov therefore stressed the correctness of an initial attack on Poland, that being the strongest country in the coalition. Shaposhnikov also rejected Svechin's attack on Triandafillov. Svechin had written:

The atmosphere of light-hearted boasting ("*shapkami zakidaem*") that the Five-year plan has generated, and that has found such a clear illustration in Triandafillov's book and in Tukhachevskii's lectures, must be ended.<sup>15</sup>

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<sup>13</sup> Boris Shaposhnikov (1882-1945), entered military service in 1901 and graduated from Moscow War College in 1903 and from the General Staff Academy in 1910. Commander in WWI. Joined the Red Army in 1918. In 1925-28, and in 1935-37 Commander of Leningrad Military District. Chief of the Red Army Staff 1928-1931. From May 1937 to 1940, Chief of the General Staff of RKKA.

<sup>14</sup> Zapiska Svechina, "*Budushchaia voina i nashi voennye zadachi*", Nachalniku Shtaba RKKA, Shaposhnikovu, 8.03 1930, (The Future War and Our Military Tasks), RGVA, f. 33987, op. 3, d. 347, ll. 1-1ob, 13-15.

<sup>15</sup> Svechin *Budushchaia voina*, *ibid.*, l. 16

(cont.)

The concentration of the attack of the possible hostile coalition on southern Russia and Ukraine, would in Svechin's opinion, require a shift of the military preparations of the Soviet Union towards the south. He recommended the highest defence preparedness in Ukraine, the Don and Kuban regions and in the Caucasus, and called for a halt to the expansion of oil refineries in the Baku area.<sup>16</sup>

Svechin's warned most emphatically that it would take perhaps 15 years before the Red Army could meet an imperialist coalition with parity in quantity and quality. The war plans and the planning of the technical restructuring of the Soviet armed forces must therefore assume that the hostile coalition would have the technological superiority.<sup>17</sup>

Svechin warned that an enemy coalition might conquer the cities Dnepropetrovsk, Lugansk, Grozny and Baku and "maybe even Stalingrad", and thus get the control of the "command heights" of the Soviet economy. The fighting capability of the Soviet Union would be reduced, and the next stage, the march on Moscow would not be difficult. It might not even be necessary. Svechin therefore urged Shaposhnikov to formulate a war plan that would preclude any possible attack on the economically crucial southern regions of the country.<sup>18</sup> He also characterised the existing estimate of a short mobilisation period for the Red Army as "largely fictional" (*bumazhnyi kharakter*).<sup>19</sup>

#### 4.3 Planning for the conquest of Europe in the 1930s?

The contrast between the official rearmament programs for and Svechin's conservative advocacy of a strategic defence, on the one hand, and the perspective of the future war elaborated at about the same time, i.e. in winter 1930, in a project by Snitko, Head of the Military Section of Gosplan's Defence Sector, could hardly have been greater.

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Svechin seems to refer to Triandafillov above-mentioned book *Kharakter sovremennoi operatsii*, from 1928 and possibly to speeches like the one Tukhachevskii held in the Communist Academy in December 1929, "O kharaktere sovremennykh voyn v svete reshenii VI kongressa Kominterna", *Zapiski Kommunisticheskoi Akademii*, Sektsia po izucheniiu problem voyny, t.1, Moscow 1930.

For Shaposhnikov's answer, and defence of Triandafillov's view, see *Otvet* [Borisa Shaposhnikova] *na zapisku Aleksandra Svechina...*, 31.03 1930. RGVA, *ibid*, ll. 70-71.

<sup>16</sup> Svechin, *Budushchaia voina*, *op.cit.*, l. 15.

<sup>17</sup> *ibid.*, l. 16.

<sup>18</sup> *ibid.*, l. 19.

<sup>19</sup> *ibid.*, l. 17.

No evidence concerning how this Gosplan report was commissioned, or by whom it was received, has been found. It seems reasonable, however, to assume that it was part of the regular work of the Military Section. It is possible to speculate about the assumptions of Snitko's war scenario: Were they co-ordinated with the planning made by Triandafillov, Chief of the Staff's Operational Directorate? Did Snitko want to calculate just how much the most offensive scenario would require in material and economic terms?

It is generally assumed, both by Soviet scholars and Western military historians such as David Glantz, that the Red Army had a distinct *defensive* posture at this time.<sup>20</sup> The Snitko report is worth mentioning if only for its unusual *offensive*, even aggressive and expansionist, themes. On the political level, it is not uncommon to infer a defensive posture from Stalin's thesis of building "socialism in one country". By the mid-20s, this interpretation of Marx and Lenin had triumphed as the Party's general line. By contrast, Trotskii's vision of "permanent revolution" had counted on the spreading of the socialist revolution through offensive actions of the Red Army.

Tukhachevskii, during one phase of his revolutionary career, had propagated for a sort of "revolution from abroad" (*revoliutsiia iz-vne*). The failure of the Polish campaign in 1920 had seemingly not caused him to change his mind in this respect. Praising the resolutions of the Communist International in 1929, Tukhachevskii reiterated some of his revolutionary views.<sup>21</sup>

In March 1930, Snitko wrote a memorandum concerning the character of the future war and its demands on the economy.<sup>22</sup> He envisioned three possible forms of armed conflict between the Soviet Union and the capitalist world. The first would be an organised attack by

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<sup>20</sup> Glantz, David M., "Soviet Mobilisation in Peace and War, 1924-1942: A Survey", *The Journal of Soviet Military Studies*, Vol. 5, No. 3 (September 1992), p. 325.

<sup>21</sup> See the articles in Tukhachevskii, M.N., *Voina klassov*, op.cit., particularly "Revoliutsiia iz-vne" (Revolution from without), written in 1920. Cf. his lecture from December 1929 at the Communist Academy "O kharaktere sovremennykh voyn v svete reshenii VI Kongressa Kominterna", op.cit., p. 8.

<sup>22</sup> *Doklad o kharaktere budushchei voyny i zadachakh oborony*, January 31, 1930, RGAE, f. 4372, op. 91, d. 1271, l. 29-11. In order to place Snitko, about whom little information was elsewhere found, in some context, it can be noted that he later taught at a military-economic faculty. Snitko's lectures on "Defence Planning" (*Oboronoie planirovanie*) were published in 1934. According to Botner, then Head of the Defence Sector, these lectures "included the main issues of our methodology for defence planning", and, although they omitted some aspects, they were published as a classified work ("*ne podlezhit oglasheniiu*"). RGAE, f. 4372, op. 91, d. 1455, l. 4. Snitko remained in the planning organs, as Head of the War Section of Gosplan's Defence Sector, and also worked in other sections until at least the late 1930s.

the imperialists against the USSR. The second, would be an "inter-imperialist war", in which the Soviet Union would be allied with one side against the other or be at war against both sides of the inter-imperialist conflict. A third form of conflict would arise, Snitko concluded:

when the objective development of the relations between the USSR and the capitalist world has attained an impasse, where the further development of the socialist society requires an enlargement of its international connections.<sup>23</sup>

Provided there existed a revolutionary movement in capitalist society and the Soviet Union had a sufficiently solid economic and political basis, plus the necessary military preparedness, it would be possible to launch "an armed attack on capitalism".<sup>24</sup>

In his memorandum, Snitko discussed at length only the first scenario, i.e. an attack on the Soviet Union. In that struggle, he distinguished between two political goals, a "full victory" (*polnaia pobeda*) and a "half-victory" (*polu-pobeda*). The first of these implied a total crushing of the enemy's armed forces and state apparatus, and the subsequent transformation of these countries to "Soviet republics". A half-victory implied only the stopping of the attacking forces, with peace being concluded on the basis of *status quo* and with guarantees that no further armed attacks from the capitalist states would be planned.

The task that Snitko undertook in his memorandum was to determine the requirements for a "full victory". As probable enemies, he listed all of the Soviet Union's border states in the West, supported materially (armour, tanks, motorised units, aviation and navy) by some European Great Powers. Finland (in co-operation with Sweden), Estonia, Latvia, Poland and Romania were expected to participate in the enemy coalition. The scenario also included possible threats against the Caucasus and the Black Sea region, as well as the Soviet Far East.<sup>25</sup>

His over-all estimate was that an enemy coalition army could muster 195 divisions, or 4.5 million men, equipped with excellent automatic infantry weapons (60 000 machine-guns), artillery (9 000 light and 1 500 heavy guns), tanks and aircraft. Their total fire power, as expressed in shell rounds per year, was estimated at 80 million.<sup>26</sup>

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<sup>23</sup> *Doklad o budushchei voyny*, op.cit., I. 29.

<sup>24</sup> *ibid*, I. 29.

<sup>25</sup> For Snitko's evaluation of the importance of various sectors along the Western fronts, Finnish-Estonian, North-Western, Polish-Romanian, see II. 27-29.

<sup>26</sup> *ibid*, I. 7.

Snitko estimated the required strength of the Red Army on the assumption that "a drastic superiority in technical means, and a corresponding tactical and operational form" would guarantee "a decisive, swift and full victory". He arrived at figures for mobilisation and first-year deployment that were far beyond those of the existing Red Army Staff plans. Judging by the very detailed character of this request for army mobilisation, it seems likely that Snitko's report had been commissioned by either a state or a party authority.<sup>27</sup> The Head of a Section within Gosplan's Defence Sector would hardly undertake such an investigation on his own initiative, or without sanction or instructions from higher authority. It has not been possible, however, to establish exactly why a military economist inside Gosplan in early 1930 undertook such a vast study, nor was it possible to discover other reactions to this Snitko study.

The expansion of the Red Army and Air Force that Snitko had in mind was indeed staggering. For example, in aviation Snitko called for "maximum efforts" by the industry so that the Red Air force could have 25-30 000 aeroplanes (of which 50% attack and light bomber planes) in front-line service at the start of the war. First-year of war total requirements of attack planes was set at 45 000!

Tank requirements in Snitko's scenario were equally impressive: 15 000 light and 7 000 heavy tanks at mobilisation and a second-year-of-war production of 45 000 and 18 000.<sup>28</sup>

In general, the war will have a manoeuvre character, although in certain sections of the front in the Western theatre of war we will encounter positional as well as guerrilla warfare. The materiel and human resources that our enemies dispose of, provided they receive technical assistance from abroad to 3/5 of annual requirements, establish the preconditions for a war of "attrition" over a long drawn-out period.<sup>29</sup>

Snitko also sketched a solution to the problem of the main political goals on the Western Theatre of War. The group of "border-states"<sup>30</sup>, along with Sweden, would have only

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<sup>27</sup> *Predvaritel'nye vyvody (Iz doklada o kharaktere budushchei voiny)*, Preliminary conclusions, *ibid.*, ll. 7-6 ob, and tables for 50 categories of arms in *Vedomost potrebnostei*, *ibid.*, l. 10-8 ob.

<sup>28</sup> *Vedomost'*, *ibid.*, l. 10. The listing defines the requirements of main types of artillery, aircraft, tanks and ammunition, a total of 50 categories, on the following periods: a) at mobilisation, b) for the 1st half of the 1st campaign, c) for the 2nd half of the 1st campaign, d) for the whole of the First War-Year, e) for the Second War-Year. *ibid.*, l. 10-8ob.

<sup>29</sup> *ibid.*, l. 20 ob.

<sup>30</sup> The Soviet inter-war term for the former Tsarist provinces Finland, Estonia, Latvia, Lithuania and Poland was "*limitrofy*", a striking resemblance with the present Russian term the "near abroad". The neutral term, of course, would be bordering states, *sopredelnye gosudarstva*.



secondary significance. Since they would divert Soviet forces on an enormous front against quite insignificant armies, however, these states constituted a large, strategic holding group. They could not deliver decisive blows, but they could hinder Soviet activity. Furthermore, their territories might form a suitable bridgehead for the expeditionary corps of the Great Powers.

This forces us to take these enemies out of the war as soon as possible. It will be worse if they declare themselves neutral at the beginning of the war. In this case, we must remember the Belgian example and, depending on the concrete political circumstances, either in the beginning of or during the war, undertake the same operation against them.<sup>31</sup>

Military actions should thus be directed against Scandinavia and the Baltic states:

Estonia, Lithuania and Latvia must quickly be crushed and sovietised. Finland and Sweden must immediately receive such a blow, so that we can restrict our action on this sector to holding operations, observation, positional warfare and to work on undermining political stability to the enemy's rear.<sup>32</sup>

Under any configuration of the possible coalition, the Polish-Romanian front would be the most critical. The weak spot of these two states, in Snitko's view, was their junction. Only if a heavy blow was directed against Romania in the initial phase of the war could a situation be avoided where the Polish Army had to be pushed back while the coalition partner, Romania, could advance on the Soviet flank.

In an initial phase against Poland, actions might be limited to local fighting and to preparation for the transition to a deep penetration. Once the liquidation of the Estonian-Lithuanian-Latvian group had been completed and Soviet forces had reached Kovno-Vilnius, a deep encirclement of the main Polish army could be carried out. On the southern sector of the Polish front, the Soviet troops ought to have reached Vladivvy, Grubeshova and Lvov. In a second campaign the struggle against the main forces of the coalition should aim at crushing the Polish army, at a subsequent sovietization of that country and at an invasion of Czechoslovakia.

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<sup>31</sup> Snitko, *ibid.*, I. 19ob.

<sup>32</sup> Snitko, *ibid.*, I. 19ob.

Soviet War Planning directed against Finland and Sweden in the 1930s has not otherwise emerged in the war plans yet encountered. The main scenario was apparently the Polish-Romanian case. However, one Soviet war plan specifically directed against Sweden in the late 1920s, apparently signed by Tukhachevskii, is referred to in the articles by René, Johan, "Illusionernas eller historiens återkomst?", *Försvarsmakten och armén inför 2000-talet. Försvar i nutid*, 1994; (cont.)

Offensive action against Romania should be continued by pushing the Romanian army back towards the upper Danube. When Romania had been crushed, preparations for war against the Great Powers should commence.

On the whole of the Western front (from the German border, from Danzig to Torn via the river Visla, towards the south to the Carpatian Mountains and along the Hungarian border), Soviet forces should make a transition to fixed position warfare and defence. In this phase, Snitko counted on the possibility of sovietizing Finland as well as Romania.

The Imperialist powers cannot be expected to enter the war until at least 8-10 months after its outbreak, that is the time they need to mobilise their armies and industry before they constitute a threat to us. If they engage us before this, they will not have any decisive qualitative or quantitative superiority and this should not in the least influence our plans for the development of the war events.<sup>33</sup>

According to Snitko, in their preparation for decisive battles by the Soviet forces against the "Imperialist Powers" and for the victory of the revolution in Europe, the Soviets should strengthen the "dictatorship of the proletariat" in the newly established Soviet Republics. They must conduct revolutionary propaganda in the armies of the Great powers. Snitko foresaw an accumulation of resources, and an increase of the army's strength by mobilisation of the industrial and human resources in the new territories. A "powerful Soviet economy" could be developed and the enemy's destroyed production facilities could be reconstructed.

Snitko's final calculations concerning the strength of the French army (94 divisions, 3.2 million men) led him to conclude that the total resources of France would not last for a war of more than 4-5 years. By that time, Snitko reasoned, internal political changes likely would occur in France, thus ensuring the final victory.

To sum up, the detailed memorandum that Snitko produced indicates that the Soviet military, as part of their war plans, at least pondered, and probably calculated, the requirements for the "liberation of Europe". This would be what Snitko termed "full victory". To defend or obtain modest revisions of the borders of the country was pejoratively called a "half-victory", and it would merely lead to another "breathing-spell".<sup>34</sup>

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Skoglund, Claes, "Tuchatjevskij redivivus? En tankeställare för Försvarsberedningen och inför FB96", *Kungl. Krigsvetenskapsakademiens handlingar och tidskrift*, 1995, No. 1.

<sup>33</sup> Snitko, *ibid*, I. 180b.

<sup>34</sup> The conception of a basically defensive posture is found in Glantz, David M., *The Military Strategy of the Soviet Union, A History*, Frank Cass, London 1992, pp. 46-60, whereas the  
(cont.)

After all, Snitko's calculations perhaps were only forecasts for a distant future. The official 1930 War Plan implied that in order to defeat likely enemies, the Red Army required a war-time strength of 140 divisions. The operational characteristics of the official war plan were vaguely reflected in Chief of Staff Boris Shaposhnikov's above-mentioned reply to Svechin. According to Shaposhnikov, such a large army would put excessive strain on the economy. Consequently, the mobilisation plans called for the deployment of a 110-division army.<sup>35</sup>

The war and economic plan document by Snitko could prove to be even more remarkable, provided that we establish more about its provenience and further application, i.e. who commissioned such a plan and what happened thereafter. The handling of the commissioned plan would shed some light on the debate about the long-term goal and Soviet grand strategy in the late 1920s and early 1930s.

#### 4.4 Tukhachevskii's "Red Militarism" - The historiographical background

As was noted above, the historiography of Mikhail Tukhachevskii's proposals in 1928 for a restructuring of the Soviet armed forces was largely based on the memoir articles by General Isserson.<sup>36</sup> He stated that Tukhachevskii's report was rejected and denounced as unrealistic by

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interpretation of an offensive, aggressive policy is elaborated in only a few "revisionist" works, e.g. Topitsch, Erich, *Stalins Krieg. Moskaus Griff nach der Weltherrschaft - Strategie und Scheitern*. Busse Seewald, Wien 1992, pp. 31-62.

<sup>35</sup> *Postanovlenie Revoliutsionnogo Voennogo Soveta Soiuzs SSR po stroitelstvu armii na konets piatiletki*, proekt, May 18, 1930, RGVA, f. 7, op. 10, d. 1059, ll. 2-7ob, and *Doklad Shtaba Raboche-Krestianskoi Krasnoi Armii*, RGVA, f. 7, op. 10, d. 1059, ll. 8-26ob. The official mobilisation strength by the end of the five-year plan was by the 1930 request: 110 infantry divisions, 13 300 guns, 3 000 air planes, 3 500 tanks and 165 000 trucks.

The Tank program as defined by the Government on 6 May 1929 proposed the deployment of 3 500 first-line tanks as follows: 30 tank battalions of the Reserve of the High Command, 4 heavy tank battalions, 3 mechanised, independent brigades, 13 tank battalions for the cavalry and 10 mechanised units for the cavalry.

The mobilisation version MV-12, adopted in 1931, called for 130 infantry divisions and 34 tank battalions of the Reserve of the High Command. This shows the extreme nature of Snitko's calculations in comparison with the officially proposed size of the Red Army in case of war.

<sup>36</sup> Isserson, G., "Zapiski sovremennika o M.N. Tukhachevskii", *Voenno-Istoricheskii Zhurnal*, 1963, No. 4, p. 66. This article was part of Isserson's larger manuscript for a biography of Tukhachevskii, *Sudba polkovodtsa* (The Fate of a Commander). In the *glasnost* era, other parts of the manuscript were published. See *ibid.*, "Sud'ba polkovodtsa", *Druzhba narodov*, 1988, No. 5.

Stalin and Voroshilov.<sup>37</sup> Isserson then described how Tukhachevskii was appointed Chief of the Leningrad Military District:

The creative thought of Tukhachevskii continued to work nonetheless. As before, he was concerned with the fate of the Soviet armed forces and was intensively preoccupied with their reconstruction. In January 1930, he submitted a new report about this problem. As he did not get any answer, Tukhachevskii in April wrote a letter to Stalin and requested that he check the proposals. However, the reaction was approximately the same as in 1928. It was said, that it was impossible to imagine how a Marxist could foster such unrealistic ideas, and that accepting the proposal would imply the militarization of the whole country, and that this was worse than any sabotage (!).<sup>38</sup>

The further fate of Tukhachevskii's proposals was described as follows by Isserson:

But when the country entered the first five-year plan and the Communist Party began to accomplish the great plan for the development and the reconstruction of the whole economy, the question of the rearmament and equipping of the army with modern weapons was again on the agenda. Then Tukhachevskii's memorandum was remembered and it was removed from the safe. The memorandum was used when the program for the technical reconstruction of the army was formulated.<sup>39</sup>

It can be noted here that by 1930 several projects for the restructuring of the Soviet armed forces had already been debated in the commissions chaired by Voroshilov in both 1928 and 1929. In other words, the dates implied by Isserson do not make sense. Furthermore, his description suggests that the Tukhachevskii memorandum was locked up in a safe for an unspecified amount of time.

Other pieces of the historiography can be found in an essay by Marshal Biriuzov, first published as an introduction to Tukhachevskii's Selected writings and later as a separate article.<sup>40</sup> Biriuzov did not mention anything about a proposal by Tukhachevskii in 1927 or 1928. However, Biriuzov quoted the first phrases of a memorandum that Tukhachevskii sent from Leningrad on 11 January 1930.

The success of our socialist construction, as well as the changes in the countryside, put the whole question of a reorganisation of the armed forces on the agenda, with due consideration of all the new factors of technology and the possibility of mass-scale production of armaments... The quantitative and qualitative growth of the different troops will shape new proportions, new structural changes... A restructured army will also call forth new forms in the operational art.<sup>41</sup>

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<sup>37</sup> *ibid.*, p. 66

<sup>38</sup> *ibid.*, p. 67.

<sup>39</sup> *ibid.*, p. 67.

<sup>40</sup> Biriuzov, S.S., "Voenno-teoreticheskoe nasledstvo M.N. Tukhachevskogo", *Voenno-Istoricheskii zhurnal*, 1964, No. 2.

<sup>41</sup> *ibid.*, p. 39.

Although Biriuzov obviously had access to the archives, he did not provide any example of the actual quantities mentioned in Tukhachevskii's 1930 proposals. Biriuzov wrote that the main emphasis in the proposal was on increasing the number of divisions and developing the artillery, aviation and tank forces. Biriuzov's conclusion evaded the real nature of the proposal:

Tukhachevskii was correct and timely in posing these questions. However, as to the concrete numbers, they would require further precise elaboration. (*oni podlezhalı dalneishemu utochneniiu*). However, these proposals by Tukhachevskii were not even received with due attention or supported by Stalin and Voroshilov, but instead met a hostile reaction. In Stalin's opinion, with which Voroshilov wholeheartedly agreed, it was stated that accepting this program would lead to the liquidation of the socialist construction and its replacement with a peculiar system of "red militarism".<sup>42</sup>

Biriuzov then described how Tukhachevskii on several occasions had written to Stalin, and how he did not get a positive response until May of 1932, when Stalin allegedly in a letter to Tukhachevskii apologised for his brusque reaction to the proposals for a restructuring of the Red Army.

In this section, the purpose is to reconstruct Tukhachevskii's proposals and to trace the fate of his program through various echelons of the military and political leadership. Until recently, the historiography surrounding this episode had to rely on Soviet memoirs and military histories.<sup>43</sup> It is clear that this historiography is biased. The most evident reason for this bias is that at the time when Isserson's and Biriuzov's articles were published, the 22nd Congress of the Communist Party had strongly condemned the crimes and repression during Stalin's reign, and strongly implicated Voroshilov as being culpable in the execution of the High Command of the Red Army in 1937-38. Tukhachevskii and the other marshals executed after a show trial in 1937 had been rehabilitated during Khrushchev's first de-Stalinisation campaign. When describing the development of the Red Army in the inter-war period and in the initial phase of the Great Patriotic War in 1941, Soviet historians had a tendency to embellish the

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<sup>42</sup> *ibid.*, p. 40.

<sup>43</sup> In her thesis about military innovation, Dr. Sally Stoeker deals with Tukhachevskii's proposals of 1928 and 1930. But her interpretation of the events rests on a narrow source basis and takes into account only Tukhachevskii's above-mentioned 11 January 1930 memorandum. She could not but leave the question open as to the reception within the Red Army Staff. Likewise, she did not take into account the ultimate reaction in December 1930 to a whole series of proposals by Tukhachevskii, written in 1929 and 1930. These were finally taken up for renewed inspection in early 1931. Stoeker's interpretation also missed the very stark emotions that Tukhachevskii's proposals evoked in Defence Commissar Voroshilov.

accomplishments of Tukhachevskii, and equally, to put part of the blame for the 1941 disaster on Voroshilov. Thus: Tukhachevskii's methods of suppressing peasant rebellions in 1921, as well as his role in the denouncing of "old military specialists" in 1930-31 was passed over in the biographies. The exact nature of his proposals, like the above-mentioned January 1930 memo, were glossed over.

Of course, it was easier to depict Stalin and Voroshilov as die-hard "conservatives" who would ignorantly denounced the "visionary" Tukhachevskii.

Even in the recent and extensive Soviet biography of Tukhachevskii, V. Ivanov wrote that the figures in Tukhachevskii's memorandum were "absolutely well-founded indicators for the development of the artillery, armoured and tank forces and aviation" (*vpolne obosnovannye pokazateli po razvitiu artilleriii, bronetankovykh sil, aviatsii*). Despite the fact that Tukhachevskii claimed that his targets were for the end of the first Five-year plan, i.e. for 1933, his biographer Ivanov states that Tukhachevskii, with great prescience, foresaw the probable magnitude of future conflicts in general:

Ten years before the Second World War, Tukhachevskii could exactly envision those strategic operations that would eventually take place in 1939-1945.<sup>44</sup>

Until the present study, however, to my knowledge no Soviet historian has studied how the various proposals by Tukhachevskii were actually handled by Voroshilov in 1930. Most significant is the fact that a profound analysis, scrupulously undertaken by Boris Shaposnikov, Chief of Red Army Staff, including the traditional military calculus of arms consumption, man-power resources and total financial costs has not been used, even indirectly, in previous research. How the Staff actually handled Tukhachevskii's proposals turns out to have differed substantially from the accounts of Tukhachevskii's biographers.

#### **4.5 Tukhachevskii's "grand vision" of rearmament**

Against this historiographical background, it seems appropriate to what Tukhachevskii actually sketched in 1930. This was a time when forced industrialisation was accelerated, higher plan targets being set for each and every sector of the economy. Tukhachevskii spoke enthusiastically about the possibilities opened by socialist industrialisation and

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<sup>44</sup> Ivanov, M.V., *Marshal M.N. Tukhachevskii*, 2-e izd. Moscow 1990, p. 246.

collectivisation. No longer need the military calculate piecemeal, percentage changes when drawing up new plans for the expansion of the armed forces. Tukhachevskii emphasised that his calculations were of a preliminary nature (*orientirovochnye*) but "have a solid foundation in our real possibilities, in accordance with the Five-year plan and the ensuing changes and addenda".<sup>45</sup> He hailed the collectivisation of the peasantry which would permit the territorial forces (comprised of mostly uneducated and politically "unreliable" peasants) to have not only infantry and cavalry, but also more advanced "technical troops", i.e. motorised and mechanised units. The Soviet Union's resources would, through the fulfilment of the Five-year plan, make possible: a) a mass army, b) an increase in its mobility, and c) a strengthening of its offensive capability. Tukhachevskii emphasised that the quantitative and qualitative growth of the various army branches would result in structural changes and that a reorganised army also would call forth new operational concepts. An army with the characteristics that Tukhachevskii envisioned would be capable of broad battle manoeuvres and operations. The combined use of artillery and tanks would solve the problem of fire-power (*problemy ognepitanii*). The new army could cope with operational problems of a new kind. The increased relative importance of air power and tanks implied a general battle of new dimensions. It would involve up to 150 divisions along an enormous front of 450 kilometres and, what is more, fighting would occur along the whole front-line and would penetrate 100-200 kilometres into hostile territory. Such a deepening of the battle arena could be achieved through massive airborne attacks against the enemy rear. Tukhachevskii also foresaw the combined use of breakthrough tank units and airborne assaults. The task of the airborne units would be to block road and railway communications at the enemy's rear and thus to impede his troop movements.

The main enemy forces must be separated from the country in a paralysed belt with a depth of 100-200 kilometres. The activity of the airborne troops must be supported by actions of the air force and by massive utilization of chemical weapons.<sup>46</sup>

During the second half of 1929, most of the targets in the "optimal" Five-year plan were already being revised upwards, as the result of constantly increasing demands from above and

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<sup>45</sup> RGVA, f. 7, op. 10, d. 170, l. 17

<sup>46</sup> RGVA, f. 7, op. 1, d. 170, l. 17ob.

enthusiastically adopted "counter plans" from the workers. Seemingly without any hesitation, Tukhachevskii cited the revised plan targets from the newspapers. Some of the indicators he chose to refer to in his memorandum are shown in table 4.2.<sup>47</sup>

Impressed by these targets, (the "revised" goals for 1932/33), and growth prospects in general, as he obviously believed them to be, Tukhachevskii rejected the traditional military approach to planning. Instead of incremental changes in line with industrial expansion, Tukhachevskii boldly reasoned that the army's potential should be re-calculated from the new "production possibilities" (*proizvodstvennyie vozmozhnosti*).

Table 4.2

**Five-year plan targets, used by Tukhachevskii in his rearmament report, January 1930**

Item		1913 production	1929/30 plan prod.	1932/33 "optimal" plan	1932/33 revised plan
Coal	mn. tons	28.9	51.6	75.0	102.5
Oil	"-	9.3	16.23	21.7	40.0
Pig iron	"-	4.2	5.5	10.0	17.6
Rolling mill	"-	3.5	4.9	8.0	15.1
Tractors	units	-	17 400	50 000	197 000
Automobiles	"-	-	12 300	130 000	350 000

Source: Tukhachevskii, *Zapiska*, op. cit., RGVA, f. 7, op. 10, d. 1047, l. 3.

Tukhachevskii simply deduced potential aircraft construction from the capacity for car engine production. He referred to statistics from Great Britain, France and Germany in 1918 and the early 1920s, that indicated a proportionality between these industries and which suggested that the ratio between the number of aeroplanes and automobiles could be 1 to 3 and, between aircraft engines and cars 1 to 2. Given these ratios, and starting from the "revised optimal plan target" that aimed at a production of 350 000 Soviet automobiles by 1932/33, Tukhachevskii calculated the corresponding figures for his "potential production" of approximately 122 500 airplanes and 175 000 aircraft engines. Similarly, he studied figures for aircraft construction and the number of planes in some foreign countries. The corresponding

<sup>47</sup>For example, in his Memorandum, Tukhachevskii referred to an article by M. Ostrovskii on tractor production: "Novye zadachi i plan traktorostroeniia i selmashstroenia", *Pravda* 7.12 1929.



conversion percentages for England, Germany and France during World War I were between 18 and 32 %.

With a production of 122 500 aeroplanes per year, this allows us to have 36 750 airplanes in operation, in round figures 35 to 40 000 airplanes.<sup>48</sup>

Such a huge aircraft production, in Tukhachevskii's opinion, would be motivated by the large distances in the Soviet Union and by the expansion of mail and cargo aviation. Tanks could be closely related to tractor production. For this sector, Tukhachevskii assumed a proportionality between tractor and tank production. He used the ratio of 1 tank for every 2 tractors. This implied that the planned tractor production of 197 000 in 1932/33, in case of war, would permit a tank production of around 100 000 units per year.

Considering the losses of tanks for one year of war as equal to 100%, WE CAN HAVE 50 000 TANKS IN SERVICE<sup>49</sup>

Tukhachevskii was careful to underline that he "did not have the possibility to undertake the calculation in monetary terms", neither of the construction and maintenance of large masses of aeroplanes and tanks, nor of the transition costs from peace-time to war-time.

These figures characterise (by modest indications) our prospective production capacity in aeroplanes and tanks and call for the appropriate organizational forms of the Red Army, which the Army inevitably must adopt.<sup>50</sup>

As Chief of Staff, Tukhachevskii had in 1926-27 drafted both war plans and a five-year plan for the expansion of the armed forces. At this time, the situation in Soviet industry permitted only modest expansion. In 1930, however, Tukhachevskii could triumphantly exclaim that the prospects for industrial growth opened up by the Five-year plan would bring about the modern mechanised, mass army that the "future great war requires". Its human potential would allow Soviet Russia to deploy not less than 240 infantry divisions. A well-known bottle-neck for Russian army deployment was transport. Nonetheless, Tukhachevskii expected that the transport system's carrying capacity would be sufficient to move some 214 divisions to the country's western borders in 30 days. To this initial deployment, he added 46

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<sup>48</sup> *Doklad Tukhachevskogo Voroshilovu*, 11.01 1930, RGVA, f. 7, op.1, d. 170, l. 15.

<sup>49</sup> *ibid.*, l. 15ob. Capital letters in the Tukhachevskii memorandum.

<sup>50</sup> *ibid.*

divisions in other military districts and came up with 260 divisions as the mobilised Red Army strength.<sup>51</sup>

During the winter of 1929-30, Tukhachevskii had written several memoranda concerning the production of artillery systems and of pyroxylene powder, and concerning the reconstruction of the railways, as well as arguing that the provision of air transport for troops and ammunition was more efficient than either horse-drawn or motorised units.<sup>52</sup>

### Why were there two radical rearmament proposals in 1930?

Even if it might have been mere coincidence, the calculations made by Snitko in Gosplan in Moscow and by Tukhachevskii in the Leningrad Military District are strikingly similar (table 4.3). Snitko arrived at his army of 245 divisions from a specific war plan, whereas Tukhachevskii apparently was enthusiastic about the revised Five-year plan figures. In both cases, the army strength was more than double the Red Army mobilisation plan of 110 infantry divisions. The expected increase, not only in motorisation, but also of new aircraft and tanks, was much more drastic than anything that the Red army, or the Defence Sector of Gosplan, could actually achieve during the early 1930s.

Table 4.3

#### A comparison between the 1930 proposals of Tukhachevskii and of Snitko

<b>Tukhachevskii, Leningrad Mil.District:</b>	<b>Snitko, Gosplan's Defence Sector:</b>
260 infantry and cavalry divisions	220 infantry divisions + 25 cav.div
	220 tank battalions
50 divisions of the High Command Reserve	3 artillery div. of the High Command
225 machine-guns battalions in -"	60 machine-gun battalions
40 000 operational aircraft	30 000 aircraft
50 000 operational tanks	22 000 first-line operational tanks

Sources: For Tukhachevskii, RGVA, f. 7, op. 10, d. 1047, l. 7ob.

For Snitko, RGVA, f. 4372, op. 91, d. 1271, ll. 7-6ob.

<sup>51</sup> Tukhachevskii's memorandum specified these projections for the Red Army's motorisation, transport facilities, Artillery and machine-gun reserve of the High Command (50 artillery divisions and 225 machine-gun battalions).

<sup>52</sup> For Tukhachevskii's other memoranda, see RGVA, f. 33988, op. 2, d. 693. In an accompanying note, dated 16 March 1930, Tukhachevskii argued for an expansion of the sapper troops, so that they could cope with the task of keeping the main roads open for a motorised army, see RGVA, f. 33987, op. 3, d. 155, ll. 66-70.

Since Soviet historiography has tended to blur Tukhachevskii's time perspective, it is worthwhile to note that his schedule definitely referred to the military industrial capacity in the immediate future:

Though I cannot specify the time and sequence for this reorganization, I believe that it without any doubt conforms to the production capacity of the Five-year plan.<sup>53</sup>

In another note, Tukhachevskii stated that "40 000 aircraft is a new idea", and the development of the air force might follow a different direction. He quoted the Italian military aviation enthusiast Douhet to the effect that a mere 1 500 large front-line airplanes could defeat countries such as France or Belgium.<sup>54</sup>

Tukhachevskii followed up his January memorandum by sending Voroshilov a series of other proposals. Two reports, on the production of artillery weapons and shells and concerning engineering troops, respectively, were intended to support his earlier calculations. Defence Commissar Voroshilov, however, does not seem to have passed these proposals on to the Chief of Staff, or to anybody else in the NKVM central apparatus.<sup>55</sup> It is not difficult to imagine Voroshilov's consternation upon reading Tukhachevskii's reports. Voroshilov told his secretary Shtern to instruct the Chief of Staff to scrutinise the total numbers in the Tukhachevskii-type army: How many mobilised men would be necessary? How many commanders? How many heavy and light machine-guns would there have to be? How many tanks, aeroplanes and artillery pieces? All including likely losses? Already in mid-February<sup>56</sup>, the Staff had finished its calculations of the implications of Tukhachevskii's memorandum. Voroshilov then sent a note to Stalin, enclosing Tukhachevskii's papers and an abridged version of Shaposhnikov's conclusions:

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<sup>53</sup> *ibid.*, I. 17

<sup>54</sup> *Tukhachevskii Potrebnost v liudiakh i samoletakh*, (Demand of personnel and airplanes) RGVA, f. 33987, op. 3, delo 155, l. 131. This note is not dated, but judging by the content, it was obviously written soon after the memorandum concerning 40 000 air planes in the Red Air Force. For Douhet's air force doctrine, see e.g. Westring, G.A., *Luftkrig. En sammanställning av "Douhetismen" och andra teorier samt några fakta och reflexioner rörande nutida luftförsvar*, Stockholm 1936, and for the reception in the Soviet Union of this and other air force doctrines, see e.g. *Soviet Aviation and Air Power. A Historical View*, ed. By Robin Higham & Jacob W. Kipp, London 1977, ch. 4.

<sup>55</sup> RGVA, f. 33987, op. 3, d. 155, ll. 59-65.

<sup>56</sup> Soviet biographies of Tukhachevskii claim that his 1930 proposals were rejected on a more or less groundless basis by the "conservative" Voroshilov and Shaposhnikov. The actual fate of the memo, however, has remained in doubt, except for the negative reaction of Stalin.

I send you a copy of Tukhachevskii's letter and the calculation (*spravka*) of the Staff. Tukhachevskii wants to be original and... "radical". It's bad that there is a breed of people in the Red Army, who take this "radicalism" at face value. I beg you to read both documents and give me your opinion.<sup>57</sup>

Stalin evidently replied fairly soon. In mid-April Voroshilov read Stalin's letter at a meeting with the Revolutionary War council. Although the original Stalin letter is no longer in the Russian State Military Archives,<sup>58</sup> a good idea of its contents can be deduced from the draft of a letter that Voroshilov intended to send to Tukhachevskii. It is sufficiently revealing, and it sheds much light on the relationship between these two personalities.

Tukhachevskii was blamed for spreading lies alleging that Voroshilov had neglected the need for new technical weapons and a strong army in general. Tukhachevskii had supposedly tried to discredit the leadership of the Red Army.<sup>59</sup> As an example, Voroshilov noted that Tukhachevskii's recent advice about co-operation between the automobile and tractor industry and the tank industry was misleading, since the Defence Commissariat had already initiated such co-operation three months earlier. In a paternalistic tone, Voroshilov went on to criticise Tukhachevskii for negligence with regard to troop preparations in the Leningrad military district:

I wish that you would as soon as possible stop your exceedingly literate digression (*uvlechniia*) and concentrate all your knowledge and energy on practical work. This will bring immediate and concrete benefits to the cause, for which you and I have been placed by the party, and this will better than anything else cure you from your incorrect and, in my view, politically harmful conclusions and opinions.<sup>60</sup>

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<sup>57</sup> Hand-written note by Voroshilov to Stalin, March 5, 1930, RGVA, f. 33987, op. 3, d. 155, l. 77.

Stalin's reply to Voroshilov was removed from the Central State Archive of the Soviet Army in 1954. I have been unable to locate it. But from Voroshilov's and Tukhachevskii's references to passages in Stalin's letter, it is still possible to reconstruct its probable principal content.

<sup>58</sup> Stalin's letter, as mentioned, was removed from TsGASA in 1954. Enquires at RTsKhIDNI did not yield any results.

It can be assumed that this letter, along with many of Tukhachevskii's other papers, were collected by the GPU in 1937 before his trial. On June 5, 1937, one of the interrogators, Leplevskii, requested that Tukhachevskii's letters to Stalin from June and December of 1930, as well as a series of his memoranda to Voroshilov, be given to the Security agencies. See, RGVA, f. 33987, op. 3, d. 400, l. 262.

These documents were probably later once again collected in connection with the rehabilitation of Tukhachevskii in the 1950s. The reason for this assumption is that the date of the sealing of the files, and also that the papers dealing with other topics were located in the same file (*delo*) rather than being spread out in various subject files.

<sup>59</sup> RGVA, f. 33987, op. 3, d. 155, ll. 171-172.

<sup>60</sup> *ibid*, l. 172.

Voroshilov stated that criticism should be encouraged, including critical views of the leadership.

It is the right of every military man, and particularly a party member, to submit any kind of critical analysis. ... But ... everybody who criticises should bear responsibility for his criticism and for his proposals. This applies particularly to leading persons within the Army. Their criticism and their suggestions cannot be considered as... sheer excursions into "pure military theory". Usually their appearances create a certain atmosphere, they concern a group of persons and intrude directly in the practical work. Briefly, they try to influence, make additions to, and sometimes even change the existing guideline. ... These circumstances force me to respond to a series of your recent reports, which describe Your five-year plan for the expansion of the armed forces.<sup>61</sup>

Voroshilov claims that he was not surprised by Tukhachevskii's program for "super-rearmament" (*perevooruzhenie*), which, in whatever terms it might be couched, could not be called anything but a "program for militarism".

To my mind, your 50 000 aircraft, 50 000 tanks, and hundreds of thousands of machine guns form the logical conclusion of all your earlier ideas.<sup>62</sup>

So as to obtain the evaluation of "an authoritative comrade" who could see this matter from a broad political and economic viewpoint, Voroshilov, however, had sent the material to Stalin. Triumphantly, Voroshilov wrote:

I send You his [Stalin's] appraisal of your "plan". It is obviously not flattering to You. But it is my deep conviction that his conclusion is correct. I wholly endorse comrade Stalin's opinion that *the adoption and fulfilment of your program would be worse than any counter-revolution*, because it would imply *the liquidation of socialist construction as a whole* and its replacement by some peculiar "red militarism" that is hostile to the proletariat.<sup>63</sup>

As long as the exact words in Stalin's letter are not available, it is only possible to speculate about why he would exclaim that the proposals smacked of "Red militarism". Did Stalin envision a threat to the Party's positions if the military really could benefit from the industrialisation drive to an extent that went far beyond what the Party had claimed should be "maximum attention" at the 15th Party congress? Did Stalin really see a danger of the military obtaining too much influence over the process that he himself had started on the political level

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<sup>61</sup> *ibid.*, I. 167-168. ("Your" five-year plan, emphasis by Voroshilov.)

<sup>62</sup> *ibid.*, I. 169.

<sup>63</sup> *ibid.* (Italics indicate the words underlined in the original draft letter). These are the characteristic words of Stalin's critique that was revealed in the Soviet historiography, however, without mention of the sources. The most frequent description of the 1930 proposals and Stalin's reaction stems from the editors of Tukhachevskii's Selected Works in the 1960s. See Biriuzov, S.,  
(cont.)

in 1927? With the "*patrie en danger*"-theme recurrent in most political speeches, could the more sober military analysis showing the danger of war to be minimal nevertheless have inspired a certain expansionist current within the military? Even if only a part of Tukhachevskii's plan, and the similar proposals by Snitko, were implemented, it might pave the way for a sovietization of other countries, lead by the military rather than by the Party.

Chief of Staff Shaposhnikov performed a thorough analysis of Tukhachevskii's January 1930 memo. The Staff's comprehensive criticism of Tukhachevskii's proposals demonstrated that most of his proposed targets would encounter material limits and financial restrictions. Some calculations (concerning ammunition, loss rates etc.) were disputed by Tukhachevskii, but the main point in Shaposhnikov's 30-page condemnation was that the proposed size of the army would require far more metal and machinery than the Soviet Union had at its disposal, and that the size of the army was beyond the economic capacity of the country.<sup>64</sup>

Boris Shaposhnikov had a very laconic style when refuting some of Tukhachevskii's proposals. After the detailed calculation of the 245-division army, which in comparison to the existing war plan implied a doubling of infantry divisions, a nine-fold increase in machine-guns, and 27 times as many aircraft, Shaposhnikov concluded that:

This table shows that in numbers, and more importantly, in its superiority in artillery, tanks and aircraft, an army of 245 divisions would be such a powerful factor that it could guarantee a swift solution. (*ona smogla by nam obespechit samoe bystroe reshenie*).<sup>65</sup>

Likewise, after comparing some of the war-year production targets in Tukhachevskii's memorandum, Shaposhnikov stated that Germany had achieved similar levels in the last year of WWI. He noted his scepticism:

I prefer not to analyse in detail those problems which the German industry faced in order to satisfy the deployment of such an army. But they were huge. (*a oni byli nemalye*).<sup>66</sup>

Tukhachevskii later tried to refute the Staff estimates of loss rates for tanks, of production limits, of artillery rounds per month of war and so on. He might well have been

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"Voenno-teoreticheskoe nasledstvo M.N. Tukhachevskogo", *Voenno-istoricheskii zhurnal*, 1964:2, pp. 39 - 40.

<sup>64</sup> Shaposhnikov's conclusions, with calculations on most of Tukhachevskii's proposals, RGVA, f. 7, op. 10, d. 1047, ll. 9-23.

<sup>65</sup> *ibid.*, l. 12ob.

<sup>66</sup> *ibid.*, l. 11.

right on some points. It seems apparent, however, that Tukhachevskii's rearmament proposal, if implemented, as Shaposhnikov meticulously calculated, would have been far more expensive than what Tukhachevskii could ever have imagined when he wrote his memorandum in January of 1930. A possible explanation of why Tukhachevskii was so wide of the mark could be that he had not for some time been involved in the planning process. He did not know how the plans had evolved during 1928 and 1929. Each successive recalculation of the Army construction plan, and each defence industry long-term plan, had by that time involved a multitude of calculations concerning raw material requirements. For an outsider, which Tukhachevskii was after his dismissal as Chief of Staff in May of 1928, it could be tempting to base military options on a few scattered plan figures in the exaltation surrounding the upgrading of the five-year plan in late 1929.

It is also worth mentioning that Tukhachevskii opposed the extensive building of new factories. If he was strongly against the building of new factories in 1930, when expansion was already under way, it seems unlikely that he would have advocated new factories in the armament industries under the much harsher conditions of 1927. A statement to that effect in General Isserson's memoir article raises doubts as to whether he used original documents, or only relied on memory, in writing his article. As a matter of fact, Tukhachevskii later would explicitly deny, in a note to Voroshilov, that as Chief of Staff he had argued for a new development program for the defence industries. Instead, both in 1927 and in 1930, Tukhachevskii advocated as much assimilation into civilian enterprises as possible.

In a letter to Stalin of 19 June, 1930, Tukhachevskii claimed that Stalin's letter about the January proposal had been read aloud by Voroshilov to the "enlarged conference of the Military-revolutionary council" on April 13. However, no enlarged conference was held at that time. Enlarged councils of RVS only met in the autumn and they then debated the results of the summer exercises and manoeuvres. There was, however, a regular meeting of RVS on the said date. It has not been possible to find a stenographic record of this session. The protocols, however, do not include anything about Voroshilov denouncing Tukhachevskii.<sup>67</sup>

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<sup>67</sup> The agenda and protocol of the (ordinary) session of the Revolutionary Military Council of the USSR, 22-26.10 1930, see RGVA, f. 4, op. 1, d. 1403, l. 715.

At the October 1930 extended session of RVS, however, Voroshilov, while summing up a discussion turned to Tukhachevskii and directed the following veiled criticism:

We have one bad habit. ...We put up in front of us huge problems, sketch broad perspectives and hopeful possibilities, and often dim the conscience of people with not always realistic future success stories. It is all very well to wish, but to wish is one thing, and to have all you wish for is another, totally different matter. It is good to wish to have the best communications, perfect technology, it is necessary to achieve it and make everything within and even in excess of our force to obtain this technology. But if we do not have it, we must use what we have at hand, but really use it skilfully.<sup>68</sup>

In his letters to Stalin, written in June and December of 1930, Tukhachevskii tried to explain the true intentions of his memoranda. He had written to Voroshilov, he wrote, merely to suggest a new perspective on force development. Shaposhnikov, however, had misread his proposals, presenting them in caricature as "notes of a madman". Tukhachevskii could easily understand Stalin's rage concerning the "fantasy nature of the figures". The Staff had not taken into account several other notes on artillery production and railroad construction that Tukhachevskii had sent. Whereas Shaposhnikov had arrived at extremely high figures for artillery (98 000 field and heavy artillery pieces in a year of war), Tukhachevskii asserted that his calculation of 20 000 guns was well-founded. (This was still about twice the strength of the Red Army mobilisation request at the time.) Tukhachevskii insisted that he had calculated a possible shell production of 180 million rounds per war-year. By enlarging the Red Army tank forces, less artillery would be needed to suppress the enemy:

In my report, I particularly emphasise that I consider it more correct to avoid an extreme artillery program by following an intensified program of tank construction.<sup>69</sup>

Shaposhnikov had calculated that Tukhachevskii's "245 division army" required some 11 275 000 men. Tukhachevskii retorted that in his calculation the size of such a mobilised army would be merely 5 800 000. Tukhachevskii did not consider it possible to increase the peace-time army. As for the most fantastic figures in his memorandum, Tukhachevskii clarified that he never intended the Red army to have 40 000 aeroplanes and 50 000 tanks at mobilisation, but to have that capacity only during the first year of war.

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<sup>68</sup> Voroshilov, manuscript of letter intended for Tukhachevskii, but with a hand-written note "not sent", RGVA, f. 33987, op. 3, d. 155, ll. 167-174.

<sup>69</sup> Tukhachevskii, Letter to Stalin, 19.06 1930, RGVA, f. 33987, op. 3, d. 155, l. 89.



I emphasised that I did not have the possibility to calculate the building and supply of huge masses of aviation and tanks "in the transition from peace-time to war-time."<sup>70</sup>

Tukhachevskii referred to his ideas about the new type of "deep battle".<sup>71</sup> At mobilisation it would be necessary to deploy 8-12 thousand tanks for a break-through of the enemy's lines. In his mind, there was nothing "fantastic" about these figures, because at the RVS session on 13 April 1930, Voroshilov had mentioned that the Government proposed a mobilisation request of 10.000 tanks. This offer had been declined by Voroshilov, who considered it as unrealistic and insisted on a mere 3 500 tanks.<sup>72</sup>

Tukhachevskii tried to liberate Stalin from a certain "conservatism", not only in strategy but also concerning tank construction. Tukhachevskii suggested that not all tanks had to be of a specific military type. Only one third of the total number of tanks must be of specific military character, namely those which would encounter the enemy anti-tank artillery. The rest of the tanks in the 2nd and 3rd echelons could have a slower speed and less demanding specifications. Tukhachevskii envisaged this type as an *armoured tractor*, analogous to armoured cars, trains and trolleys. He enclosed a photograph of an armoured tractor armed with machine-guns, which had been assembled at a factory in Leningrad.<sup>73</sup> If the Mobilisation plan in 1932 called for 10 000 regular tanks, a proper organization of the mobilisation supply of armour plate could be used to convert 40 000 tractors that were to be requisitioned from the collective farms. Most of the armoured tractors would be armed with heavy machine-guns.<sup>74</sup> Very optimistically, he noted that this would allow a tractor-tank transformation ratio of 1:1, an even bolder figure than the 2:1 ratio he had used earlier. Tukhachevskii also tried to make Stalin understand that the development of civil aviation was a condition for the success of his 40 000 military aircraft proposal.

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<sup>70</sup> Tukhachevskii, Letter ... 19.06 1930, op.cit., l. 90ob.

<sup>71</sup> For the details of the evolution of the Soviet theory of "deep battle" and "deep operation", see Turner, Frederick, "The Genesis of the Soviet 'Deep Operation': The Stalin-era Doctrine for Large-Scale Offensive Manoeuvre Warfare", Ph.D. thesis Duke University 1988; David Glantz, *Soviet Military Operational Art, In Pursuit of Deep Battle*, Frank Cass, London 1991, pp. 74-86.

<sup>72</sup> Tukhachevskii, Letter ... 19.06 1930, l. 91.

<sup>73</sup> Tukhachevskii letter to Stalin, with copy to Voroshilov, 30.12 1930, RGVA, f. 33987, op. 3, d. 155, ll. 74-79.

<sup>74</sup> *ibid*, l. 78.

Tukhachevskii here referred to ideas of Liddell Hart in the Russian translation *Novye puti sovremennyykh armii*, M. 1930.

I have tried to make the Revolutionary War Council formulate a military programme for the development of civil aviation, as this would be the basis of our air force. But this was not understood correctly. To my mind, this is totally wrong, because in our present situation a really powerful air force in war-time is unimaginable without a strong civilian aviation.<sup>75</sup>

A Politburo decision of August 1930 calling for a huge expansion of civil aviation, and the unexpectedly ambitious resolution of this question by Stalin personally, seemed to provide further support for Tukhachevskii's position vis-à-vis the Staff. In peace-time, Tukhachevskii argued that the Soviet Union could not maintain more than 8 000 airplanes. Back in 1926/27, when the number of aeroplanes was set at 2 553, he emphasised that:

I already then considered it impossible to supply all these planes in peace-time, so 501 planes were transferred to hidden reserves (*skrytye kadry*) to be mobilised in war-time.<sup>76</sup>

Given the way Tukhachevskii was reasoning, it is possible to understand why Stalin changed his mind about him. Tukhachevskii repeatedly stated his support for a vast capacity increase with as much as possible of the civilian sector being left untouched by military demands. Tukhachevskii wrote:

I always link the deployment of the armed forces with the growth of corresponding types of technique in the country, and this refers also to the development of aviation, and to all sectors of the military development.<sup>77</sup>

Tukhachevskii had sound arguments with which to counter the Staff's opinion that his radical program would require many new weapons factories. As much as possible, military production should be based on civilian industry. Tukhachevskii regarded minimal defence outlays in peace-time as desirable. Looking back on the experience concerning maximum economising that he had gained as Chief of Staff up to 1928, Tukhachevskii noted that:

The armed forces development five-year plan in 1926 was modest, because I never allowed the annual limits set in Gosplan's five-year plan to be exceeded.<sup>78</sup>

At the 16th Party Congress in late June of 1930, Stalin discussed the reconstruction proposals of the Red Army and the Staff calculations and misjudgements with Tukhachevskii. According to Tukhachevskii, Stalin had promised to look into the matter.

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<sup>75</sup> Tukhachevskii, Letter .. 19.06 1930, op. cit., I. 91ob.

<sup>76</sup> *ibid*, I. 92

<sup>77</sup> *ibid*.

<sup>78</sup> Tukhachevskii, Letter .. 19.06 1930, op.cit., II. 92ob-93.

Obviously nothing happened, because Tukhachevskii again addressed a letter to Stalin on 30 December, 1930, reminding him of this conversation and also complaining that Voroshilov's public reading of Stalin's letter at the RVS session in April had spoiled his chances to spread his ideas. Stalin now received all the material from Tukhachevskii who asked Stalin to entrust the checking of the numbers to the Central Control Commission of the Party (TsKK) or other comrades that he might find suitable, because:

you are neither physically capable of going through my materials nor to determine the difference between them and the conclusions of the Staff.<sup>79</sup>

Things evidently moved in Tukhachevskii's direction. On 13 January 1931, deputy Defence Commissar Uborevich received copies of Tukhachevskii's memo of 11 January 1930, the Staff's conclusion plus Tukhachevskii's other reports about artillery and the Sapper troops, as well as his letters to Stalin of June and December 1930. A day later, Voroshilov sent Stalin a folder with all the Tukhachevskii memos, Stalin's and Voroshilov's notes and the Staff Conclusion, both in the original and the abridged versions.<sup>80</sup> Exactly how these matters were handled has not been possible to follow in the archives, but in a letter that Tukhachevskii wrote to Voroshilov later in the Spring of 1931, he noted that the final calculations were not yet ready. He then added that:

It is very sad for me that you always reproached me for "astronomical", "unrealistic" figures. You always criticised me while I was working in the Staff. On the other hand, an official check tells something totally opposite.<sup>81</sup>

In a seemingly triumphant mood, Tukhachevskii remarked that the latest Politburo directives were in line with his January 1930 proposals. These directives aimed at a wartime production of 2 000 medium tanks, about 14 000 light tanks and 28-35 000 tankettes (made at the Nizhnegorod Auto Plant).<sup>82</sup>

To sum up, the main findings here presented give a more complex picture of *what* Tukhachevskii had suggested in not only one, but a series of memoranda in 1930. The reception of these proposals at the High Command turns out to have been more based on estimates of real possibilities, than on the sheer conservatism of Voroshilov and Stalin.

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<sup>79</sup> Tukhachevskii, Letter .. 30.12 1930, RGVA, f. 33987, op. 3, d. 400, l. 74.

<sup>80</sup> *Zapiska*, RGVA, f. 33987, op. 3, d. 155, ll. 129-130.

<sup>81</sup> Tukhachevskii, *Zapiska Voroshilovu*, RGVA, f.

<sup>82</sup> *ibid.*

## Chapter 5

### THE DECISION-MAKING STRUCTURE OF THE FIVE-YEAR DEFENCE PLAN

The degree of realism in the first Five-year plan has been the subject of scholarly debate ever since the early 1930s. Measured in value terms (using constant 1926/27 prices), the production results are unreliable and in quantitative terms they are unverifiable. After all, no one has been able to check the primary sources of production or trade. Today, it is undisputed that the original Five-year plan was unfeasible, even under the optimistic assumptions of the planners, and that the extent of actual fulfilment of the plan in the early 1930s fell short of most intentions.<sup>1</sup>

The present study concentrates on the military's influence on the plan. This, therefore, is not the place to recapitulate the debates concerning the five-year plan, or the various alternative proposals considered before 1929.<sup>2</sup>

Given the new archival sources, the principal aim is to answer the following questions: To what extent, and in what manner, was the Five-year plan directed towards rearmament? How did the Soviet Union enhance its defence capability? To what extent were the defence targets attained in the first Five-year plan? By which criteria did the Soviet authorities themselves measure the success of the defence efforts?

Previously it was only possible to list the production of raw materials and other goods that were considered to be of strategic importance to the armaments industry. The increase in these sectors would then be used to infer some unspecified expansion of military production. It was unspecified because there was no way to analyse, for example, how *n* million tons of steel were to be allocated among producers of tanks, aircraft, guns, ammunition, naval and

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<sup>1</sup> See the debate between Hunter, Holland, "The over-ambitious First Five-Year Plan", *Slavic Review*, Vol. 32, 1973, No. 2, and Robert Davies & Stephen Wheatcroft, "Further thoughts on the First Soviet Five-Year Plan", *ibid*, Vol. 34, 1975, No. 4.

<sup>2</sup> For the targets of the first five-year plan, as well as an analysis of the their fulfilment, see Zaleski, Eugène, *Planning for Economic Growth in the Soviet Union, 1918-1932*, The University of North Carolina Press, Chapel Hill, N.C. 1971, chs. 3-6, as well as the Tables A-1: Fulfilment of the Five-Year Plan and A-2: Fulfilment of Annual Plans.

The recurrent problems with using data such as that provided by Zaleski, are first, that the defence industry was subordinated to and hidden under various Directorates of VSNKh and, secondly that the plans, as well as the output of the defence industry, were classified. They might, or might not, be included in the value series of a particular branch of industry.

other armaments. In other words, such plans as can be located or deduced, do not provide direct measures of defence industry targets.

In the 1970s, Cooper and Davies concentrated their research on finding indirect evidence on actual weapons production, as indicated by the difference between specified civilian output and total industrial production, by investment levels in heavy industry and through the budgetary allocations of the first Five-year plan.<sup>3</sup>

In the present study, I will take another analytical approach. The "ideal model" of Soviet defence industry planning was outlined above. In it the nature of the military demands on the economy are specified in a way that highlights the interconnections between the military and economic plans.

### **What constitutes the "military dimension" of the Five-year plan 1929-1932?**

Even though the heavy industry strategy clearly had a military slant, the specific, military aspects of the first and second Five-year plan entered the "industrialisation debate" in an opaque manner.<sup>4</sup> The assessments previously made of the defence components of the Five-year plan unfortunately rested on a weak data base. It was only recently that Robert Davies

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<sup>3</sup> Cooper, Julian M., "Defence Production", 1976, op.cit.; Davies, Robert W., "Soviet Defence Industries", 1987, op.cit.

<sup>4</sup>E.g in the classical study by A. Erlich, *The Soviet Industrialization Debate, 1924-1928*, Cambridge, Mass. 1962, pp. 167-169. "Another and more widely accepted line of explanation [for the chosen investment and rapid Industrialization] points to the need to strengthen the military potential of the country due to the turn for the worse in the international situation." (ibid, p 167. Erlich argued that the policy followed, particularly the collectivisation of the peasantry, actually weakened preparedness, and most of all, that another development path might have proved more efficient, by compensating for the calculated extra output of armaments that would eventually flow from the new industrial base.

To this argument it might be added that the "inner circle", to which Tukhachevskii must be counted, did not think in terms of an immediate threat when urging a larger attention to the specific defence targets. In autumn of 1927 he wrote: "Exactly the assumption that a war is probable only after the accomplishment of the five-year plan was the guide-line for the Red Army Staff. It would have been senseless to draft a five-year plan for the economy and at the same assume that a war could break out earlier, and thus on preventing the fulfilment of the plan in any case." *Spravka - Doklad Po voprosu Zakliucheniia NKVM o 5-ti letnem plane razvitiia nar. Kh-va SSSR*, September 1927, RGVA, 7, 10, 303, 104-105.

The inter-relation between the priority for heavy industry and defence preparedness is discussed by Hunter, Holland & Szyrmer, Janusz, *Faulty foundations: Soviet economic policies, 1928-1940*, Princeton UP, Princeton NJ, 1992, Ch. 8.

(cont.)

discovered that the official Soviet defence budgets of the early 1930s deliberately concealed substantial increases.<sup>5</sup>

For these reasons, I intend to pursue an analysis of *how* defence requirements were embodied in drafts, and the final versions of the Five-year plan by using the original data from Gosplan's Defence Sector.

A simplified model of growth assumed that the development of heavy industry would imply an enhanced defence capacity. It also assumed that the development of light industry would be of little significance for military needs. The data on metallurgy, metal processing and machine-building do not in themselves provide any exact clue either to defence capacity or to the ability to manufacture arms. Only with the specifications that the military and the planners undertook is it possible to judge the extent of defence-related production in heavy and light industries.

Analysing the efficiency of defence-related production was of little use. Administrative pricing of military goods makes cost calculations hazardous. Although some data were available on the economics of defence production, the nature of this production was such that efficiency was a secondary priority. Two main factors determined this. First, the defence orders for weapons and equipment were distributed among specific defence and civilian enterprises in order to meet specified mobilisation requirements. Secondly, the capacity of the individual war industries was usually many times higher than the annual, peace-time production. Just these two factors hint at a substantial additional cost of defence production.

The military considerations in the Five-year plan can be summarised in three essential "dimensions". First, a rapid expansion of quality-steel, non-ferrous metals and chemicals production. Second, as swift as possible a transition also to autarchy and self-sufficient Soviet machinery production. The latter, paradoxically, was to be achieved through a temporary, heavier reliance on foreign trade and technical expertise. Third, a location pattern for heavy

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In my opinion, the notes made by both Erlich and Hunter & Szyrmer lack precisely the operational concept that was introduced in the "ideal model" above. An abstract discussion concerning the defence-enhancing effect of a certain investment pattern can take a concrete, and verifiable, form when the mobilisation claims (*mob-zaiavka*) are introduced. Given the military outlook for each period, the decisions were made with regard to a specified war situation.

<sup>5</sup> Davies, Robert W., "Soviet Military Expenditure", 1994, op.cit.

industry and defence production that is basically guided by military considerations, placing them far from likely battle-fields and out of range for long-distance bombers.<sup>6</sup>

In the following, this "military dimension" will be made a central element in the description of the Five-year plan. As far as it has been possible to carry the investigation in the archives, the Five-year plan (*Piatiletanii Plan Razvitiia Narodnogo Khoziaistva SSSR na 1928/29-1932/33gg.*) did not include any long-term production plan for the defence industry, nor any precise data concerning the manufacture of arms in general.<sup>7</sup> The reason for this will be clarified. Long-term prospects changed right at the start of the five-year period. The military's influence on the political leadership was such that the Five-year plan was revised only a few months after it had been adopted.

Thereafter, the long-term development was guided by the changing military mobilisation claims (*mob.-zaiavki*). With the empirical evidence at hand, how the long-term military requirements had actually changed the outlook of the Soviet armed forces by 1932 will be summed up. The principal contribution of the present study, however, is an evaluation the extent to which industry would have satisfied military requirements in the event of a major war in 1932.

### **The limits of the military "dimension" of industrialisation**

As stated in an earlier chapter, the level of budgetary allocations to the military over the Five-year plan had been subject of debate ever since the drafting of a long-term plan had begun. This debate raged during the whole of 1928 and early 1929. Changes in budgetary allocations to the military and to the defence industry may be taken, although with reservations, as an

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<sup>6</sup> These "dimensions" were originally set up by leading military representatives, see e.g. document in RGAE, f. 4372, op. 91, d. 155, l. 131.

<sup>7</sup> *Piatiletanii plan razvitiia narodnogo khoziaistva SSSR na 1928/29 - 1932/33gg.*, 3 vols., Moscow 1929. This absence of a defence industry section in the published version left the question open whether there ever was such a section. Stoeker took up this question in "Forging Stalin's Army" (op.cit., ch. II, pp.42). She obviously took for granted that one or another of the many proposals for a defence industry plan was approved at the same time as the plan for the economy in general. Her conclusion, however, seems to be based on too small a source base. The presently available archival documents show, on the contrary, that no such 5-year plan for armaments production was ever adopted in 1929. The Gosplan commission that was to draft the second Five-year plan for 1933-37 complained of precisely the lack of such a plan. It tried to convince the leadership that despite the specific nature of armaments production, long-term plans were both necessary and feasible. Nonetheless, the second Five-year plan did not include a government approved defence industry section. (For details, see below ch. 8).

indication of what priority is given to defence by the political leadership. The total expenditure for "defence measures" (*oboronnye meropriatia*) included not only the afore mentioned items, but also strategic transport construction, communications and similar measures undertaken by the other People's Commissariats. In the industrial sphere, investment in those branches of heavy industry that, in case of war, were to supply the basic raw materials and intermediate goods for the production of shells, grenades, cartridges, chemical weapons etc., requires special treatment.

In peace-time, very little of the new capacity would be used for defence. It is thus possible to indicate the specific direction of industrialisation implied by defence considerations. In my opinion, however, it is equally important to analyse the use of these new facilities in peace-time, i.e. to show the gap between the projected mobilisation request and the peace-time utilisation of the new defence capacity.

In this section, the chronology of the plans for the defence industry will be clarified as being one of the elements of the Five-year plan. The purpose is to relate the threat assessments and army construction plans that have been encountered, to the decisions taken from 1929 and onwards concerning industrial development.

### **5.1 The decision-making structure and organisational framework**

Within the Red Army (*RKKA*) and the Commissariat for Military and Naval Affairs (*NKVM*), as well as in Gosplan and VSNKh, (the industrial administration), a number of commissions had been working since 1926 on a defence industry five-year plan. Although the view-points of the military were more or less taken into account by the planners, a separate five-year plan for the defence industry was finally disapproved by the government.

Since 1927, a number of proposals for a five-year plan were drawn up by Gosplan and VSNKh. In each sequence, the pattern was that VSNKh, the industrial authority opted for higher growth rates than did Gosplan. In the end, the industrial group obtained the political leadership's sanction for its version. The first Five-year plan was intended to cover 1928/29 - 1932/33, i.e the economic years in the period from 1 October 1928 to 30 September 1933. It was originally presented in an "initial", and an "optimal" version.



When plan targets were increased in 1929 and 1930, the slogan "The Five-year plan in four years!" was adopted by the leadership. A "special quarter" was added in 1930, and from 1931 onwards, the economic year coincided with the calendar year. 1932 was thus the last year of the Five-year plan.

As noted in the preceding chapter, the war plans and defence requests for the end of the Five-Year Plan (i.e. 1932/33), in view of the expected enemy strength, counted on a Red Army strength of 110 to 130 divisions. This was considered as sufficient for repulsing the hostile forces, but not for achieving a "full victory". A number of proposals had already been made concerning the defence considerations in the five-year plan. Nonetheless, Shaposhnikov presented the Staff's very critical view on the five-year plan in March 1929. He strongly criticised the Gosplan draft for not having contemplated the possible economic situation in the event of war.<sup>8</sup>

## 5.2 The military commissions and the making of the first Five-year plan

The successive proposals for a five-year plan, which were debated during 1927-29, have been compared by, among others, the Soviet historian Zvezdin. In his main work *Ot plana GOELRO do pervoi piatiletki*, one of the best researched Soviet works about Gosplan in this period, however, there is frustratingly little official data about the first Five-year plan in general. Information on the controversies within the administration, particularly on the defence issues, is also lacking.<sup>9</sup>

E.H. Carr and R.W. Davies have interpreted the final form of the Five-year plan as the result of a struggle between the "moderate" Gosplan and the "radical" Supreme Economic Council, (VSNKh). Until now, however, it has not been possible to determine how the VSKNh demands for higher growth rates might have been related to its support for the cause of defence. Some new archival data points to the need for another interpretation. First of all, the interpretation as to the exact influence of the three specific group of "actors": Gosplan and

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<sup>8</sup> *Zakliuchenie Shtaba RKKA po piatiletnemu planu razvitiia narodnogo khoziaistva SSSR*, RGVA, f. 4, op. 1, d. 91, ll. 1-14ob.

<sup>9</sup> Zvezdin, Zinovii K., *Ot plana GOELRO*, op.cit., pp. 246-266.

its Defence Sector, VSNKh and its War-Industry Directorate and the military authorities must be supplemented.<sup>10</sup>

An attempt will be made here to disentangle some of these questions. First, Gosplan was not a monolithic agency. The Defence Section acted as a pressure group for the military interest. In addition, the Gosplan leadership established special commissions with representatives from both the military and the industrial authorities. Second, earlier debates, in my view, have focused on the wrong type of question. It has been assumed, explicitly or implicitly, that the military considerations must show up in production figures, in budgetary expenditures or in similar data. The main emphasis in the debates between the planners, the industrial managers and the military, however, was on the investment policy, the level and sequencing of capital investments. Furthermore, the investment debate was not about attaining a specific growth target. Instead, the prime concern was: How much was necessary to handle with a specified mobilisation capacity?

In the literature, the defence aspects of the Five-year plan were interpreted as the defence demands being "embodied" or "masked" in the Five-year plan.<sup>11</sup> In his thesis, Hulse points out the mobilisation targets and some of the serious deficits in Soviet production capacity at the beginning of the plan era. Where my research differs from Hulse is in the precise formulation of the military mobilisation requests. To take but one example, Hulse noted the huge import of raw materials for weapons production during the Tsarist era. He notes that the production of non-ferrous metals was low in the mid-1920s. He then follows the expansion of the production of non-ferrous metals and the subsequent decrease in imports. This gives an indicator of the "military dimension" of industrialisation. However, only if the military's requirement for ammunition could be compared with specific plans for the production of copper, zinc, lead etc., would it also be possible to evaluate the degree of fulfilment of the mobilisation claims.<sup>12</sup>

The picture that emerges from the documents of the military and the planners is that, in the period from 1927 to 1929, the highest political authorities tried to make all major economic decisions with an eye on the long-term military demands. These were two-fold:

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<sup>10</sup> Carr, Edward H. & Davies, Robert W., *Foundations of a Planned Economy*, op.cit., chapter 37.

<sup>11</sup> Fainsod, M. (1970), op.cit. (Introduction note 42), George Kennan (1935), op.cit.

either the Red Army would fight a revolutionary war on its own initiative or it would have to repulse an "imperialist attack" on the socialist state. Thus, all economic plans had defence implications.

By 1929, when the first Five-year plan was approved by the Government, and by the 6th Congress of Soviets, there was, however, not yet any specific part or secret addendum dealing with the defence build-up over the same period (1928/29-1932/33). What should have been a five-year plan was merely a framework for the annual directives.

What has been found in the archives is an abundance of proposals for the defence industry five-year plan. This planning consisted both of extrapolations made by the NKVM Supply Directorates (*Dovolstvuiushchie Upravleniia*), and more complex drafts drawn up by the central military directorates. Finally, drafts were elaborated by the Defence Sector of Gosplan. For reasons to be explained in this chapter, none of the proposals seem to have been given formal sanction by any State or Party authority.<sup>13</sup>

A Five-year plan was approved in its "optimal" version by the Congress of Soviets in April 1929. Although the general implications for defence were stated, the plan did not contain a separate long-term plan for the defence industry. Reports from Defence Commissar Voroshilov seemed to indicate that the military was not satisfied with the five-year perspective of the plan. In summer of 1929, the highest political leadership debated the state of the defence question, the Red army and the defence industry.

Although no special "defence five-year plan" was ever approved, the general structure of such a plan may be guessed from the report of the military concerning the official Five-year plan, which the military was ordered by STO to assess. This report scrutinised the "initial version" (*otpravnoi variant*) of the Five-year plan, and is a good indicator of the view-points of the military in early 1929.

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<sup>12</sup> Hulse, M.A. "Soviet Military Doctrine", Ph.D. thesis 1990, op.cit., pp. 219-225.

<sup>13</sup> See for example, *Zapiska Nachalnika Shtaba RKKA Shaposhnikova - Sektoru Oborony Gosplana, Orientirovochnaia zaiavka NKVM promyshlennosti na god vedeniia voiny kontsa piatiletiia - izmeneniia*. RGVA, f. 4372, op. 91, d. 213, ll. 29-29ob. See also, ibid, d. 215, *Proekt piatiletnego plana Gosplana SSSR o razvitii voennoi i grazhdanskoi promyshlennosti*, particularly, l. 33, *Proizvodstvennye moshchnosti*, ll. 35-35ob, *Kapitalnoe stroitelstvo* and ll. 38-37 for a work-plan on the Five-year plan, *Skhema raboty po piatiletke Voensproma i voennykh proizvodstv grazhdanskoi promyshlennosti*.

Nonetheless, there existed a set of plan goals, in that the industry had to achieve a specific mobilisation target. In 1928, for example, the Government adopted a mobilisation target for the first three years of the plan period. Industrial expansion in 1928/29 and 1929/30 was thus targeted to achieve the defence potential in accord with the mobilisation plan by the end of 1931.<sup>14</sup>

In the military's discussion of the five-year plan, recurring themes were increases in ferrous and non-ferrous metals, chemicals, transportation as well as in the output of the defence industry proper. Already a draft of Gosplan's five-year plan from late 1927 had been criticised by the Defence Sector because its defence targets were said to be "mechanically" added to the almost finished general plan. Defence instead should be "organically" linked to the long-term plans.

### **5.3 The defence budget of the Five-year plan**

At a session of Gosplan's Presidium on 29 April 1929, the five-year budget military request of NKVM was debated. The military had originally asked for 5 828 million rubles. Gosplan had agreed to 4 880 million rubles in its draft plan. The Defence Sector of Gosplan had mediated. They suggested another calculation of price developments in the defence industry and some reduction in the naval and coastal artillery program. In this way, the military material requests could be satisfied with an allocation of 5 475 million rubles. The compromise was to be implemented by a commission led by Gosplan's Mekhonoshin and the Red Army's Chief of Staff, Shaposnikov.<sup>15</sup>

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<sup>14</sup> *Direktivny k sostavleniiu oboronnykh kontrolnykh tsifr na 1930/31 god*, Introduction by Smilga, 1930, RGVA, f. 7, op. 10, d. 1002, l. 38.

<sup>15</sup> *Protokol No 1 Zasedaniia uzskogo sostava Presidiuma Gosplana*, 29.04.1929, RGAE, f. 4372, op. 91, d. 155, l. 134.

Table 5.1

**Defence budget proposals for the first Five-year plan**

Proposals in spring 1929 (million rubles)	By NKVM	By Gosplan's Financial section
NKVM, Defence Commissariat	6 000	4 800
OGPU, Secret Police	500	450
Defence industry	500	450
Transport	500	500
Communications	50	25
Reserves	280	280
<b>Total</b>	<b>7 830</b>	<b>6 505</b>

Source: *Protokol No 1 Zasedaniia uskogo sostava Presidiuma Gosplana*, 29.04.1929, RGAE, f. 4372, op. 91, d. 155, l. 134.

Note: The original document incorrectly set the totals as 7 700 and 6 300 million rubles, respectively.

Under these circumstances, the total, all-union budget was planned to amount to 50 095 million rubles over the Five-year plan. The defence industry directorate, (*Voenprom*), had requested 1 190 million rubles, of which capital construction was estimated at 800 million rubles, mobilisation reserves at 350 million rubles and air defence and other defence measures at 40 million rubles. Of the 800 million rubles proposed for capital construction, 612 million would be for the War-Industry Directorate and 125 million for imports.<sup>16</sup>

By April 1929, the difference between the military, the NKVM requests for the Five-year plan and the limits set by Gosplan Defence Sector specified year by year were as shown in table 5.2.

The difference between the military's request and the Gosplan draft was over 1 000 million rubles for the five-year period. The military wanted to have a constant proportion of the state budget allocated to the armed forces and to the defence industries. The Gosplan draft calculated a modest annual increase, and arrived at defence actually having a smaller share of the total budget by the end of the period. At the session of Gosplan's Presidium, deputy Defence Commissar Unshlikht, Chief of the Red Army Staff, Shaposhnikov, and representatives of VSNKh, Postnikov and Pavlunovskii, were to constitute a commission to

<sup>16</sup> RGVA, f. 33988, op. 3, d. 125, l. 106 ob.; cf. RGVA, f. 4, op. 14, d. 91, l. 12.

solve the conflict between the different budget drafts. Its draft resolution should then be submitted to the Council of Labour and Defence (STO).<sup>17</sup>

Table 5.2

**Budget proposals for the Armed Forces 1927/28-1932/33**

(million rubles in constant 1926/27 prices)

	1927/28	1928/29	1929/30	1930/31	1931/32	1932/33	Total
State budget (plan)	6 581	7 752	9 187	10 684	12 203	14 082	53 897
NKVM proposal	743	850	1 032	1 158	1 352	1 425	5 828
Proposal by Gosplan's <i>Sektor Oborony</i>	743	850	900	950	1 040	1 140	4 880
Percentage of the Armed Forces in the State budget							
in NKVM's proposal	11.1	10.9	11.5	11.8	12.2	11.3	11.5
in Gosplan's proposal	11.1	10.9	10.1	9.5	9.4	9.0	9.7

Source: *Dinamika udelnogo vesa biudzheta oborony v narodnom khoziaistve...*,  
RGAE, f. 4372, op. 91, d. 155, ll. 223, 220.

Notes: The original percentages in the document have been corrected, assuming the absolute numbers are correct.

At the same time as the budget for the military and the defence industries was debated, Voroshilov had headed another Government commission concerning the development of the armed forces in peace-time (*plan stroitelstva vooruzhennykh sil*). This commission was established by a RZ STO directive of 23 April 1929 and presented its report on July 8, 1929. It is thus very possible that this Voroshilov commission influenced the Politburo when preparing for its special sessions on the defence and war industries. The commission presented proposals concerning a five-year plan of the expansion and technical restructuring (*tekhnicheskaiia rekonstruktsiia*) of the armed forces, a program for naval construction and the mobilisation claims for one year of war.<sup>18</sup> In somewhat cryptic language, the commission pointed at a huge potential for satisfying military demands:

A comparison of defence needs with the level of preparedness for their fulfilment by the industry, and a comparison of the preparedness of the latter with the amount of resources of the country, have revealed a gap, with a more

<sup>17</sup> RGVA, f. 33988, op. 3, d. 125, l. 17.

<sup>18</sup> *Doklad Pravitelstvennoi komissii pod predsedatelstvom t. Voroshilova po rassmotreniiu piatiletnego plana stroitelstva RKKA*, RGAE, f. 4372, op. 91, d. 213, ll. 111-78.

favourable result when directly comparing the defence requirements with the resources of the country.<sup>19</sup>

The on-going pressure from the military on the planning agencies, as well as the failure to come to grips with what to include in the five-year plan, seems to have required a decision at the highest political level. During these months, the Politburo protocols reveal that the defence question, just as in Spring 1927, was ripe for a high-level decision.

#### 5.4 The Politburo discusses defence in the summer of 1929

In May 1929, the Politburo was scheduled to take up questions concerning the defence industry. It was then decided, however, to submit the matter to a preparatory session of the Council of Labour and Defence (RZ STO). Only in mid-June did the Politburo decide to hold its meeting, in the form of a closed session on July 1.<sup>20</sup>

At the closed Politburo sessions on July 1 and 8, 1929, the state of the country's defence was discussed. The decision protocols from the Politburo do not give any hint of who said what during the discussions, or of why the debate was prolonged to two sessions.<sup>21</sup> The Politburo, however, did appoint two commissions to draft the resolutions "Concerning the Conditions of defence" (*O sostoianii oborony SSSR*) and "Concerning the Defence Industry" (*O voennoi promyshlennosti*). The Politburo had listened to reports on the industry by Pavlunovskii, Uryvaev, Rukhimovich and Tolokontsev from VSNKh, and by Voroshilov and several leading military officers. The Politburo furthermore decided to form another commission, headed by Voroshilov, and including the above-mentioned speakers plus Kulik, Sharskov, Sirkin, Khomutov, Triandafillov and Efimov from various directorates of RKKA, and Iagoda from OGPU.<sup>22</sup>

For the final editing of the resolution on the defence of the USSR, a commission was organised and chaired by Voroshilov. The members of this commission were Stalin, Molotov, Bubnov, Rudzutak, Mikoian, Rukhimovich and Iakovlev. Stalin also presented the report on

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<sup>19</sup> *ibid.*

<sup>20</sup> Politburo protocol No 85, June 20, 1929, RTsIKhDNI, f. 17, op. 3, d. 745.

<sup>21</sup> Politburo protocol No 84, p. 22, July 8, 1929, RTsIKhDNI, f. 17, op. 3, d. 745.

The protocol refers to the earlier Politburo sessions on defence questions in 23 March and 20 August, 1928.

<sup>22</sup> Politburo protocol No 85, p 20, July 11, 1929, RTsIKhDNI, f. 17, op. 3, d. 745.

the defence industry at the July 15 session.<sup>23</sup> The Military-Revolutionary Council and VSNKh's Military-Mobilisation Directorate were thereafter to formulate corresponding directives to military authorities and to industrial trusts and factories.<sup>24</sup>

The 1929 Politburo resolution "Concerning Conditions of the Defence of the USSR" (*O sostoianii oborony SSSR*) was published in a censored manner. The contemporaneous resolution on the defence industry (*O voennoi promyshlennosti*) was obviously never published, but it was circulated as a classified document.<sup>25</sup> Since the full text of these resolutions gives a different picture of how the political leadership appreciated the situation, from what has been, in fact, the usual interpretation, it seems worthwhile to specify how the highest Party body regarded the situation at that moment.<sup>26</sup>

The Defence resolution summed up the achievements in five years of "planned reconstruction of the armed forces" and pointed at "the introduction of a certain planned order" (*planovost*):

On the basis of NKVM's requests and established norms, a five-year plan for development of the armed forces and the calculation of the needs of the front during one year of war fare are determined. It is positive that a certain degree of planning (*planovost*) has been introduced in all preparations of the country for war.<sup>27</sup>

But even more emphatically the Politburo stressed "enormous insufficiencies" in the Red Army and the preparedness of the country for defence. The technical basis of the armed forces was very weak. The army's equipment was lagging relative to the technology of modern bourgeois armies. There was no guarantee that the mobilised Red Army would actually receive materiel according to the mobilisation plan. The reserves, imported as well as domestic, were totally insufficient. The preparedness of industry, including the defence industry, for

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<sup>23</sup> Concerning the Condition of the Defence of the USSR; RTsIKhDNI, f.17, op. 3, d. 745, l. 99, p. 38. Concerning the Defence Industry. *Osobyie Papki*, Politburo Protocol, RTsKhIDNI, f. 17, op. 162, d. 7, l. 98, p. 23.

<sup>24</sup> RTsIKhDNI, f. 17, op. 3, d. 745, l. 97.

<sup>25</sup> The closing phrase of the Defence industry resolution said that it would be multiplied in only five copies, and given to the addressees as a "top secret" document (*sovershenno sekretno. na pravakh shifra*). RTsKhIDNI, f. 17, op. 162, d. 7, l. 100.

<sup>26</sup> For the published, abbreviated version, see *KPSS v rezoliutsiakh i resheniakh s'ezdov, konferentsii i Plenumov TsK*, volume 4, Moscow 1970, pp 281-283. The complete version of the resolution is in the "special files" of the Party Archives. Very little of all the criticism and the denunciation of "counter-revolutionary wreckers", or concrete proposals by the Politburo was included in the published version.



satisfying the demands of the armed front was "completely unsatisfactory". The Politburo regretted that no mobilisation plan for industry in case of war was as yet properly formulated. The time schedule for industry's transition to war-time production was not up to the needs of the army. A concrete factor was the lack of planning on how to fulfil mobilisation man-power requirements.

In industry, production capacity was still far below the requirements of defence. The lack of educated technical cadres hampered the development of new weapons.

These negative aspects of the defence industry during the last five years have become more severe through a long and systematic sabotage by the specialists.<sup>28</sup>

Although it lies on the periphery of my research, it deserves to be underlined that the Red Terror was a permanent condition. The plans and targets for military reconstruction were debated at a time when the atmosphere was dominated by the "witch-hunt" for suspects among the old specialist cadres, a process that had started with the Shakhty show-trial in 1928.<sup>29</sup> It must be kept in mind that the defence industry, as well as the central industrial administration and planning agencies, were affected by the "specialist-baiting" (*spetso-edstvo*) of the late 1920s and early 1930s. Technical failures often would form the basis for the secret police, the Economic Department of GPU, to start investigations and launch accusations of "counter-revolutionary activity". The Politburo resolution on the defence industry (*O voennoi promyshlennosti*) was approved on 15 July 1929. The first part of this resolution contained a detailed analysis of a series of deficiencies in the industry: an "enormous underestimation of

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<sup>27</sup> *O sostoianii oborone SSSR*, Postanovlenie Politbiuro TsK VKP(b), RGVA, f. 33987, op. 3, d. 250, l. 71.

<sup>28</sup> *ibid.*, l. 72.

<sup>29</sup> See RTsIKhDNI, f. 17, op. 3, d. 745, p. 39. The parallel resolution on the defence industry was filled with accusations about "sabotage" systematically carried out by "counter-revolutionary" groups and specialists within the industry. See also e.g. Report to Voroshilov from OGPU on the arrest of Design Bureau engineer Deltovskii, RGVA, f. 33987, op. 3, d. 124, ll. 58-63. "In the Artillery Committee, a caste-like counter-revolutionary group of old specialists hinders the improvement of the artillery." For similar accusations, *ibid.* ll. 57, On sabotage of steel for machine-guns and rifles, *ibid.*, ll. 2-3, Report about sabotage of a new 37mm guns. For the reprimands by the Politburo later in 1929 of the leaders in the Defence Industry Directorate of VSNKh, see RTsKhDNI, f. 17, op. 3, d. 753, ll. 10-13.

The Politburo followed up the matter in February 1930, see the resolution on the "liquidation of the wrecking in the defence industry plants" (*O khode likvidatsii vreditelstva na predpriiatiakh voennoi promyshlennosti*), RTsKhDNI, f. 17, op. 162, d. 8, ll. 81, 85-91.

mobilisation capability, overly long transition times to war-time capacity and so on. The resolution concluded:

This situation in the defence industry has created a dangerous situation between the industry and the needs of defence, as a result of which the Red Army would not be capable of benefiting from all those industrial resources that exist and would not receive a whole series of extremely important arms in the initial period of war (heavy artillery, tanks, chemical weapons etc.)<sup>30</sup>

The fundamental reason for this state of affairs was, however, not to be found in objective conditions. Instead, it was seen as being due to "the systematic sabotage (*vreditelstvo*) over many years carried out by a huge counter-revolutionary organisation", and the subsequent "lack of vigilance" on the side of Party cells in the central industrial agencies and at the factory level.<sup>31</sup>

The first-mentioned Politburo resolution, after pointing at the weak technical basis, the backwardness in relation to the bourgeois armies, the risk that the mobilisation of the army would be delayed by deficient planning, the lack of materiel reserves and insufficient mobilisation capacity, comfortably stressed that the situation would be improved drastically by the Five-year plan. It said that:

The Five-year plan creates favourable conditions (*for eliminating the deficiencies mentioned and*) for a significant qualitative and quantitative increase of the defence of the Soviet Union. ... The next five years must create a modern military-technical basis for defence.<sup>32</sup>

The resolution called for an artillery system that would fit the country's realistic economic capacity and international standard. The backwardness of Soviet industry made this task "enormously difficult", and the Politburo regretted the slow development of experimental and test models and the "impermissible leniency" in introducing serial production of new weapons.<sup>33</sup>

The military must contribute to a faster tempo in the modernisation of existing weapons and the perfecting of test models. New models were required especially in battalion (field) guns, long-range guns, powerful howitzers, anti-air guns and mortars of various calibre. The

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<sup>30</sup> RTsKhIDNI, fl. 17, op 162, d. 8, l. 117.

<sup>31</sup> *ibid.*

<sup>32</sup> RGVA, f. 33987, op. 3, d. 250, l. 72. The words in *italics* were excluded in the published version of the resolution, cf. *KPSS v rezoliutsiakh*, op.cit., p. 281.

<sup>33</sup> *ibid.*

Red army needed new large calibre machine-guns, chemical weapons, all types of tanks and armoured cars.

The Politburo strongly emphasised that it was "appropriate to apply foreign experience, to receive technical assistance and to acquire the crucial test models from abroad." Already during the first Five-year plan, the Soviet extractive and processing industries had hundreds of contracts with Western firms.<sup>34</sup>

In the Politburo's opinion, the Soviet air force was outdated in quality and in fighting capability. Especially troublesome was the absence of Soviet aircraft engine construction as well as the lack of serial production. The Council for Labour and Defence (*RZ STO*) was therefore to undertake a revision of the plans for the aircraft industry, to propose concrete measures and to make new budget appropriations. The Politburo encouraged a "wide use of foreign technical assistance" by inviting designers and instructors, and by acquiring test models. The Politburo approved the Red Army plan for expansion over the period 1929-1934. The basic guiding principles of the plan should be:

in quantity - not to lag behind the probable enemy in the main theatre of war,  
in quality - to be stronger than the enemy in two or three decisive types of weapons, namely - in aviation, artillery and tanks.<sup>35</sup>

The army at mobilisation was planned to deploy 3 million men. The air force was to have a peace-time strength of 2 000 active aircraft plus 500 in the first echelon reserves and up to 1 000 in other reserves. The artillery goal was to have a total of 9 350 light, heavy and anti-air guns and 3 400 small-calibre artillery systems.<sup>36</sup>

The tank program aimed at a peace-time force of 1 500 front-line tanks, and a first-period-of-war reserve of 1 500 to 2 000 with a further supply of 1 500 to 2 000 tanks. The tank types and organisational structure of the tank units in the Red Army were determined by a Politburo decision of 25 November 1929, which prescribed the introduction of tanks, basically for use in the tactical zone of combat, as a means for strengthening the infantry and

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<sup>34</sup> *ibid.*, I. 74. For a survey of many defence-significant industries that were developed with the help of Western experts, see Sutton, Anthony C., *Western Technology and Soviet Economic Development, 1930-1945*, Hoover Institution Press, Stanford, 1971, chapters 11-15.

<sup>35</sup> *ibid.*, I. 75.

<sup>36</sup> *ibid.*, II. 75-76.

cavalry in break-through operations.<sup>37</sup> The tanks available at the time were light tanks (T-18 and T-27). In early 1930, it was decided to send a delegation, led by Khalepskii, Head of the Mechanisation and Motorisation Directorate of RKKA, to inspect Western tank models and to negotiate licensee production in the Soviet Union. Among the sites to be visited were the factories of Skoda, Czecho-Slovakia, Vickers, Great Britain and Christie, the United States.<sup>38</sup> Offers for a light tank from Bofors in Sweden was also received by the Motorisation-Mechanisation Directorate of RKKA in 1930.<sup>39</sup>

The motorisation and mechanisation program aimed at having 150 000 to 180 000 trucks<sup>40</sup> in the mobilised Red Army by the end of the Five-year plan, plus a sufficiently large number of tractors. By November 1929, Khalepskii, Head of the Mechanisation and Motorisation Department wrote to Deputy Commissar Unshlikht about the five-year plan for tank and tractor construction. Already then, UMM was considering a war-year supply of almost 40 000 tractors and over 5 000 tanks by 1932/33, consisting of: 17 000 light special purpose tractors, 5 000 light general-purpose tractor, 16 500 medium special-purpose crawler tractors, and 2 275 Small tanks T-18, 1 888 medium tanks T-12, 1 270 Tankette T-21.<sup>41</sup>

In its resolution of July 1929, the Politburo urged the RZ STO to make a final decision concerning the budgetary allocations of the Five-year plan to the military (NKVM) and to the defence industry, and to take as a guide the most ambitious version of Gosplan's Five-year plan (*optimalnyi variant*) and even, "if necessary, surpass the figures of the plan".<sup>42</sup>

The Politburo, as noted, had strongly criticised the lack of industrial mobilisation preparedness. VSNKh ought, therefore, to reformulate its mobilisation plan and to decide on a

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<sup>37</sup> *O tankovoi programme*, RTsKhIDNI, f. 17, op. 3, d. 766, p. 11.

<sup>38</sup> For the task of the delegation, see *Plan poezdki zagranitsu i doklad nachalnika Shtaba RKKA o pokupke obraztsov tankov za granitsu*, RGVA, f. 4, op. 1, d. 1029. When, in February 1930, the Politburo decided the programme for the delegation, and concerning the credit conditions for tanks and tractors purchases, it instructed Khalepskii, Head of the delegation: "...not to negotiate with Vickers as a beggar with his cap in his hand, but as master [*khoziaeva*], because the buyer is the master on the market.", RTsKhIDNI, f. 17, op. 3, d. 773, p. 4.

<sup>39</sup> In 1930, Director Holm, Bofors AB, offered the Technical Staff of the Red army, via "Herr Ludwig" in Berlin, a licensee agreement for a light tank design. Bofors would sell six test units of the tank, to be delivered via Constantinople, Turkey. Bofors also offered to send its own experts to help the Soviet tank constructors. The total sum of the licensee deal was set at US\$ 250 000 by the firm. For details about the affair, see RGVA, f. 33991, op. 1, d. 87, l. 9.

<sup>40</sup> The number were approximate and refer to a unit of 1.5-ton lorries.

<sup>41</sup> *Upravlenie Mekhanizatsii i Motorizatsii*, RGVA, f. 31811, op. 1, d. 1, ll. 44-45.

<sup>42</sup> RGVA, f. 33987, op. 3, d. 250, l. 77.

more rational location of enterprises, as well as the distribution of tasks of production between factories by studying the military-economic significance of different regions. VSNKh ought to better determine the links between the defence, and the civilian industries. A strict specialisation among the manufacturers of arms was urged. The lack of assimilation of military production into civilian enterprises was stressed, and the necessity of co-operation between civil and military production was reiterated. Test mobilisations of the industry were to be held on a regular basis throughout industry.

The established Soviet historiographical view of the first Five-year plan was that threats from abroad, specifically the Japanese invasion of Manchuria in 1931, forced a re-direction of resources to the defence sector. This argument was used by Stalin as the explanation why several plan targets had not been fulfilled. It is true that in 1932 the budget assignments to defence were sharply increased. But the change in priority towards defence was initiated by the Politburo already in the summer of 1929, only a few months after the Plan had been approved by the Congress of Soviets. The resolution stated that:

Approving the measures taken by the Government to guarantee the defence interests in the Five-year plan, the Politburo proposes *an acceleration during the first three years of the Five-year plan in tempo of construction in the defence-significant branches*, in order to liquidate as fast as possible the weak spots and disproportion, and particularly, so that the domestic production of non-ferrous metals, chemicals and machine-building is strengthened.<sup>43</sup>

It thus can be concluded that the military had at least two opportunities to have their views on defence incorporated in the Five-year plan, namely via the 1928 and 1929 commissions, chaired by Defence Commissar Voroshilov. These commissions and joint conferences with the planners, however, did not produce a specific defence industry plan for the period 1928/29-1932/33. To the extent that the approved Five-year plan, in its "optimal" version of 1929, had any significance at all, it might have been in the sense that the principal direction of investment followed a plan. The political intervention, of which the Politburo decision on the defence and the defence-significant industries was only one example, very soon changed the premises for long-term planning. What did keep a certain "planliness" (*planovost*) in the defence restructuring was the contingency requests.

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<sup>43</sup> RGVA, f. 33987, op. 3, d. 250, l. 81.

This passage is not in the published version of the resolution, cf. *KPSS v rezoliutsiiakh*, op.cit., 281-283.

During the next year, the Politburo would again take up the question of the state of the defence industries. To judge simply by the Politburo records (i.e. protocols with short note about decisions), a session on 20 February, 1930, may have had the character of giving the defence industry a "hearing". No less than 38 representatives from the industry, the administration, the army and the secret police (*OGPU*) were listed as participants. In accordance with the usual procedure, a commission was formed to draft a resolution "on the basis of the exchange of opinions" at the Politburo session.<sup>44</sup> In January 1930, the Politburo also had drafted another resolution on the mobilisation preparedness of industry (*O mobpodgotovki promyshlennosti*).<sup>45</sup> In this resolution, it was noted that the decisions approved by the Politburo in July 1929 had "to a large extent not been implemented", with a particularly bad situation allegedly existing in the artillery and gun production.

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<sup>44</sup> RTsKhIDNI, f. 17, op. 3, d. 777, p. 45. Among the members of the commission were Kuibyshev (*NK RKT*), Voroshilov (*NKVM*) and Pavlunovskii (*VSNKh*).

<sup>45</sup> RTsKhIDNI, f. 17, op. 162, d. 8, ll. 34-46.

Chapter 6

NEW MILITARY AND DEFENCE INDUSTRY TARGETS AND RESULTS, 1931-32

This chapter will analyse the annual defence industry plans and the relations between the military and the industrial administration in order to determine the state of mobilisation preparedness. As an example, the tank construction during the early 1930s is chosen. It has been argued in this study that the war-time requests, that is the surge capacity was the primary plan target. It was also the only target that gave the defence expansion a certain planned character. In this chapter, the adjustments in the mobilisation requests and the path of actual defence expansion in the last year of the first Five-year plan will be studied.

6.1 Changing mobilisation requests during the first Five-year plan

The Voroshilov commission of 1928 had, as mentioned, recommended a technical reconstruction and expansion of the Red Army, according to the so-called "S-30" mobilisation plan. This plan was revised in 1929 by the Politburo decision, and further on 1 December 1930 superseded by the MV-10. The changes in the most important weapons categories are shown in table 6.1.

Table 6.1  
NKVM's production requests for one year of war in mobilisation plans, 1927-1933  
(units unless stated)

	1927	1928 "S-30"	1930 MV-10 *	Revised MV-10
Rifles	1 000 000	1 275 000	1 575 000	
Machine-guns	43 500	68 900	90 600	
Guns	3 763	4 562	12 610	18 467
Shells (mn)	37.9	51.2	40.0	
Chemical weapons (tons)	27 235	47 140	75 515	
Air planes	2 905	4 267	7 098	12 500
Tanks	150	1 055	20 000	40 000

Source: *Itogi oboronnoi podgotovki promyshlennosti v li piatiletke*,  
RGAE, f. 4372, op. 91, d. 1268, l. 32.

The Politburo approved the new mobilisation request on 1 December, 1930. It called for an expansion of the artillery, tank and air forces during 1931 and 1932. The war-year production was increased sharply from 4 562 to 12 610 guns (all calibres). The corresponding war-time annual production of aircraft was raised from 4 267 to 7 098, and the war-time tank

capacity was set by the leadership in December 1930 at 20 000 units. This new mobilisation request goes a long way towards explaining the increase in the military budget for future years. Given these changes in the projected war-time scale of operation, it can be argued that the immediate changes in the threat assessment during 1931 were of relatively little importance. They can in large part be said to have been covered by the mobilisation targets.

In order to reach this 1932 mobilisation target, NKVM had proposed an annual military budget in 1931 of over 4 000 million rubles. This sum was more than the Gosplan Defence Sector accepted in mid-1931. It opted for a cutback in the draft military budget to 2 800 million rubles.<sup>1</sup>

The instructions for the 1930/31 defence industry plan included the following sections: a) the plan for capacity preparedness, b) the plan for manual and technical labour, c) the plan for essential raw materials and d) the mobilisation reserves plan. A separate plan was to be drafted for the first period of war (*pervyi period voiny*, PPV). During such a period, the factories were expected to reach 75-90% their full war-time capacity. The detailed plans for the first period of war was to jointly elaborated by the military and the industrialists.<sup>2</sup>

During the drafting of the 1930/31 annual defence industry plan, the framework was considerably altered. The most important change was that, in 1930, all planning ceased to use the "agricultural year", 1 October to 30 September. By letting the last quarter of 1930 form a separate period, without definite plans for the defence industry, the economic year was made to coincide with the calendar year. For this reason, the original draft of the 1930/31 plan only presented the intentions of the planners. The work done on that plan could be only partly included in the new version, the plan for 1931. Nonetheless, many of the features, results and failures of the defence, and related industries that were highlighted in the instructions for the 1930/31 plan are of interest because they indicate the goals sought and problems faced by the planners in 1929/30.

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<sup>1</sup> RGAE, f. 4372, op. 91, d. 1268, l. 132, d. 858, l. 26.

<sup>2</sup> Instructions for drafting of the defence annual plan for 1930/31, RGVA, f. 4, op. 1, d. 1202, l. 1.



## 6.2 The "war version" of a plan for 1931

By a decision of RZ STO of 10 March 1930, Gosplan was by 1 July 1930 to have established the parameters for the annual 1931 plan in case of war.<sup>3</sup> Based on Gosplan directives, the People's Commissariats concerned should by September 1930 have sent instructions to the local government authorities and the industrial plants for their draft of a one-year war plan. This contingency plan was to be ready by 1 March 1931. But since the Gosplan report was not available by 4 February 1931, Sovnarkom's Defence Commission (*Komissiiia Oborony Sovnarkoma, K.O.*) did not take up the question. Sovnarkom therefore decided that further work on a 1931 war-year plan should be halted. Gosplan ought instead to formulate an approximate war-time plan for the second half of 1931. But the results of the work that actually had been done on the 1931 war-year plan should be discussed by K.O. at a forthcoming session. That discussion was to provide the framework for a plan for the war-year 1932.

The planners in Gosplan's Defence Sector had originally expressed the hope that the war version of the 1931 plan would differ from the previous war-year plans for 1928, 1929 and 1930. The earlier war-year plans were now considered as merely having tried to identify the weak spots, strains and imbalances in the economy in case of war. The 1931 war version, by contrast, should be "a guide for action under war-conditions" (*nametka dlia deistviia v voennykh usloviakh*). In January 1931, it was emphasised that "the success of collectivisation and industrialisation" had created "a new technical basis for the country in war". By 1931, however, it was obvious that all the required resources were not yet available, because the defence preparedness is "organically linked with the fulfilment of the Five-year plan". Assuming that this plan would be a turning-point, the report made a startling comment:

In this sense, a war in 1931 would from the imperialists' side, have the character of preventive war.<sup>4</sup>

The sentence can be interpreted as a statement of what some planners hoped the first Five-year plan would accomplish, namely to safeguard the country against feared armed

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<sup>3</sup> RGVA, f. 7, op. 10, d. 1002, l. 44.

<sup>4</sup> *O razrabotke voennogo varianta k/ts na 1931, doklad 24.01.1931*, RGAE, f. 4372, op. 91, d. 736, l. 65. (Emphasis added, LS.)

attack. Only two more years of frantic technical restructuring would be needed to create a capability that would give the Soviet Union radically different options in case of war.

The goals of the war version of the 1931 plan were to provide the armed forces with maximum of requested resources and, simultaneously, to continue the intensive socialist expansion of the most important sectors of the economy. Whereas the country would start the war according to mobilisation plan "S-30", it would be following mobilisation plan "MV-10" in 1932. Within industry, the development of ferrous and non-ferrous metallurgy, machine-building, tractor and truck construction, fuel and electricity supplies, and the basic chemical industry should be continued and accelerated. A key problem for the war version of the plan was the required expansion of machine-building, since it also was to assume a relatively large share of artillery systems and shell production.

The plan for the "war-year 1931" had to cope with the directives of the Communist Party Central Committee from 1 December 1930 for enhancing the industrial preparedness to satisfy a new mobilisation plan, MV-10. Party decisions also increased the mobilisation preparedness in aviation to 7 098 aircraft in the 1932 "war year" and to 21 000 by the end of the five-year plan. The earlier mobilisation plan S-30 had stipulated a war-time production of 3 130 aircraft. The artillery component of the new mobilisation plan reflected a 315% increase and, that of chemical weapons a 245% increase.<sup>5</sup> The annual military order for equipment in 1931 was 883 million rubles. The metal balances, based on an expansion of tank and aircraft production indicated the need for new investment in non-ferrous metallurgy, and the finishing of the Dniepr Aluminium and Cheliabinsk Zinc Plants. The same type of calculations for the war-time needs for chemicals (ammoniac, chlorine, phenol) revealed the remaining bottle-necks. In consequence, Gosplan had adjusted the capital investments at the huge chemical enterprises, the Bereznikov and Ugresh Plants.

The main decisive indicators in the industry plan are such that although a certain deficit and some bottle-necks will remain in the plan, all the fundamental and necessary elements are included for the realisation of the great defence program.<sup>6</sup>

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<sup>5</sup> *ibid*, l. 94.

<sup>6</sup> *ibid*, l. 90.

The planners of the Gosplan Defence Sector were eager to underline that the demands made by the military for the construction of certain projects (basic chemistry, non-ferrous metallurgy, the Cheliabinsk Ferro-alloys Plant, Dniepr Ferro-alloys Plant, Voronezh and Stalingrad hydro-power stations) coincided with the general interests of the industrialising economy. The increased defence orders from 1930 and onwards, would change the emphasis from expansion within the defence industry to the transfer of mobilisation tasks to civilian enterprises (so-called assimilation). In howitzer, tank and chemical weapons, the increase in defence capacity would now go hand in hand with general industrialisation. According to the planners, as the "defence basis extends to the civilian sector", the conflict between the parallel growth of industrialisation of the country and the increase of its defence capacity would be alleviated.<sup>7</sup>

Until then, the "parallel development" of the specialised defence industry and all other industry had resulted in a conflict between budgetary allocations for defence and for other production. If more of the military products necessary only in a war could come from the civilian industry, however, then the conflict between rapid industrialisation and increased defence capacity could, at least, be attenuated. As long as there was peace, the investment in civilian industry could be used for civilian production.

This raises the intricate problems of how to classify investment in branches with dual application. The enormous gap between peace-time and war-time demand for ammunition, to take but one example, were shown above. Consequently, the investment policy is directed at a specific capacity for all chemical and metal components of artillery and rifle ammunition. If only a fraction of that capacity is used for military production in the years studied here, it seems to be an open question, whether the investment should be called military or civilian.

The annual military orders for 1931 were based on the forthcoming introduction of the new mobilisation plan MV-10. 1931 capital construction in the defence industry and the defence production of the civilian and the aviation industries was estimated at 638.5 million rubles, compared to 303.2 million rubles in 1929/30. The gross production of the defence industry (in 1926/27 prices) was to be 1 331 million rubles, an increase of 99% over 1930. The gross value of the aviation industry should be 310 million rubles vs. 97.4 million in 1930.

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<sup>7</sup> *Oboronnye kontrolnye tsifry na 1930/31 god*, 18.09 1930, RGVA, f. 4, op. 1, d. 1202, l. 16.

Expenditures on the whole group of defence measures (Defence Commissariat, OGPU, the defence industry, transportation etc.) in 1931 was planned at 3 131 million rubles, compared with 1 643 million rubles in 1929/30.

It has not been possible to determine exactly which were the aims of "the great defence program", to which references are found in the literature.<sup>8</sup> On 1 August 1931, the Council of Labour and Defence approved a proposal by the Revolutionary War Council for increased tank production, the "great tank program" (*tak nazyvaemaia bolshaia tankovaia programma*). We find a puzzling reference to such proposals in Kuibyshev's remark about the 1931 annual defence industry plan:

The amount of outlays on all the defence group is not superfluous, because it corresponds to the task to obtain the special preparations in correspondence with the economic basis, on the foundation of which the *great defence program* must be resolved.<sup>9</sup>

The interpretation that is suggested by the model proposed above, is that, on the basis of the new mobilisation plan, MV-10, the military had already formulated the subsequent mobilisation plans MV-11 and MV-12. The question of whether or not such a comprehensive, detailed "great defence program" for the armed forces in several years after 1932 actually existed is left open.<sup>10</sup> As for a 1931 "great tank program", it is evident that the implementation of the annual 1932 order for tanks changed whatever plan was adopted earlier.<sup>11</sup>

### 6.3 Tukhachevskii encounters the realities of Soviet industry

Available sources do not provide any answers to how the Moscow central military apparatus finally reacted to Tukhachevskii's 1930 series of rearmament proposals. Given the expansion that actually was planned later, it is only possible to speculate about how Tukhachevskii himself revised his original calculations. To judge by subsequent plans (e.g., for a total

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<sup>8</sup> See, e.g. Akshinskii, V.S., *Kliment Efremovich Voroshilov, Biograficheskii ocherk*, Politizdat, Moscow 1976, p. 164.

<sup>9</sup> RGAE, f. 4372, op. 91, d. 858, l. 85.

<sup>10</sup> *O k/ts po oboronnyim meropriiatiiam na 1931 god, Otchet Komissii Oborony pri SNK SSSR*, 1.02. 1931, RGAE, f. 4372, op. 91, d. 858, ll. 108-105, for further information about the 1931 defence industry plan, see *ibid*, ll. 71-64, 60-58.

<sup>11</sup> On 10 January 1931, RVS approved a calendar plan (*kalendarnyi plan*) for the further restructuring by the armed forces. Akshinskii, *op.cit.*, p. 156. Given the evidence from the (cont.)

production of 10 000 tanks in 1932), Tukhachevskii most probably would have retreated from his boldest proposals.

If not in quantity, at least in substance and endeavour. Stalin possibly changed his mind about Tukhachevskii as a proponent of technical restructuring of the army. Whether for this reason, or as a recognition of Tukhachevskii's role in the fight against military specialists, foremost against Svechin,<sup>12</sup> he soon received a promotion. In May 1931, Tukhachevskii was appointed Deputy People's Commissar of Defence, Chief of Armaments for the RKKA. This was half a year after his letters to Stalin (December 1930) concerning the misinterpretation of his rearmament proposals.<sup>13</sup> When Tukhachevskii had direct responsibility for the army's procurement, he was confronted with the industrial problems in a way that seems to have surprised him. Although Tukhachevskii probably had had close contacts with the industrial plants in Leningrad, in his new position as Chief of Armaments, he expressed a great deal of scepticism about and criticism of the central industrial administration. He constantly had to confront the doubts of the VSNKh concerning the military's orders and requests. In a letter to Voroshilov, he wrote:

90 per cent of my time is absorbed by fighting with VSNKh: Pavlunovskii, Martinovich and Smilga. They always try to reduce our requests, orders and so on. I must constantly refer the matters to Sergo<sup>14</sup> - he is much more objective.<sup>15</sup>

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military archives presented in this study, it seems doubtful that any calendar plan established in January of 1931 would be relevant for more than half a year, at most.

<sup>12</sup> In early 1931, Tukhachevskii took a very active role in denouncing the "reactionary military school" of Alexander Svechin. For these events outside the scope of the present study, see e.g. Rapoport, Vitalii & Geller, Iurii, *Izmena Rodine*, (High Treason), Moscow 1995, ch. 14.

For arguments launched against Svechin, see the December 1929 lecture by Tukhachevskii, M.N., "O kharaktere sovremennykh voyn v svete reshenii VI kongressa Komintern", (The Character of modern wars in the light of the decisions of Komintern's VI Congress), *Zapiski Kommunisticheskoi Akademii*, Sektsia po izucheniiu problem voyny, t.1, Moscow 1930, pp. 6-29. Cf. also the articles in *Protiv reaktsionnykh teorii na voennonauchnom fronte*, (Against reactionary theories on the military-scientific front), Moscow 1931; particularly, Dunaievskii, Vl., "Vreditelskaia teoriia 'permanentnoi ekonomicheskoi mobilizatsii' Svechina", (Svechin's wrecking theory of 'permanent economic mobilisation') *Zapiski Kommunisticheskoi Akademii. Sektsiia po izucheniiu problemy voyny*, tom 4, Moscow 1930.

<sup>13</sup> In one of his first moves, Tukhachevskii called for a better distribution throughout the Red Army of the experiences of study trips to Germany and of the Reichswehr courses and manoeuvres. In his mind, the military experience gained had too often been restricted to narrow circles. See the RVS protocols of 28 June 1931, RGVA, f. 4, op. 18, d. 21, l. 209, and the resolution, *ibid* l. 42.

<sup>14</sup> "Sergo" refers to People's Commissar Ordzhonikidze, who assumed responsibility for the management of Soviet industry in November 1930. Until recently, very little of Ordzhonikidze's concerns about the defence industry was revealed in his many Soviet biographies. For his time as head of the Supreme Council of the Economy, later the People's Commissariat of Heavy Industry, (cont.)

Since the fulfilment of the military annual order for 1931 was lagging (only 70% of the artillery, and a mere 65% of the chemical orders for the first half-year had been delivered), Tukhachevskii had agreed with VSNKh's Chairman, Sergo Ordzhonikidze to put defence production on the agenda of a special, closed session of VSNKh's Presidium. Tukhachevskii depicted a situation, where the individual enterprises often accepted the military's orders, but the Mobilisation-planning directorate of VSNKh then forced the enterprises to renounce their obligations. As for the 1932 aircraft engines plan, the aviation industry had initially agreed on 8 060 units. Pavlunovskii, however, had changed the order to 5 600 units.

But in the Defence Commission, Stalin supported us. ... Stalin made it clear that not less than 7 000 must be produced.<sup>16</sup>

Tukhachevskii argued that Pavlunovskii's attempts to lower industrial orders threatened "enormous cost increases". He claimed that the divergence between the order and delivery prices had already widened. The military's request for armour plates had not been supported by VSNKh, neither by Pavlunovskii, nor by Ordzhonikidze.

But on the other hand, at the Defence Commission session on 21 July Stalin supported us, so that the armour plate production must include the 2nd echelon of tanks for supporting the infantry. Basically, our interests for 1932 have been satisfied.<sup>17</sup>

Tukhachevskii later noted that Stalin had scolded Pavlunovskii for not supporting the military orders and for neglecting industrial mobilisation.

Pavlunovskii received such a thrashing, that he has completely changed and given up his manner of fighting with us.<sup>18</sup>

Tukhachevskii also gave a vivid description of a film from the test of Carden-Lloyd amphibious tanks, which had been shown to Stalin and Molotov".

This tank easily swam over the Thames. ... That is extremely interesting and comrade Stalin suggested that we buy 10 such tanks at 25 000 rubles (Vickers asked for 34 000 rubles).<sup>19</sup>

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see e.g. Khlevniuk, O.V., *Stalin i Ordzhonikidze. Konflikty v Politbiuro v 30-e gody*, Rossiia Molodaia, Moskva 1993, pp. 31-41.

<sup>15</sup> Tukhachevskii, *Zapiska Voroshilovu*, 23.07 1931, RGVA, 33987, 3, 155, 159

<sup>16</sup> *ibid.*

<sup>17</sup> *ibid.*, l. 159ob

<sup>18</sup> *ibid.*, l. 182. In the same letter, Tukhachevskii describes how Stalin enforced the aircraft program. "Stalin scolded us also, for not having a multi-seated, long-range heavy bomber. He put pressure on Baranov, so that the Aviation association will take on 200 instead of 120 TB-3, and 400 instead of 250 engines M-34. Stalin further insists on the speedy introduction of a M-35 engine with 1 500 hp and an even more powerful aircraft."

These examples from Tukhachevskii's first period at his new post as Chief of Armaments indicate that Stalin must have been an ardent supporter of the ongoing transformation of the armed forces. The misunderstanding from the spring of 1930, when Stalin had accused Tukhachevskii of "Red militarism", obviously had been cleared up. On several occasions Stalin was the one with the more far-reaching proposals. This interpretation, of course, is based only on the descriptions found in Tukhachevskii's letters to Voroshilov. Not enough is known about what Stalin at this time really thought of Tukhachevskii. That Stalin trusted Tukhachevskii as a military planner, however, is clear. Precisely at the time of this dispute over the modernisation of the army in summer 1930, Tukhachevskii was commissioned by Stalin to draft a new war plan against Poland. This war plan, which Tukhachevskii eventually completed and proposed in 1932, included air assault strikes against the rear of a Polish army still in mobilisation, tank operations at the border and heavy bomber strikes against Warsaw.<sup>20</sup>

It is somewhat outside the scope of this study to disentangle the murky events that led to the trial and execution of Tukhachevskii in 1937 (forged Nazi documents, purportedly showing Tukhachevskii collaborating with German officers; the possibility that these forgeries were possibly planted by Stalin's own agents etc.). Some interpretations of the persecution of the Red Army generals in 1937 claim Stalin had detested Tukhachevskii ever since his fateful mistakes during the Soviet-Polish war in 1920, or that Stalin had initiated a conspiracy against Tukhachevskii already in 1930. Judging by how they worked in tandem during 1931, and later in the industrial restructuring, however, this explanation needs more factual support.<sup>21</sup>

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<sup>19</sup> *ibid.*

<sup>20</sup> Letter from Tukhachevskii to Stalin and Voroshilov, 21.01 1932, RGVA, f. 33987, op. 3, d. 400, l. 19.

<sup>21</sup> If mutual distrust between Tukhachevskii and Stalin over the fate of the Soviet-Polish war had actually been a sore point, it seems difficult to explain why Tukhachevskii would turn to Stalin, asking him to intervene in the affairs of the Military Academy. See Tukhachevskii's above-mentioned letter to Stalin, RGVA, f. 33987, op. 3, d. 155, ll. 217-220ob.

It is reported that, in 1937, NKVD had requested Tukhachevskii's letters for the prosecution, amongst which, the ones that have been presented in this study, his letters to Stalin of 19 June and 30 December 1930. It is not known, however, what role these papers played in the accusations directed against him in June 1937. RGVA, f. 33987, op. 3, d. 400, l. 262.

About the circumstances of Tukhachevskii's arrest and trial, see e.g. Volkogonov, D, *Triumf i tragediia. Politicheskii portret I.V. Stalina*, Novosti, Moskva 1990, Kn. 1, ch. 2, pp. 254-279.  
(cont.)

#### 6.4 Marxist illusions and Soviet realities of industrial mobilisation

In the mid-1920s, Tukhachevskii expressed, as noted above, the ideologically tainted belief that a planned, socialist order would have advantages over the "anarchic capitalistic economy". When rapid industrialisation started in the Soviet Union, the actual conditions for securing mobilisation preparedness of industry tended to disprove such statements.

The relations between the defence industry and the military were evidently extremely strained in 1929. In a letter to Defence Commissar Voroshilov, Chief of Staff Shaposhnikov jokingly referred to the lack of understanding between the Staff and the industry, and to a relationship "as hostile as that between Poland and Russia".<sup>22</sup>

In early 1930, the Politburo held a conference with representatives from the defence industry. Attending the meeting were Pavlunovskii, Iagoda, Prokofiev, Koslovskii and more than 15 other representatives from the industry. It is impossible to draw any conclusions about the character of the "hearings" at this session, since the protocols mentioned only the names of the participants. It concluded that "on the basis of the exchange of opinions" at the meeting, a commission headed by Kuibyshev, and comprising most of the participants would draft a resolution on the subject at hand.<sup>23</sup>

In a resolution of January 1930, the Communist Party Central Committee criticised VSNKh for not having produced a "realistic mobilisation plan" based on the mobilisation requests (the "S-30"). According to this resolution, the decisions taken by the Politburo in July 1929 concerning the defence industry had been largely ignored.<sup>24</sup> Since especially artillery production was suffering, the responsible industry was to consult appropriate designers and to pay for technical assistance from Germany, the United States and Italy. The Party also demanded that VSNKh better control its designers' work both in the special defence industry

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One part of Tukhachevskii's "confessions" have been published, see "Pokazaniia Marshala Tukhachevskogo", *Voenno-istoricheskii zhurnal*, 1991, No 8 & 9.

<sup>22</sup> Shaposhnikov, *Zapiska Narkomvoenmor'u Voroshilov, O mobrabote Shtaba* 26.12 1929, RGVA, f. 33987, op. 2, d. 280, ll. 7-8.

<sup>23</sup> RTsKhIDNI, f. 17, op. 3, d. 777, *Protokol* of 20.02.1930, p. 45. The Politburo also decided to convene a similar conference in March 1930 with the directors and technical personnel from the metal industry.

<sup>24</sup> *Politburo Protokol* No 113, January 15, 1930, RTsKhIDNI, (*osobaia papka*), f. 17, op 162, l. 39. *O mobpodgotovke promyshlennosti* (On industry's mobilisation preparedness).



and in other branches related to military needs. Finally, the resolution called for a reorganisation of the Mobilisation and Planning Directorate of VSNKh. It was to be

the operational planning agency for all defence matters in the industry, calculation of production capability, the direction of the operational mobilisation plan and distribution of mobilisation tasks, control of the execution of production and technical tasks and over capital construction, control and inspection of mobilisation preparedness, and the drafting of a plan for satisfying material needs of the industry in war-time.<sup>25</sup>

The resolution noted that VSNKh had as yet failed to draft "a realistic mobilisation plan", and complained that very few of the Politburo decisions of July 1929 had been implemented.

It seems that this centralist model of industrial mobilisation, which the Party resolution proposed, evoked the opposition of Tukhachevskii. In conjunction with his rearmament proposal, Tukhachevskii in February 1930 also discussed industrial mobilisation. In a report to Voroshilov, Shaposhnikov and Chief of Armaments, Uborevich, Tukhachevskii surveyed the mobilisation in Germany, France, Great Britain and USA during the World War. His proposals can be summed up as decentralisation, specialisation and co-operation for production in war-time.

From the post-war experience of these Western countries, Tukhachevskii concluded that the Soviet Union had so far failed to establish a functioning mobilisation model, where a core of war industries would co-operate with civilian factories. He called for a better distribution of tasks in the production process (for mass production of armaments) among a few specialised war industries and many civilian enterprises. The mobilisation preparations (blue-prints, instruments, instructions and so on) should be de-centralised as much as possible to the individual trusts in the defence industry. The central directorate (MPU, *Mobilizatsionno-planovoe upravlenie*) had implemented only a limited de-centralisation. The lack of co-operation had until then resulted in mobilisation preparations carried out separately by the defence industry and by the civilian industry, and had resulted in "a mere bureaucratic paper-work":

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<sup>25</sup> *Politburo protokol* No 113, *Prilozhenie No 1 k p. 1, (osobaia papka)*, RTsKhIDNI f. 17, op 162, d. 17, l. 39.

The defence industry mobilises by itself, and the civilian - on its own, and since this does not and will not be effective, we have not achieved any effective mobilisation preparedness.<sup>26</sup>

In the summer of 1930, Tukhachevskii had called for a discussion at the Supreme War Council (*RVS*) of the results of those test mobilisations in industry. This matter, however, had repeatedly been postponed by VSNKh. When by 1930-31 the Soviet organisation of industrial mobilisation still had failed to provide a reliable framework for war-preparation, the Red Army sent a delegation to Germany.<sup>27</sup> On 8 July 1931, Efimov, from the Red Army Staff, had reported to VSNKh's Presidium on his impressions from a business trip to Germany and suggested a series of reforms in VSNKh. "The backwardness of our own methods was evident," was the judgement of Tukhachevskii.<sup>28</sup> A reform commission was formed with industrial and military representatives. It included Pavlunovskii, Martinovich and Smilga from VSNKh, and Tukhachevskii and Efimov from the Red Army. The reorganization of mobilisation planning, however, seems to have met opposition from the Mobilisation-planning directorate of VNSKh.

It has been pointed out above that the secret police, the Main Political Directorate (OGPU), was involved in the persecution of "old specialists", where a combination of real technical problems and mythical "counter-revolutionary groups" led to repressive measures against the defence industry leadership. The section of the secret police that was responsible for these matters was OGPU's Economic Directorate (*Ekonomicheskoe Upravlenie OGPU*).

There is a November 1931 report about industrial mobilisation prepared by this branch of the Soviet secret police. The Economic directorate of OGPU stated frankly that: "There does not exist any industrial mobilisation plan", and further that the mobilisation work was in a disorganized state and that the system of defence preparations in the country as a whole was not linked together in a proper manner. It particularly stressed the lack of co-ordination

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<sup>26</sup> *Zapiska o mobilizatsii promyshlennosti*, 23.01 1930, RGVA, f. 7, op. 10, d. 1049, ll. 1-6.

<sup>27</sup> For an evaluation by the Armour-Tank Directorate (ABTU) in 1931 of the industrial mobilisation in the West, see "*Itogi mobilizatsionnoi podgotovki promyshlennosti kapitalisticheskikh stran k nachalu 1932 goda*", (Results of industrial mobilisation preparedness of industry in capitalist countries in early 1932), in *Biulleten ekonomiki voyny i voennoi promyshlennosti*, No 7, Nauchno-Tekhnicheskii otdel (Komitet) ABTU (Avto-brone-tankovogo Upravleniia RKKA), December 1931, RGVA, f. 31811, op. 3, d.37, ll. 3-14.

<sup>28</sup> Tukhachevskii, *O podgotovke mobilizatsii promyshlennosti*, *Zapiska Stalinu*, July 1933, RGVA, f. 33988, op. 3, d. 281, l. 76.

between the mobilisation tasks of VSNKh and the military. There also was a lack of contact between Gosplan's Defence Sector and VSNKh's Mobilisation -Planning Sector (MPS). The report stated that, despite the re-organization undertaken in 1930, VSNKh had still paid insufficient attention to the assimilation of and co-operation with, the civilian industry. Questions about standardization and surrogate production, in the opinion of OGPU, had been equally neglected.<sup>29</sup>

From the accused industrialists there followed a lengthy reply, written by Martinovich, that presented matters in a different perspective. During 1931, the defence industry was required to be prepared to produce 117 totally new weapon types, included in the changed mobilisation plan (MV-10). The annual military order for 1931 was twice as large as that for 1929/30. VSNKh, in turn, indicted the military for not approving the final designs of many weapons. Martinovich claimed that if the factories could test produce the new products during 1931, it would be feasible to accept the new mobilisation plan as effective from May 1932. Martinovich did agree that assimilation and co-operation must be carried further during 1932.<sup>30</sup>

### **Learning in Germany: eager officers and reluctant industrialists**

After the meeting between the military and the VSNKh leadership, it was agreed upon with the German Reichswehr that Soviet engineers would take courses in industrial mobilisation and study German factory methods.<sup>31</sup> Whereas the military members in the delegation were enthusiastic about these courses, the industrialists remained sceptical about foreign study.<sup>32</sup>

In May 1932, the delegation led by Petrenko, of the Red Army Technical Staff, reported about how, in light of the German experience, the Soviet mobilisation organization should be reconstructed. It suggested that mobilisation responsibility should be concentrated in one committee (the proposal suggested a reduction of the 45 000 persons engaged in mobilisation

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<sup>29</sup> *Spravka po voprosu o mobgotovnosti promyshlennosti* RGAE, f. 7297, op. 41, d. 213, ll. 159-149.

<sup>30</sup> *Doklad MPS VSNKh Stalinu, Molotovu*, RGAE, f. 7297, op. 41, d. 243, ll. 192-160.

<sup>31</sup> On February 10 1932, the Politburo approved the trip by a military delegation, comprised of Lunev-Petrenko, Zaborovskii, Rudnev, Kaiukov and Eliseev, to which should be added representatives of VSNKh, the Military-Naval Inspectorate, Gosplan and OGPU's Economic Directorate, to study industrial mobilisation in Germany. RTsKhIDNI f. 17, op. 3, d. 872, p. 28/8.

<sup>32</sup> On 26 February 1932, Efimov wrote enthusiastically from Germany to Tukhachevskii concerning the mobilisation course. Efimov's only complaint was that several VSNKh engineers regarded the course as "useless" and even "humiliating". RGVA, f. 33988, op. 3, d. 218, l. 48.

work at various levels to 2 to 3 000 engineers and technicians in a new agency). With assistance from research institutes and experimental factories, such a committee would control design, production (machinery, gauges, instruments, appliances and blue-prints), normalisation and standardisation.<sup>33</sup>

This proposal incidentally reveals how the industrial mobilisation agencies from 1927 to 1931 had grown into a wide-encompassing network. It is not stated in the document whether or not the 40 000 persons engaged in mobilisation preparations were employed full-time for this task. It may well be that some group of economists and technicians in the industrial administration had the design and testing of mobilisation preparedness as part of their responsibility.

Gosplan's Defence Sector had received the reports on industrial mobilisation in Germany. They agreed with much of the criticism of the existing Soviet mobilisation system. In particular, the lack of technical preparations (instruments, gauges etc.), the lack of precise division of responsibility between the industry, the military and the planning organs that, in Gosplan's opinion, indicated the need for a new organization. Gosplan, however, objected to the delegation's proposal to create a separate committee for mobilisation, as was the case in Germany, as not being suitable for the Soviet Union. Instead, the planners opt to form a smaller agency (300-400 persons) that would be part of Gosplan's already nation-wide organisation. The industry's mobilisation agencies should more than earlier concentrate on the "technical-production foundation of mobilisation", assimilation and co-operation, and on providing real "leadership" for those civilian factories that had specific mobilisation targets.<sup>34</sup> Gosplan's Defence Sector further suggested that the role of the military should be strengthened. Mobilisation tasks should be concentrated in one agency, e.g. the Technical Staff (*Tekhnicheskii Shtab*) of the Defence Commissariat, so as to avoid conflicting instructions from the various procurement departments of the Red Army. The annual military orders would then be more in line with the mobilisation tasks of the individual enterprises.

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<sup>33</sup> *Doklad Komissii o mobilizatsii promyshlennosti na osnove oznakomleniia s postanovkoi etogo dela v Germanii*, RGVA, f. 4, op. 14, d. 634, ll. 1-19.

<sup>34</sup> *Otchet Nikolina, Chlena komissii po izucheniiu nemetskogo opyta mobpodgotovki, zam nachalnika Sektora Oborony Gosplana SSSR*, RGVA, f. 4, op. 14, d. 634, ll. 21-30.

The sources available do not indicate which organizational changes were undertaken after the top leadership of Gosplan's Defence Sector, VSNKh and the Red Army had studied the German industrial mobilisation. It seems certain, nonetheless, that recommendations in the reports were closely studied and influenced the concrete way in which economic mobilisation was carried out, in the central, regional and local agencies.

In early 1933 Kuibyshev, as member of the Military-Naval Inspectorate (of Rabkrin) asked Tukhachevskii to report on how the "valuable materials about technical matters" gathered from Germany had been used. Of importance was how the delegation's conclusions had influenced the production of weapons, bringing order to design and drawing, standardisation and surrogate production.<sup>35</sup> Tukhachevskii surveyed three aspects of the practical results of the commissions' experience: the daily work of the participants in the courses in Germany, the tasks formulated for the government and, finally, the publication of reports, which included "all materials that could be useful as guides for industrial mobilisation".<sup>36</sup> A number of organizational proposals were made by the delegation to the Revolutionary War Council (e.g. straight-lining of the military's own gauge system) and to the People's Commissariat of Heavy Industry. Even in 1933, Tukhachevskii complained that the industrialists had not yet appreciated the need to follow the hints from the delegation. This complain implies that the Head of the Artillery Directorate (*Artilleriiskoe Upravlenie*), who had attended the courses in Germany, took part in the adaptation of the military technical requirements to production capabilities. In essence, the goal was to simplify design and production, to standardise and to have drawings, gauges and instruments organized in a way that was "based on the experience of the commission at the [German] factories".<sup>37</sup> The influence of the German courses was felt through publications and lectures. The Efimov commission published two books, about industrial mobilisation and one on artillery production. Petrenko had lectured about his study trip to Germany to audiences in the mobilisation agencies and the Communist Academy, the Red Army staff and armaments

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<sup>35</sup> *Zapiska Kuibysheva, nachalnika VMI NK-RKI - Zam. Narkomvoenmor'a Tukhachevskomu*, 25.02.1933, RGVA, f. 33988, op. 3, d. 281, l. 8.

<sup>36</sup> Tukhachevskii, *Zapiska Nachalniku Voennno-morskoi inspeksii NK-RKI Kuibyshevu*, 27.03 1933, RGVA, f. 33988, op. 3, d. 281, l. 10.

<sup>37</sup> *ibid*, l. 10 ob.

factories such as the "Sormovo", "Krasnyi Putilovets" and "Bolshevik" plants.<sup>38</sup> Further evidence that the attempts to organize mobilisation and planning preparations were in crisis by 1931 can be seen in the reform of the courses taught by Kolesinskii from Gosplan's Defence Sector on "Defence preparedness of the Soviet Industry" at the Red Army Military Academy. In Tukhachevskii's opinion, the theory and methodology taught at the Military-Economic Faculty were outdated. He therefore proposed that the program should be re-organized under the heading: "Methodology of mobilisation preparation in Germany and the United States".<sup>39</sup>

### 6.5 Testing military planning in practice: the "grand" tank program of 1932

Tank production was one of the central items in the first five-year plan. It was also one of the branches where a detailed production plan for the whole period seems to have been drawn up. The following table shows the expected production of various tanks from 1929/30 to 1932/33 according to the long-term plan.

Table 6.2

**Tank production plan for 1929/30-1932/33**

Planned production (units)	1929-30	1930-31	1931-32	1932-33	TOTAL
Small tanks	300	665	800	1170	2 935
Medium tanks	30	300	1 000	1120	2 450
Heavy tanks	-	2	48	150	200
Tankettes	10	290	410	390	1 100

Source: RGVA. f. 31811, op. 1, d. 196, l. 101.

A new war-time tank program was outlined in January of 1931. Its basis was a Politburo decision of November 1930 concerning the war-time tank construction capacity to be achieved by the spring of 1932, when the industry was to be ready to deliver 4 000 tankettes, 13 000

<sup>38</sup> *ibid.*, l. 11.

<sup>39</sup> *Zapiska Tukhachevskogo - Nachalniku Voennoi Akademii RKKA, Eideman*, 16.07 1931, RGAE, f. 4372, op. 91, d. 567, ll. 189-189ob.

small tanks and 2 000 medium tanks, i.e. a mobilisation request for 20 000 tanks all categories.<sup>40</sup>

This program presents a special chance to evaluate the realism of the pre-war Soviet mobilisation plans. Usually, the mobilisation targets were checked by the test mobilisation of a small number of factories or just some part of a factory.<sup>41</sup>

In early 1932, however, the Soviet leadership launched a totally different plan for tank production. The Sovnarkom Defence Commission on 19 January 1932 decided that 10 000 tanks were to be produced in 1932.<sup>42</sup> The back-ground of this decision is not clear from the documents as yet found, but in the comments, there is no mention of the threat from Japan.

In March, the Revolutionary War Council drafted a resolution on new forms of "moto-mechanisation". It stated that the government's decision to produce 10 000 tanks in 1932 had created "the conditions for fast development of tank construction", and that the a determinate effort by the industry would make it feasible to count on 16 to 17 000 tanks being operational by the spring of 1933.

The remarkable growth of the tank forces, side by side with the development of a powerful heavy aviation and a fast development of the auto-tractor industry in our country - makes possible a transformation that gives the front operations a unique swiftness and decisiveness.<sup>43</sup>

The resolution calculated that the Red Army should be able to deploy 20 mechanised brigades, organised into 8-10 corps. The 15 cavalry divisions were to contain 15 mechanised regiments. The army's strength would be 150 infantry divisions, of which 75 should have a tank T-27 battalion. The tank reserve of the High Command was to have 35 battalions. The mechanized brigades and corps were to have a rear motorised with crawler tractors and half-track lorries. In addition to the tank requirements, moto-mechanisation required 2 430

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<sup>40</sup>*Protokoly zasedaniia komissii po tanko-stroeniiu ot 12.01 1931*, RGVA, f. 31811, op. 1, d. 140, 31-35. For the technical and tactical characteristics of the early Soviet tank program, see Tukhachevskii's memorandum to the Motorization-mechanisation Directorate of 3 March 1931, RGVA, f. 31811, op. 1, d. 140, ll. 18-21ob. In a subsequent letter of 14 April 1931, (ibid, ll. 23-25ob) Tukhachevskii refers to "the very interesting conclusions" in the U.S. Congress hearings in Washington about the Christie tank.

<sup>41</sup> For the primary materials from such test mobilisation, see as an example, the files *Kartochka proverki mobgotovnosti promyshlennykh predpriiatii* from 1929 in RGVA, f. 7, op. 10, d. 136, ll. 14-14ob.

<sup>42</sup> *Protokol Komissii Oborony SNK, No 2*, RGVA, f. 4, op. 14, d. 76, l. 16.

armoured trucks, 3 000 special trucks, 2 100 automobiles, 5 500 trucks and 900 tractors. The total demand for the peace-time order in 1933 was set at 29 600 auto units. The extra orders (?) would be 12 600 units (*razmer dopolnitelnogo zakaza*). The motorisation of the artillery would require further the mobilisation capacity of 4 000 Carden-Lloyd tanks by the spring of 1933. The Red Army Staff and Motorization-Mechanisation Directorate were to further refine the plan for moto-mechanisation and, in particular, the utilisation of medium and heavy tanks.<sup>44</sup> Based on the assumption of a production of 10 000 tanks and tankettes in 1932, the Defence Commission of Sovnarkom (KO), on 19 April, adopted a resolution on the further "moto-mechanisation" of the Red Army and the formation mechanized corps and brigades.<sup>45</sup>

The Heavy Industry Commissariat adopted the plan to produce 2 000 medium BT (Christie) tanks, 3 000 light T-26 (Vickers) and 5 000 tankettes by December. The order to produce 10 000 tanks during 1932 was signed by NKTP Chairman Sergo Ordzhonikidze on 8 February.<sup>46</sup> The Christie-type BT (*Bystryi tank*, i.e. "Fast tank") was to be produced at the Kharkov Locomotive Works and co-operating factories, the T-27 tank at the "Bolshevik" plant in Leningrad and the tankettes at the automobile plants in Moscow and Nizhgorod. While Ordzhonikidze, Chairman of the Heavy Industry Commissariat, had "a personal responsibility" for the fulfilment of the plan, even the Party secretaries Kaganovich, Kossior, Kirov and Zhdanov were to check the factories involved in tank construction. On 23 March, Kirov and the Leningrad plant directors, as well as Kossior and the Kharkov Locomotive plant directors, reported on their roles in the tank program to the Sovnarkom Defence commission.<sup>47</sup>

By June, it was becoming more and more evident that the ambitious plan would not be fulfilled. Nonetheless pressure was still exerted on the factories.<sup>48</sup> The Defence Commission (KO) order the Commissariat of Heavy Industry to remind the enterprise directors, that "non-fulfilment of the program would be considered as a crime against a most important government

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<sup>43</sup> *Postanovlenie Revoliutsionnogo Voennogo Soveta Soiuz SSR o novykh formakh moto-mekhanizatsii RKKA, proekt*, draft signed (illegible signature) 17.03 1932, RGVA, f. 32871, op. 1, d. 2, l. 47.

<sup>44</sup> *ibid.*, ll. 47-51.

<sup>45</sup> *O novykh formakh motomekhanizatsii RKKA, Postanovlenie Komissii Oborony Soiuz SSR*, 19.04 1932, RGVA, f. 4, op. 17, d. 76, op. 60-61.

<sup>46</sup> RGAE, f. 7297, op 41, d. 25, ll. 25-17.

<sup>47</sup> Decision by the Defence Commission (KO) of Sovnarkom, 21.02 1932, RGVA, f. 4, op. 17, d. 76, ll. 21-22.

<sup>48</sup> *ibid.*, l. 80.



directive with all the ensuing consequences.<sup>49</sup> On 4 October, KO held a meeting with the leaders of VSNKh and the factory directors, designers and metallurgists to discuss the reasons for the imminent failure.<sup>50</sup>

The program for the remainder of 1932 was eventually revised as follows:

	1932 plan	1932 revised plan	4th quarter plan
T-26	3 000	1 600	925
BT	2 000	600	375
T-27	5 000	2 100	1 200

Despite all the preparations made under previous mobilisation tests and the drafting of mobilisation requests, the tank production results in 1932 were disastrous. In August, it was reported that only 440 T-26 tanks had been produced and 264 delivered to the Red Army. At the co-operating Izhevsk Plant, a suitable armour plate had not been found at once. By 1 August, only 349 hulls instead of the planned 1 047, and merely 348 turrets instead of 3 094 had been produced.<sup>51</sup>

To provide a whole picture of the degree of realisation of this tank program, Defence Commissar Voroshilov sent a report to Sovnarkom Chairman Molotov in January 1933. The data in this report are here compared with the original plan adopted at the beginning of the year.<sup>52</sup>

<sup>49</sup> RGVA, f. 4, op. 17, d. 76, l. 79.

<sup>50</sup> RGVA, f. 4, op. 17, d. 76, ll. 140-141, 143.

<sup>51</sup> RGAE, f. 7297, op. 41, d. 25, ll. 42-39.

<sup>52</sup> *Pismo Voroshilova predsedateliu Komissii oborony, tov. Molotovu o programme tankostroeniia.* RGVA, f. 4, op. 14, d. 717, l. 9.

Table 6.3

## Fulfilment of the 1932 tank program

Type of tank	Original Plan	Revised plan	Delivered to	Assembled	Of which:	
Producing Plant	Feb. 1932	Oct. 1932	the Red Army		turret	tracks
T-26						
"Voroshilov" plant, Leningrad	3 000	1600	911	1409	500	-
BT, (Christie-type 1930)						
Kharkov Locomotive Plant	2 000	600	239	600	300	290
T-27. Plant No 2	5 000	1800	1370	1618		
T-27						
Gorkii Automobile Plant		300	65	87	-	-
Total	10 000	4300	2585	3714	800	290

Sources: *Prikaz po NKTP*, RGAE, f. 7297, op. 41, d. 25, ll. 25-17; *Svodnaia vedomost o vypolnenii plana zakazov UMM. Otpravleno v voiskovye chasti*, RGVA, f. 33988, op. 3, d. 253, l. 300; *Pismo Voroshilova Predsedateliu Komissii Oborony. Molotovu*, January 1933, RGVA, f. 4, op. 14, d. 717, l. 9.

The unfinished production for 1932 was 1 715 tanks not delivered, and 586 tanks not assembled. The failure with turrets was due to conditions at the Izhorsk Works. The failure with tracks was due to the Kramatorsk Metal Work's failure to deliver the steel requested by the Kharkov Tractor Plant, (only 250 out of 1 000 tons).<sup>53</sup> It was also emphasised that the armament of the tanks was "catastrophic". Even with the low actual production, not enough guns had been produced. Therefore, 340 37mm Hotschkiss guns were taken from light T-18 tanks and placed on the BT tanks, which were intended to have 45 mm guns. In 1933, as guns became available, these BT tanks were returned for re-mounting of the 45mm guns.<sup>54</sup> It can be noted that concerning the tank program, the Defence Commission (KO) in 1932 had distributed honorary rewards to engineers with accomplishments in the armour production.<sup>55</sup> The government put much of the blame for the wrong guns of the tanks on the military

<sup>53</sup> It is possible to get a an even more detailed picture of the reasons for the failures in tank assembly at the Leningrad "Bolshevik" Plant. It depended on approximately 20 supplying factories, none of which had fulfilled their obligations in a satisfactory manner.

<sup>54</sup> RGVA, f. 4, op. 17, d. 76, l. 109.

<sup>55</sup> *ibid.*, l. 141.

procurement agencies (*"polneishaia neuviazka zakazov NKVM po tankam i vooruzheniia dlia nikh*).<sup>56</sup>

This table is of interest for several reasons besides the actual amounts produced. First, it shows the extent to which the highest leadership had a precise knowledge of the state of the economy, i.e. the transparency is evident. Second, it shows that there was no intentional cover-up of failures vis-à-vis the plan. Percentage quota fulfilment in value-term might have been manipulated. It deserves to be noted, however, that the military was very well aware of the attempts by industry to cover up failures, and that not even the system of military inspectors established at the workshops guaranteed truthful reporting. In a note to Defence Commissar Voroshilov, Tukhachevskii wrote:

Regarding your speech at the Plenum, one cannot but raise the question about eye-washing (*ochkovtiratelstvo*), which is commonly used by the factory management and organizations when it comes to the fulfilment of industrial and financial plans. You had one example - the "Bolshevik" [Plant], comr. Sergo [Ordzhonikidze] - the "Baltiiskii" [Yard]. As a matter of fact, there are numerous such examples. This evil is not only a betrayal of the Party, but also one way to avoid implementing the military-industrial orders.

Would it not be possible to rout this eye-washing just as mercilessly as was done in the Red Army?<sup>57</sup>

Third, this table illustrates the care that must be used in evaluation Soviet statistics, and not just in the widely-known value series where fixed 1927 prices for goods produced in the drastically changed conditions of the 1930s tended to over-estimate the actual growth. Even physical indicators were manipulated. The information available to contemporaries, and impressions gained by military observers at the grand-scale manoeuvres in 1934 and 1935 in the Ukraine and Belorussia, as well as the later series published for armament production, particularly tanks, aircraft and warships, indicate a striking, more or less constant, arms build-up.<sup>58</sup>

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<sup>56</sup> *ibid.*, I. 109

<sup>57</sup> Tukhachevskii, *Zapiska*, 9.01 1933, RGVA, f. 33987, op. 3, d. 400, l. 80.

<sup>58</sup> For the main weapons production, see *The transformation of the Soviet Union, 1913-1945*, ed. by Davies, R.W., Harrison, M. and Wheatcroft, S.G., Cambridge UP, Cambridge 1994, p. 298. Contemporary estimates from Soviet and German military journals, abound in Max Werner (pseud. f. Alexander Schiffirin), *Der Aufmarsch zum zweiten Weltkrieg*, Sebastian-Brant, Strasbourg 1938.

Table 6.4

**Tank production in 1930-35, official Soviet series**

	1930	1931	1932	1933	1934	1935
Tanks & tankettes	170	740	3038	3509	3565	3055

Source: *Istoriia Vtoroi Mirovoi Voyny. 1939-1945*, t. 1, Moskva 1973, p. 214.

For example, in the series for tank production, which was published in the Soviet collective work *Istoriia Vtoroi Mirovoi Voyny* (History of the Second World War) and reproduced above, and which has often been used in Western research<sup>59</sup> 1932 tank and tankette production was listed as 3 038 units. As table 6.3 shows, only 2 585 tanks were delivered to the Red Army, and of these far from all were equipped to specifications. 3 714 tanks had been partially assembled but still lacked tracks, turrets or other essential parts.<sup>60</sup> It was not one of our purposes to determine how the annual value figures were calculated. The "Soviet official figures", however, seem to be arbitrary set and possibly include production of the first quarter of the following year. Be that as it may, this example is may be extreme, in view of the new and relatively complicated problem of tank production. Even if the margins of error between the official history data and actual production may be smaller in other branches and for other years, however, this example the need to check with primary sources wherever possible.<sup>61</sup>

## 6.6 Results of defence expansion during the first Five-year plan

During the first Five-Year Plan, the Red Army underwent great changes. As was stated above, in 1927 the military leadership counted on a mobilised army of ca. 100 divisions, under-

<sup>59</sup> See e.g. Harrison, M., *Soviet Planning in Peace and War*, op.cit., appendix 1, p. 250; *The Economic transformation of the Soviet Union, 1913-1945*, Ed. by Davies, R.W., Harrison, M. & Wheatcroft, S.G., Cambridge UP, Cambridge 1994, table 28, p. 298.

<sup>60</sup> The factors behind the failure of the 1932 tank plan were investigated by a Government commission. In a resolution from the Council of Labour and Defence (STO), from 13 April 1933 a series of remedies, lessons drawn from the crash program of the previous year were outlined. See *O sisteme tankovogo vooruzheniia. Postanovlenie STO*, RGVA, f. 404 38, op. 1, d. 478, ll. 1-6.

equipped with respect to requirements in guns (40% of mobilisation request), machine-guns (30%) and artillery shells (9%). By 1933, the leadership counted on a war-time army of 150 infantry divisions, equipped with modern weapons and technical equipment. Some of the more apparent changes are illustrated in table 6.5.<sup>62</sup>

Table 6.5  
Red Army stock of armament in 1927 and 1933

1927	In 1933
<u>Aviation</u>	
Less than 1 000 old bombers	Almost 5 000 aircraft
<u>Tanks</u>	
73 old tanks <sup>63</sup>	10 000 tanks, tankettes and armoured vehicles
<u>Trucks</u>	
1 000 in the Red Army	12 000 - 14 000
<u>Artillery</u>	
7 000 guns at deployment in 1929	17 000 guns at deployment in 1933
26 000 heavy machine-guns	51 000 heavy machine-guns
48 000 light machine-guns	67 000 light machine-guns
<u>Chemical weapons</u>	
1.5 million old gas-masks	Modern gas-protection equipment, plus 3 000 aircraft and 300 truck gas thrower 500 gas mortars

As for the tank programme, the 4 700 tanks and 250 armoured personnel carriers in the Red Army by the end of the Five-year plan constituted only 50% of the tanks and a mere 20% of the armoured car needs as specified by the industrial mobilisation plan, MR-15, authorized for Spring 1933. In other words, if those mobilisation requirements were used as an indicator of success, the Five-year plan had been only partially fulfilled. The composition of the tank force was 9% fast tanks, 48% small tanks and 43% reconnaissance tanks. The Red

<sup>61</sup> This is also a good example of the lack of archival research that went into the writing of the multi-volume History of the Second World War, which the former Director of the Central State Archives of the Economy, V.V. Tsaplin lamented. See above, Introduction, footnote 9.

<sup>62</sup> Report by Voroshilov to Sovnarkom Chairman Molotov, Gosplan Chairman Kuibyshev and NKTP Chairman Ordzhonikidze, June 1932, RGVA, f. 33988, op. 3, d. 301, ll. 196-197.

<sup>63</sup> On January 1, 1929, the Soviet Army had 90 tanks, 3 500 lorries and cars and 180 crawler tractors. The tanks consisted of 45 Ricardo, 12 Taylor, 28 Renault and 5 others of out-dated brands, and in general had low fighting quality. The lorries were mostly old, foreign types (FIAT, White) and only 680 lorries were Russian-built. RGVA, f. 40432, op. 1, d. 475, l. 41.

army leadership complained that there were as yet no heavy or medium tanks, nor any amphibious or special tanks (i.e. with chemical weapons, engineer or radio tanks). This tank force basically was armed with machine-guns, although they were supposed to have guns. Of 2 660 tanks which were supposed to have guns, in fact, only 1 420 had Hotschkiss guns.<sup>64</sup>

A comparison is often drawn between the actual tank forces at the time, which invariably shows a great advantage for the Soviet army in comparison to West European countries like Great Britain, France and even Germany. The perspective that worried the Red Army leadership, however, was the production potential of these countries. The figures that the Soviet military considered as the war-time capacity of the main capitalist countries were those shown in table 6.6.

Table 6.6

**Soviet Intelligence estimates of war-time tank production capacity in 1933**  
(units)

France	24 000
Britain	36 000
USA	60 000
USSR	19 200 by the end of the First Five-year plan, 1933 40 000 by the end of the Second Five-year plan, 1938.

Source: RGVA, f. 40438, op. 1, d. 475, l. 43ob.

When Voroshilov summed up the achievements of 1932, he proudly asserted:

According to all the main indicators (quantities, armament and training) at the end of the first five-year plan, the Red Army is capable of victoriously taking on the army of any capitalist country.<sup>65</sup>

Nonetheless, he also noted the deficiencies in the army, such as lack of reserves of all the principal types of arms, and particularly of shells and cartridges. Mechanisation was still limited, and most of the artillery was horse-drawn. The number and types of tanks did not

<sup>64</sup> *Ob"iasnitelnaia zapiska. Itogi 1-i piatiletki*, 23.3 1933, RGVA, f. 40438, op. 1, d. 475, l. 39. The actual armament of the tanks in early 1933 is difficult to establish with certainty. Many of the Christie-type BT tanks were initially equipped with machine-guns, and later brought back to the factories and work-shops to be re-gunned. A report from the Motorization and Mechanisation Directorate stated that only some 700 tanks were equipped with the required 45mm guns in May 1933, see RGVA, f. 31811, op. 2, d. 225, l. 66.

<sup>65</sup> Voroshilov, op.cit., June 1932, RGVA, f. 33988, op. 3, d. 301, l. 195.

allow for deep, break-through operations.<sup>66</sup> Voroshilov's judgement of the industrial prerequisites are of particular interest in the present context:

The most serious factor is the obvious, systematic lagging of the mobilisation- and defence-preparedness of our industry. Its delivery possibilities are almost two years behind the requirements of the Red Army.<sup>67</sup>

Voroshilov noted that the 1933 metallurgical basis of the Soviet Union - 10 million tons of steel - was almost equal to that of Germany in 1918 and France in 1929. The progress in the ferrous and non-ferrous metal industry during the First five-year plan had, however, could not yet satisfy the army's need for ammunition during a war-year. Whereas the army would by its supply norms require 100 million artillery shells industrial capacity was estimated at 55-60 million units. For rifle cartridges, the claim (*zaiavka*) was for 10 - 11 milliard units and the industrial capacity at 4.5 to 5 milliards. The military request for 150 000 tons of chemical weapons likewise, could only be 30% satisfied.<sup>68</sup>

These successes and failures, in turn, formed the basis for the general military demands on the next five-year plan. The military counted on a three-fold increase of the air force at mobilisation, (an impressive heavy bomber fleet of 8 000 aircraft). The mechanisation of the army was to proceed by the creation of large numbers of tanks units. The artillery was to be largely tractor-drawn and substantial parts of the infantry was to be carried by trucks. The principal lesson of World War I, to avoid a deficit of shells at any price, induced the Soviet leadership to call for, not only a thorough-going modernization of the gun types, but also for an increase of the mobilisation reserves. The mobilisation reserves of ammunition were to be increased to 70 million artillery shells and 4.5 milliard rifles cartridges. According to the Defence Commissar, the industrial mobilisation should anticipate a war-year capacity of not less than 250 million shells, of which 50% small calibre, and of 18-20 milliard cartridges. In

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<sup>66</sup> *ibid.*, I. 196.

In the historiography, Voroshilov has not seldom been depicted as a lukewarm proponent of the modernisation and a long-time defendant of the role of the cavalry. The internal reports here at hand, however, show that Voroshilov did indeed encompass both the upgrading of the infantry divisions with tank battalions and the expansion of the tank forces. See e.g. Rapoport, Vitalii & Geller, Iurii, *Izmena Rodine*, Moskva 1995, pp. 189-190.

<sup>67</sup> Voroshilov, *op.cit.*, June 1932, RGVA, f. 33988, op. 3, d. 301, l. 195

<sup>68</sup> *ibid.*

this connection, Voroshilov clearly noted that the calculations of the norms for artillery rounds per fighting period were "extremely complicated" and "not entirely correct", since a massive amount of guns deployed at the initial stages of a conflict, in combination with a numerous air force and an infantry with sufficient armoured units, might allow for swifter combats. Consequently, the calculated norms of artillery rounds, and reserves, might be reduced. Nonetheless, at this stage, it is obvious that one of the main requirements of the military on the industrial mobilisation would be the ammunition supply under the most extreme conditions.<sup>69</sup>

When Gosplan's Defence Sector compiled a report on the results of the First five-year plan in late 1932, it emphasized, just as the Defence Commissar's report had, a whole series of new weapons that were produced in the country for the first time.<sup>70</sup> At the same time, the Gosplan report used the possible satisfaction of the military requests as the most appropriate success indicator.<sup>71</sup> The report defined the significance of this indicator:

The request of NKVM (*zaiavka NKVM*) is that the connecting link, by means of which the preparedness of industry and all other sectors of the economy are led in a common direction. It is not only a departmental document; in the system of a planned socialist economy, the request is based on the total capability of the economy. The request, in turn, reflects the levels of technical and economic development achieved by the country. The NKVM request stimulates the development of a number of branches of great importance for defence, also by the fact that it gives a concrete target for a certain stage of the general plan for securing the economic independence of the USSR. By formulating tasks for individual branches of the economy, the NKVM request thereby determines the amount of the withdrawals of economic resources that will be necessary in war-time. The NKVM request contains in concentrated form an indication of the exertions that the country has to do to secure its defence capability in peacetime, and to guarantee victory in war.<sup>72</sup>

Although the mobilisation request had risen many times in quantity over the five-year plan, Gosplan noted that the Soviet mobilisation requirements as stated in the last year of the five-year plan, the revised "MV-10", was lagging in its distribution of modern weapons. This was true not only in comparison with the Great Powers during World War I, but even more so when in comparison to the present-day Western countries. Gosplan's Defence Sector assumed

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<sup>69</sup> *ibid.*, I. 194.

<sup>70</sup> *Itogi oboronnoi podgotovki promyshlennosti v 1-i piatiletke*. 31.10 1932, RGAE, f. 4372, op. 91, d. 312, ll. 95-94

<sup>71</sup> *ibid.*, I. 102ob.

<sup>72</sup> *ibid.*, ll. 102-102ob.



that the mobilisation capacities of the advanced capitalist countries would be approximately 40 000 - 50 000 for both tanks and aircraft, and that their war-time artillery shell production would be around 100 million rounds. Consequently, the backwardness of this branch of the defence industry occupied a large portion of the planners' analysis and recommendations.<sup>73</sup>

When Gosplan summarised the actual production performance of the defence industry, the non-fulfilment of the annual plans and the huge percentage of defective products (*brak*) were highlighted.<sup>74</sup> The fulfilment of the annual plans had actually decreased from 100.2% in 1928/29 to 80.7% in 1931 and was expected to not surpass 70% of the plan for 1932.<sup>75</sup> Partially, Gosplan regarded these failures as a sign of lacking technical leadership, particularly as to the introduction of new products. Another factor was the high labour turnover. The report noted that: "The non-fulfilment of the plans by the defence industry in peace-time is a direct threat to the intended calculations about deliveries in war-time."<sup>76</sup> The possible unreliability of the mobilisation capacities however, was not elaborated further by Gosplan. It could be taken as a memento for the mobilisation targets that were to be presented in the elaboration of the Second five-year plan.

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<sup>73</sup> *Itogi*, RGAE, f. 4372, op. 91, d. 312, ll. 99-96.

<sup>74</sup> RGAE, f. 4372, op. 91, d. 1268, l. 56.

<sup>75</sup> *ibid.*, l. 106ob.

<sup>76</sup> *Itogi*, op.cit., l. 56ob.



### **Part III**

## **THE MILITARY AND THE DEFENCE INDUSTRY IN THE SECOND FIVE-YEAR PLAN, 1933-1937**



## Chapter 7

### THE MILITARY ENVIRONMENT OF THE FIVE-YEAR PLAN, 1933-1937

This chapter discusses the threats perceived by the military. The changing international situation of 1933, marked by the Nazi take-over of power in Germany, would certainly become a crucial factor in the Soviet outlook later in the thirties.

The situation as perceived by the military in their long-term plans, however, was originally not so much determined by the Nazi threat as might be assumed. Instead, the Red Army leadership continued to refine their doctrine of a mass, mechanised, war fought in combination with aviation, airborne and chemical troops.

"Orthodox" Soviet historiography asserted that two threatening developments had influenced the forced industrialisation. First, when the long-term plans were launched in the late 1920s, the capitalist powers still nourished hope of crushing the Socialist state through armed intervention. Second, the first Five-year plan was impeded in 1932, because many of its original targets had to be changed after Japan's occupation of Manchuria.

With regard to the new internal evidence concerning the military and the planners, a principal question is: How and when did Nazi Germany's rearmament affect the military and defence industry planning of the Soviet Union?

#### 7.1 War plan determinants of the defence industry

The main traits of the development and the force posture of the Red Army have been described in the literature. The military options in the schemes of France, Britain and the Soviet Union shed, as the partners of the collective security, further light on the development of the Soviet armed forces at this time.<sup>1</sup>

Against this familiar military-historical background, the military's long-term mobilization requirements and their implications for industry will now be analysed. What were the defence considerations in the preparation of the second Five-year plan? The military estimates of the

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<sup>1</sup> See e.g. Glantz, David, *The Military Strategy of the Soviet Union, A History*, Frank Cass, London 1992, ch. 4, pp. 55-91.

requirement concerned a possible war in 1938. How did these long-term targets influence the annual investment and production plans?

Three different periods with different predominant scenarios are distinguishable (fig.7.1).

**Fig. 7.1 The principal war scenarios and mobilisation requests, 1932 - 1942**

WAR PLANS SCENARIOS	MOBILIZATION REQUESTS	ECONOMIC PLANS
Poland-Romania scenario 1932-1934	Mob-plan No 12	2nd FYP
Japan scenario, 1932-	Far East Special Army	Self-sufficient Soviet Far East economy
Germany-Poland scenario 1935-1936	Revised mob-plan 1935	Annual plan 1936
Nazi-Germany & Japan scenario 1937-1939	Mob-plan for 1942	3rd FYP

At the time when the defence section of the second Five-year plan was drafted, the military calculations were still based on the possible scenario of a conflict with a coalition of the Soviet Union's Western contiguous states. The parameters of this scenario were outlined above, in the section on the 1926 War plan, as well as in the section on Svechin's and Shaposhnikov's views on the most efficient way to counter a coalition in 1930. By 1932, only the quantitative aspects of this scenario had changed. From 1932, at least, the military leadership started to take into account a possible, north-bound Japanese expansionism that would aim at annexing parts of the Soviet Far East and Siberia. In the mid-1930s, the Soviet war plans were to counter a possible German attack, which was seen as most threatening should German collude with or subdue Poland, in advance. The menace from the combined armed forces of Japan and Germany were perceived as leading to an extended two-front war, in case the anti-Komintern Pact of 1937 resulted in joint military operation between the Fascist Powers. These perceived threats

and corresponding war plans found their expression in different industrial mobilisation plans (*mob.zaiavki*) and in the Second (1933-37) and Third (1938-1942) five-year plans.

Finally, the changes in planning and mobilization methods in the mid-30s are analysed. The consolidation of the defence industry planning system is reviewed here as a special part of the general planning system. Whereas planning in general has been the object of many studies, all since the 1930s, the actual level, state and form of military-economic planning could not be studied from any of the original sources.<sup>2</sup>

How effective and reliable was industrial mobilization planning? In the early and mid 1930s, as was shown, the military had refined the industrial mobilisation system, notably by studying foreign experience. Nonetheless, reports appeared on a lack of co-ordination that was felt to have grave implications for war-preparedness. Is it possible to make any independent judgement about whether the state of mobilization preparedness really was as disastrous as depicted by the military and other agencies depicted the situation?

As has been emphasized in this study, the plans concerning Soviet defence were quite numerous. Some of their pertinent features may be recapitulated. The crucial factor was the potential war-time capability to produce specified quantities of war materiel. The peacetime orders were obviously much lower than the mobilization requirements. Hitherto, most descriptions in the literature on the Soviet military build-up have remained entangled in the year by year *production*, and tend to take this as a true indicator of rearmament. The interrelations of war-time requirements and the long-term industrial build-up having now emerged, it is possible to conclude that the Soviet military thrust during the first five-year plan was mainly a way of *modernising* the armed forces. The intentions of the military, as expressed in their requests for war-time needs in the second five-year plan, however, indicate a true *rearmament*. Still even this enormous increase in the required capacities - to be equal to the assumed mobilization capacity of the advanced Western countries' war-time production - does not show up in the *annual production figures* for 1933-1935.

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<sup>2</sup> The second five-year plan is analysed in terms of its long-term coherence, and with respect to the annual fulfilment of the plan, by Zaleski, Eugène, *Stalinist Planning for Economic Growth, 1933-1952*, Macmillan, London 1980, chs. 6-7.

I analyse the military goals as expressed in the annual orders, and try to evaluate how effective the defence preparedness actually was given what is known about the fulfilment of various orders in 1935 and 1936.

Much of the Soviet rearmament potential during the second five-year plan was intended to come from civilian enterprises, working in co-operation with the defence industry. Was the Soviet attempt at *assimilation* of military production on civilian factories a success or a failure? Or did the threats from a coalition of Fascist states in the later part of the 1930s outstrip all previous calculations, thus leading to the expansion of a distinct defence industries? Did the establishing of a separate defence industry commissariat in 1936 imply the creation of the Soviet military-industrial complex?

Before answering these questions in this part of the study, a recapitulation of the basic aspects of the analysis is worthwhile (fig. 7.2). Notably, the military authorities draft war plans that take into account both the expected battle-field force correlation, and the possible level of the economy to satisfy these requirements. The military claims (*zaiavka*) were regularly submitted to and approved by the highest political leadership. Thereafter, the Defence Commissariat's demand for a war-time situation (pre-mobilisation and a year of war) take the form of authorised requests on the industrial enterprises. The Russian term for the requirement on a certain preparedness is either *mob.zaiavka* or *mob.zadanie*, i.e. mobilisation request or target. Depending on factors such as how the military expects to develop the armed forces, and to train the soldiers, and also with regard to how soon equipment might become obsolete, the military procurement authorities place their annual orders to industry.



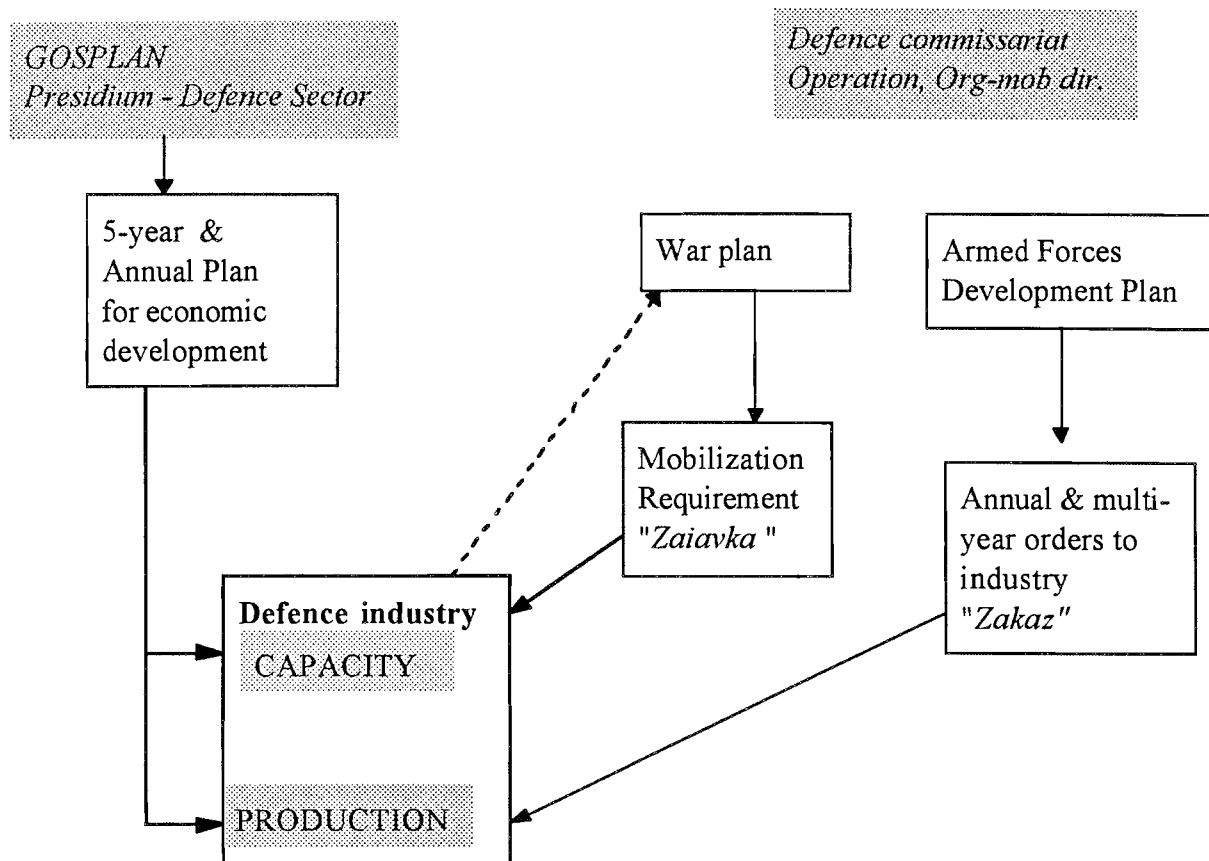


Fig. 7.2 Determinants of plans for capacity and production targets.

## 7.2 Soviet military progress in doctrine and equipment

In the mid-1930s, the Red Army vigorously continued its great technical restructuring. One of the leading actors in this modernisation process was Tukhachevskii, by then Deputy Defence Commissar and Chief of Armaments. Tukhachevskii spurred the development of strategic thought from the notion of "deep battle" to the more complex one of "deep operations". In brief, this Soviet doctrine envisioned forms of battle that would preclude a repetition of the trench warfare of WWI. By massing combined ground, airborne and air forces against heavy defended fronts, the doctrine counted with a possible break-through of large parts of the enemy line. The "deep battle" doctrine counted with taking the tactical depth of the enemy lines, whereas the more advanced doctrine, "deep operation", would take over the whole operation depth of the enemy. The tactical aspects of these new mass operations with mechanised forces in combination with aviation were spelled out Tukhachevskii in his *Novye*

*voprosy voiny* (New Questions of War). This study was prepared in 1932 and intended as a continuation of *Future War*, but remained unpublished.<sup>3</sup>

In theory as well as in practice, the Soviet Union at this time seems to have had the lead in modern, mobile war-fare over the Germans. After a visit to Germany in the Autumn of 1932, Tukhachevskii reported on manoeuvres in Frankfurt-an-der-Oder.<sup>4</sup> Surprisingly, in view of the long-term exchange of officers between the Red Army and the German military, he had no praise for the Reichswehr. In Tukhachevskii's opinion, the German army lacked understanding of modern warfare:

The Reichswehr leadership cannot imagine the new combat forms, which springs from the new weapons: aviation, tanks, automatic rifles and so on.<sup>5</sup>

Tukhachevskii, however, had also visited the Krupp works, a mortar factory in Ruhr, Rhein-Metalle and the Junkers. He praised the German defence industry for its careful control of quality and inter-changeability.<sup>6</sup>

Already by 1932, the Red Army had established their first mechanised corps, and had the political leadership's blessing for a rapid motorisation of infantry and artillery. The more spectacular Soviets experiments concerned their air force and air-borne troops. These included tests of "flying tanks", a dual-purpose construction for rapid deployment of tanks by air, and "zeppelins" as carriers for tank forces.<sup>7</sup> Since the fateful experience with Zeppelin bombers in WWI, Tukhachevskii envisioned the military airship only as a huge carrier (*aviamatka*), either

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<sup>3</sup> Tukhachevskii, *Novye Voprosy Voyny*, (New Questions of War), facsimile of archival manuscript, Eastview Microfilm Department, Minneapolis, Minn. Excerpts from this work were published in *Voenno-Istoricheskii Zhurnal*, 1962, No 2, pp. 62-77.

<sup>4</sup> For the general context of the autumn 1932 manoeuvres in Frankfurt-an-der Oder, where the Soviet delegation with Tukhachevskii at its head met with Hindenburg and the German Generalität, and about the possible, tacit Soviet - German war preparations against Poland, see Groehler, Olaf, *Selbstmörderliche Allianz. Deutsch-russische Militärbeziehungen 1920-1941*, Vision, Berlin 1992, pp. 59-64.

<sup>5</sup> *Doklad Tukhachevskogo Voroshilovu o poezdke v Germanii*, 14.10 1932, RGVA f. 33988, op. 3, d. 235, ll. 54-45.

<sup>6</sup> *ibid.*

<sup>7</sup> For the Soviet experiments with "flying tanks", see e.g. a report from the Motorization and Mechanization Directorate about the three competing designs, *Doklad UMM Voroshilovu*, 31.05 1933, RGVA, f. 31811, op. 3, d. 211, ll. 44-44ob. On airship ("zeppelin") designs, Tukhachevskii report to Voroshilov, 14.12 1930, RGVA, f. 33988, op. 2, d. 693, ll. 163-164.

Outside the USSR, it was above all Christie who tried to interest the U.S. Army for his projects of "flying tanks", see Christie, Edward, *Steel steeds Christie: memoirs of the Life of J. Walter Christie*, Manhattan, Kansas 1985

as transporting tanks or carrying fighter aircraft - with relatively low range - close to the battle zone and back to the airfields.<sup>8</sup>

Airborne troops were tested for the first time in the Leningrad Military District under Tukhachevskii's command time 1928-1930, as well as in Belorussia in 1930. Some years later, Tukhachevskii presented a country by country survey of airborne troops in foreign armies. In this briefing to Stalin, Tukhachevskii noted which forms of air descents were made. As to Finland, he quoted a book, in which the author feared the possible airborne attacks from the Leningrad Military District. While the Karelian Peninsula was difficult to break through, Tukhachevskii referred to Finnish military authorities as fearing the following:

The Bolsheviks could use 300-400 airplanes in the Leningrad Military district to drop an aerial descent in winter-time on the frozen lakes in the rear of the Karelian peninsula. According to the Finnish author, the airborne units would cause great harm to the Finnish Army defending the Karelian Peninsula.<sup>9</sup>

Some ten years later, like another of history's many ironies, the Soviet army did launch an airborne assault against Finland in the Winter War. The preparation for this operation was insufficient. Co-ordination was lacking, and the result proved almost disastrous.<sup>10</sup>

### 7.3 Changing threat assessments in the early and mid 1930s

It is important to point out that the long-term threat assessment that provided the framework for the second five-year plan was done in 1932. When the plan was implemented, the threat structure had changed radically because of the Nazi take-over in Germany. The quantitative targets of the Five-year plan, however, were not drastically changed until the last years of the second Five-year plan. Until then, it seems that the capacity build-up and mobilization possibilities of Soviet industry were deemed sufficient to repulse the still not very strong German armed forces.

When the results of the First five-year plan were discussed and the planning methods evaluated in 1932, the threat pattern (as perceived in the late 1920s) had changed in only one

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<sup>8</sup> See *Novye voprosy voiny*, op. cit., pp. 43-46.

<sup>9</sup> Tukhachevskii *Spravka Stalinu o vozdushnykh desantakh v inostrannykh armiakh*, 8.03 1932, RGVA, f. 33988, op. 3, d. 262, ll. 3-1.

<sup>10</sup> Glantz, David, *Soviet Airborne Assault*, Frank Cass, London, 1993, pp.

significant respect. The likelihood of a war with Japan had become greater after the Japanese occupation of Manchuria in 1931.

On its Western frontiers, the Soviet military still saw a Polish-Romanian coalition, supported by France, as the most likely enemy. From this perspective, the Staff in 1932 defined the overall purpose of the army development plan (*plan stroitelstva vooruzhennykh sil*). The goal was said to be that:

The Red Army should be as technically well-equipped as the most advanced armies of the capitalist world (USA, France). It must be capable of waging war simultaneously in the West and in the East....The Soviet Union must achieve weapons superiority over France, the strongest enemy of the USSR in Europe, and her allies on the Western borders, Poland and Romania, especially in aviation, tanks and chemical weapons.<sup>11</sup>

So as to be capable of a successful defence in the Far East, the Soviet leadership declared that in the second Five-year plan an independent basis for armament production in Siberia should be created.<sup>12</sup> The danger of attack against the Soviet Far East induced the Soviets to conclude non-aggression pacts with the border states of Finland, Latvia and Poland in 1932. This significantly changed the threat pattern in the West. Nonetheless, the military proposed a first draft for defence industry production in the second Five-year plan, with greatly increased mobilization requirements (*mobilizatsionnye zadaniia*) for the late 1930s.

The explanation for this expansion came after the fact. In their speeches about the results and partial failures of the first five-year plan, Stalin and Voroshilov referred to the Japanese occupation of Manchuria in September 1931 and, later Soviet historians would refer to Hitler's take-over of power in Germany in 1933. Similar arguments were mentioned in Gosplan's official report from 1933. It was noted that:

The optimal version of the five-year plan presumed a lower share of defence expenditure in comparison with the original plan. However, during the fulfilment of the five-year plan, in view of the aggravated war threat, and in order to heighten its defence capacity the Soviet Union was forced to increase its defence programme in the last year of the five-year plan.<sup>13</sup>

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<sup>11</sup> RGVA, f. 4372, op. 91, d. 1097, l. 158.

<sup>12</sup> Tukhachevskii on the Japanese threat, see e.g. his memorandum of July 16, 1933 to Voroshilov, RGVA, f. 33987, op. 3, d. 400, ll. 91-93. On the Soviet-Japanese relations for this period, see Haslam, J., *The Soviet Union and the threat from the East*, Macmillan, London 1992.

<sup>13</sup> *Itogi vypolneniia pervogo piatiletnego plana razvitiia narodnogo khoziaistva Soiuza SSR*, Gosplan SSSR, Moskva 1933, p. 12.

#### 7.4 Tukhachevskii on the threat from Japan in 1933

During 1932 and 1933, it was the threat from Japan against the Soviet Far East that dominated. In July 1933, Tukhachevskii warned that:

The systematic preparations by Japan for the conquest of the Far East go on uninterruptedly and will become a real threat for the outbreak of military actions in 1934.<sup>14</sup>

He estimated that the Japanese could deploy some 35 infantry divisions, large artillery and tank forces, and up to 1 400 aircraft. The only way for the Soviet Union to repel a Japanese attack would be by arming itself in those domains where Japan could not possibly compete. That would be aircraft, in the first instance, and tanks, in the second. The existing war plan called for the deployment of 900 to 1 000 Soviet aircraft in the Far East by the end of 1934. That would be insufficient, but "if we could deploy, say 2 000 aircraft, then a war in 1934 could be considered excluded".<sup>15</sup>

In yet another memorandum, Tukhachevskii noted that 1933 had signified a "drastic break" in the apprehension of the great imperialist countries about "the role of the air force in the impending war". He pointed to the great expansion of the air forces of Great Britain, France, Germany, Poland and Japan. Japan was striving to obtain superiority over the Soviet Far East, as well as over the United States naval air force. Tukhachevskii concluded that:

All this means that in a coming war, first, the Soviet Union would be attacked by enormous air forces, and, second, that we could defeat the enemy only if we have an overwhelming air force.<sup>16</sup>

Tukhachevskii emphasised that past manoeuvres had demonstrated that a modern air force could completely destroy railway communications. Ammunition depots also could be annihilated by sufficiently powerful air forces. Finally, the mobilisation and concentration could be disrupted by airborne operations. Tukhachevskii then made an emphatic appeal for rethinking the war-fare. In a concentrated phrase, he summed up the essence of the new Soviet doctrine. These ideas were already embedded in the war plans drafted by the Staff, and by Tukhachevskii personally. He wrote:

This experience shows that warfare by the old methods, i.e. the past forms of strategic deployment, will become impossible. That side, which is not prepared for crushing the enemy air fields, for disorganizing his railway transport by

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<sup>14</sup> Tukhachevskii, *Zapiska Voroshilovu*, 11.07. 1933, RGVA, f. 33987, op. 3, d. 400, l. 91.

<sup>15</sup> *ibid.*, l. 92

<sup>16</sup> Tukhachevskii, *Zapiska Voroshilovu*, 1934, RGVA, f. 33987, op. 3, d. 400, ll. 123-124.

systematic aerial attacks, for disorganizing his mobilization and concentration by multiple air landings, for the annihilation of his ammunition and fuel depots and for the crushing of his garrisons and echelons by swift actions by the mechanised units ...[ ] will itself be defeated in a similar manner. That side cannot carry out its strategic deployment and will lose its frontier theatres of war.<sup>17</sup>

In order to illustrate the threat assessment Tukhachevskii made the following survey of a hypothetical enemy air force, with a total of 8 300 aircraft, along the frontiers of the Soviet Union. In each country they were estimated to be:

Baltic countries	up to 400 aircraft
Poland	up to 1 500
Germany	2 000
Romania	800
Great Britain (from Iraq)	over 600
Japan, land-based	1 500
-"- sea-based	up to 1 500

Since these hostile forces were spread over widely separated theatres of war, the Soviet Union would need a two- or three-fold superiority. Tukhachevskii estimated that to counter-balance the hostile air forces, the Soviet air force would require "a minimum of 15 000 planes in operation".<sup>18</sup> According to Tukhachevskii, the Soviet Union had plants and factories without comparison in any country. Here was thus a domain where the Soviet Union could swiftly and decisively overtake its opponents. But radical changes must, in his mind, occur already in 1934 and 1935. Tukhachevskii had discussed the concerned industrial capacity with People's Commissar of Heavy Industry, Sergo Ordzhonikidze. The aviation industry would, in Ordzhonikidze's view, be ready to fulfil such orders. He also pointed to the urgency of Stalin's and Voroshilov's decision from September 1933, that the increase of the mechanised forces to 50 mechanised brigades should be completed in 1934 and 1935. He wrote, that "such a development will create a Soviet military power that none of our enemies can withstand."<sup>19</sup> When Voroshilov received this memorandum from Tukhachevskii, the demand for 15 000 aircraft in operation seems to have reactivated his long-standing aversion against such excessive claims. Voroshilov wrote his first decision on the memorandum in large letters: "I

<sup>17</sup> *ibid.*, 1. 125.

<sup>18</sup> Tukhachevskii - Voroshilovu *Ukreplenie aviatsii*, (The Strengthening of the Air Force), 10.02 1934, RGVA, f. 33987, d. 3, op. 400, 1. 126.

<sup>19</sup> Tukhachevskii, *Ukreplenie aviatsii*, op. cit., 1. 124.

don't see any America in this. Once again these abstract 'projects'.<sup>20</sup> This is but one example of the strained relations between the Commissar and his deputy during this period of intense restructuring of the armed forces and swift changes in the military doctrine.

## 7.5 The Nazi-German menace and changing war perspectives

The coming to power of the Nazi Party in Germany gradually changed the relations between that country and the Soviet Union. Some weeks after the 17th Party Congress in 1934, Tukhachevskii addressed a note to Voroshilov about the further expansion of the armed forces in the second five-year plan.

The extreme tension in the Far East and the suspicious behaviour of Poland and Hitler's Germany make the first years of the second five-year plan particularly intensive (*udarnymi*) in the development of the power of the Red Army.<sup>21</sup>

In 1935, Tukhachevskii issued a sharp warning against German aggression plans in a *Pravda* article entitled "Hitler's war plans". Having analysed each of the German army's branches and emphasized their expansionist character and the new "*Blitzkrieg*" doctrine, the article quoted Hitler's anti-Soviet declarations in *Mein Kampf*, as well as more recent statements by Hitler. The article further stated, (and this happens to be a passage suggested by Stalin instead of the laudatory, phrase-rich formulation by Tukhachevskii):

Germany's imperialist plans are not only anti-Soviet. This direction is just a suitable cover to hide the revanchist plans in the West (Belgium, France) and in the South (Poznan, Czecho-Slovakia, Anschluss). Besides this, Germany no doubt will need the French ores. It must also increase its naval basis.<sup>22</sup>

At this time, both Tukhachevskii and Uborevich, Commander of the Belorussian Military District, had sent memoranda to the leadership calling for a revision of the Soviet war plans in the West.<sup>23</sup>

Tukhachevskii noted that the threat situation had changed drastically, since the Soviet Union now faced a combined German-Polish alliance as the main organized enemy force. The

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<sup>20</sup> *Zametka Voroshilova*, RGVA, f. 33987, op. 3, d. 400, l. 113.

<sup>21</sup> Tukhachevskii, *Zapiska Voroshilovu*, 10.02 1934, RGVA, f. 33987, op. 3, d. 400, ll. 123-127.

<sup>22</sup> Tukhachevskii's original manuscript of the March 29, 1935 *Pravda* article "Hitler's War Plans" was published, with Stalin's changes added, in *Izvestiia TsK KPSS*, No 1, 1990, p. 169.

<sup>23</sup> Tukhachevskii's memorandum to Voroshilov on the war plan, 5.02, 1935, RGVA, f. 33987, op. 3, d. 400, ll. 226-236.

Uborevich, *Doklad o novom plane voyny na Zapade*, 19.02, 1935, RGVA, f. 33987, op. 3, d. 279, ll. 124-149.

Soviet Union would in all likelihood face a two-front war since Japan probably would join such an anti-Soviet coalition. After a detailed survey of the likely attack scenarios in the West,<sup>24</sup> Tukhachevskii concluded with sharp criticism of the Staff for "substantially underestimating the defence needs". Whereas the Staff proposed a strength of 112 divisions in the areas close to the country's Western borders, the appropriate superiority ratios, in Tukhachevskii's estimate, required 160 infantry divisions.

In Uborevich's proposal for a new war plan in the West, the anti-Soviet coalition of Germany, Poland and Japan would also include Finnish participation. With the support of a German expeditionary force, Finland was expected to attack the Leningrad region. 25-30 infantry divisions and motorised corps would attack from Lithuania and Latvia. The German army was expected to be manoeuvrable thanks to its estimated 150 000 trucks. Of particular concern for the Soviet side was the report of new chemical weapons in the German arsenal, against which there was not yet any effective protection. Despite the "gigantic production possibilities" of German industry, the Commander of the Belorussian Military District saw a possibility for victory, namely if the hostile forces could be crushed separately, before their full mobilization. Uborevich proposed that a Soviet two-or three-fold superiority in air forces would be the key to successfully crushing the military and economic power of Poland and Germany. This victory could be achieved if Poland was attacked in the initial period.<sup>25</sup>

## **7.6 Tukhachevskii's ultimate war plans and trial in 1937**

As the clouds of a great European war became ever more visible to the Soviet strategists, the internal scene also changed. The conditions for the steady transformation of the armed forces along the doctrinal lines of Tukhachevskii and other modernisers changed as the reign of terror crept into every sector of the Soviet society. In 1935, arrests of tens of thousands innocents followed the assassination of Leningrad's Party Secretary Kirov on 1 December of 1934. Denunciations for non-vigilance and counter-revolutionary plotting was wide spread also within the Red Army. The climate of those days is well reflected in an intelligence document,

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<sup>24</sup> Tukhachevskii, Memorandum, op cit, RGVA, f. 33987, op. 3, d. 400, ll. 227-235.

<sup>25</sup> Uborevich, Memorandum, op. cit., RGVA, f. 33987, op. 3, d. 279, ll. 129-130.



which seems to be one of the early fore runners of the forged Nazi documents that served as a pretext for arresting Tukhachevskii and a group of marshals and generals in 1937.<sup>26</sup>

In December of 1935, the Head of the Red Army Intelligence Directorate, Uritskii presented a report on "The Coalition against the USSR". It was supposedly compiled in July of 1935 by a White Russian officer for the French General Staff. The French had sent it on to the Czechoslovakian military, who, in turn, had forwarded the document to the Russians. The author of the report quoted mostly Polish sources about efforts to create an anti-Soviet bloc, consisting of Japan, Poland, Finland and Germany. The report stated that Germany nourished plans for colonisation on Russian soil and conquering Russia's natural resources. German and Polish military analysts were said to have a very low opinion about the defence industry and railway transport of the Soviet Union.<sup>27</sup>

When the military conflict begins, the Red Army will from the very first moment suffer severe losses, which will soon lead to a complete military defeat and the dissolution of the army. The perplexity in the Kremlin, the loss of the last remnant of prestige of the central power in connection with the troubles ... will call forth great events in Moscow: terrorist acts, a military putsch and a palace revolution.<sup>28</sup>

Then the report referred to a somewhat puzzling "secret connection", said to exist between Nazi German and Red Army military circles. Although political connections had been broken between Berlin and Moscow since the emergence of Hitler as head of state in Germany, certain "deeply hidden threads" were said to have been preserved between representatives of the Reichswehr and political and military circles in Soviet Russia.

Through these channels, the German High Command, by pushing the right buttons at the right time, could call forth an explosion in the Kremlin that would sweep away the existing regime. It would be replaced by political and military elements, with which the anti-Soviet Coalition, and Germany in particular, could easily reach an agreement.<sup>29</sup>

Rumours of a plot that involved Red Army officers and the Wehrmacht were thus circulating in Europe well before they found their expression in the accusations at the show-

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<sup>26</sup> For one of the works on the show-trials against Tukhachevskii, see Ströbinger, Rudolf, *Stalin enthauptet die Rote Armee: der Fall Tuchatschewskij*, Stuttgart, 1990.

<sup>27</sup> *Koalitsiia protiv SSSR*, RGVA, f. 33987, op. 3, d. 740, l. 170.

<sup>28</sup> *ibid.*, ll. 174-175.

<sup>29</sup> *ibid.*, l. 175

trial in 1937. Similar stories are known to have circulated in Paris and elsewhere later during the years of the Great Terror.<sup>30</sup>

The closest thing to "plotting" that recent evidence has found, however, that Tukhachevskii and some other leading military officers had tried to get Voroshilov dismissed. During the Terror years, Voroshilov shrewdly used the mechanisms of the secret police and informers in the army to dispose of his enemies.<sup>31</sup>

Tukhachevskii took part in the war games at the General Staff in Autumn 1936. The scenario was a German-Polish war against the Soviet Union. Tukhachevskii considered the assumptions for the game as unreasonable, since the forces of Germany were set at merely one hundred divisions. He advocated that one should consider a version where the hostile forces would muster at least two hundred divisions. However, this proposal was rejected and the game played on assumptions that would be misleadingly soothing for the Soviet high command. Some four years later this would be approximately the size that Germany actually mustered together with its allies in "Operation Barbarossa".<sup>32</sup>

After his arrest in May of 1937, Tukhachevskii was forced by his interrogators to draft a long report about the possible war scenarios, should Germany attack the Soviet Union. By including passages along the lines of a plot between Germany and Red Army officers, parts of this report evidently has a grotesque imprint. In recent years, Russian historians have unearthed these "confessions" of Tukhachevskii. Brown spots on the old papers testify to the

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<sup>30</sup> For examples of such legends among the diplomats, see Watt, Donald C., "Who Plotted Against Whom? Stalin's Purge of the Soviet High Command Revisited", *Journal of Soviet Military Studies*, Vol. 3, No. 1 (March 1990).

Walter Lacqueur refers to similar stories circulated in the Russian émigré press in France, see his *Stalin. The Glasnost revelations*, London 1990, p 86, "The Russian émigré organizations did, after all, engage in political warfare against the USSR and disseminated all kinds of misinformation. Were the stories about an anti-Stalin military plot the work of an enterprising journalist? ... after Khrushchev's speech at the 20th Congress in 1956, the issue should have been regarded as closed. The alleged existence of a plot among Soviet marshals and generals was mentioned more than once in the émigré press before 1937, particularly in right-wing journals. A story proclaiming this ran in several instalments in the Prague *Znamia Rossii* during the first months of 1936, and in Paris, *Vozrozhdenie* announced that Marshal Tukhachevskii had been a German agent ever since he had been a German prisoner of war in WWI."

<sup>31</sup> For details on Voroshilov and the repression in the Red Army, based on only recently available archives, cf. Volkogonov, Dmitrii, *Triumf i tragediia*, op.cit., kniga I, chast 2, pp. 258-279.

<sup>32</sup> For the details about the war-game, and the reaction to the suggestions by Tukhachevskii, see Isserson, Georgii, "Zapiski sovremennika o M.N. Tukhachevskom", *Voenno-Istoricheskii Zhurnal*, 1963, No. 4, pp. 73-75.

bloody torture that subdued him.<sup>33</sup> In the main outline of an enemy's choice of "the road to Moscow", the variants of how the Red Army should repel any attack, however, there is undoubtedly the characteristic logic of Tukhachevskii, which this study has tried to follow, from his time as Chief of the Red Army Staff, working on the materials for a 1926 war plan to the somber days in the prison cellars of Liubianka, and the "show trial" in June of 1937 that would sentence him to death.<sup>34</sup>

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<sup>33</sup>The first "confession" is reproduced in "Pokazaniia Marshala Tukhachevskogo", (The Confessions of Marshal Tukhachevskii), *Voenno-istoricheskii zhurnal*, 1989, No. 8, p. 44.

<sup>34</sup> For the war plan materials that the secret police forced Tukhachevskii to write, see *ibid.*, No. 8, pp. 45-53, No. 9, pp. 55-63.

## Chapter 8

### THE COMING WAR AND THE MILITARY'S LONG-TERM REQUESTS, 1933-1938

In his monumental study of the planning organisation, Eugène Zaleski analysed the drafting of the various proposals for the second Five-year plan. The assimilation of the lessons of the first long-term plan led in 1932 to several different sets of instructions. These called for a more rational and modest ambition in the plan proposals for 1933-37.<sup>1</sup> Whereas the study by Zaleski and previous scholars examined the general economic plan, the present chapter will take up the problem of how long-term defence planning evolved. It has been noted that despite the clear intention of formulating a first five-year plan for the defence industries, covering the years 1928/29 - 1932/33, in the end no such plan was ever adopted. When drafting the second five-year plan, the ambition once again was to accomplish a coherent set of long-term and annual plans for 1933-37.

#### 8.1 Gosplan's Defence Sector: organising the military-industrial planning

Already in February 1932, i.e. before the first five-year plan was finished and when the most ambitious defence industry plan had just been adopted, Kolesinskii, the deputy Head of Gosplan's Defence Sector (*Sektor Oborony*), issued instructions for the drafting of the five-year plan for 1933-1937. The questions that the Industrial Group (*Promgruppa*) were to address the expansion of capacity, the co-operation with civilian enterprises, the metallurgical requirements and the location of the following industrial branches: the aviation industry, the tank industry, and the production of artillery systems, gunpowder and shells up to 1938.<sup>2</sup> Kolesinskii wanted the *Promgruppa* to present its first "strictly approximate, but well-founded" proposal (*sugobo orientirovochno, no obosnovannye tsifry*) by early March.

This will be the initial approximation for determining the programme of the development of the defence-industrial basis in the second five-year plan. ... all comrades should be kept informed about the proposals and the outlines of the corresponding directorates of the Defence Commissariat and, with respect to the general industrial basis - with the projects of Gosplan's respective Sectors.

However, the projects of NKVM may only serve as a guide-line and must not be taken as inherently correct. I will not consider a non-critical reference to the request of the NKVM directorates as a sufficient ground for the projects.<sup>3</sup>

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<sup>1</sup> Zaleski, Eugène, *Stalinist planning*, op.cit., ch. 6.

<sup>2</sup> *Zadaniia Promgrupy po prarabotke direktivy po piatiletk 1933-37gg.*, Kolesinskii, 26.02 1932 RGAE, f. 4372, op. 91, d. 1097, ll. 2-1.

<sup>3</sup> *ibid.*, l. 1.

In a further instruction, Kolesinskii stated that the planning should take into account, first, the results of the first Five-year plan and foreign technical developments in arms production; second, the preparedness of the Soviet armed forces and defence industry for war; third, the location of the defence industries; and, finally, the assimilation of military production into and co-operation with civilian factories.<sup>4</sup>

In 1932, Gosplan lamented that "no five-year plan for military industrial production had been approved" for the first Five-year plan. The restructuring of the armed forces and, consequently, the modernisation of the defence industries were proceeding "without any perspective whatsoever". The reliance on annual military orders and changing long-term requirements had hindered a full utilisation of the country's general industrial capacity. The essential restructuring questions for military production potential had not been solved. The objection of certain military representatives that a five-year plan for the defence industry was superfluous because defence matters were heavily dependent on an unpredictable international situation, was refuted by the planners. The latter noted first that the government already had established a number of long-term defence targets, and second, that the international events equally influenced economic development in general and that had not diminished the importance of the five-year plan.<sup>5</sup>

Among the government directives (i.e. taken by the Party-State comprised *Komissiiia Oborony*), that affected the principal components of a five-year plan 1933-37 were:

1. Directive of 11 January 1932 on the aviation industry plan, up to 1935.
2. Directive of 11 January 1932 on powder and explosive production, up to 1935.
3. Directive of February 1932 on naval construction for 1933.
4. Directive on a military-productive base in Siberia.
5. Directive on chemical weapons, artillery and communications.

Besides the specific war industries, the following branches were related to defence capacity: chemicals, non-ferrous metals, ferro-alloys, high quality steel, control and measuring instruments, optics, electro-technical equipment, synthetic fibres, and fine mechanics.

The five-year plan for these branches was to be drafted only when the needs of the armed forces had been clearly defined. The expansion of the military-production capacity during the

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<sup>4</sup> Kolesinskii, *Zapiska zam. Nachalnika Sektora Oborony*, 11.03 1932, RGAE, f. 4372, op. 91, d. 1097, ll. 28-10.

first five-year plan had mainly consisted of the construction of specialized defence plants. This implied the freezing of huge amounts of fixed capital in peace-time. It was now asserted that the development of armaments production during the second five-year plan essentially should be concentrated on the utilisation of general industrial capacity through an assimilation of military production at the civilian plants.<sup>6</sup> As qualitative goals during the plan period, Gosplan emphasised the struggle for standardisation, mechanisation and inter-changeability. The industry still lacked instruments, especially measuring and calibrating devices, which inevitably showed up in deficient quality and in great losses in deficient goods.<sup>7</sup>

Already in March 1932, the Defence Sector sketched a "guide-line long-term plan" for armour and tank production in case of war during the second five-year plan, which merely took the estimated maximum "production capacities" (*proizvodstvennye moshchnosti*) of the tractor plants and the other factories associated with the armour and tank industry.<sup>8</sup>

In May 1932, the government issued its directives for how to organize the work for the "reflection of the defence needs in the five-year plan". It was asserted that Gosplan, NKVM and the economic commissariats were to work on the defence part of the five-year plan so that this plan completely "reflects" the demands of the defence of the country. First, the Defence Commissariat was to send its guiding request (*orientirovochnaia zaiavka*) to Gosplan before 1 June. Gosplan's Defence Sector thereafter was to prepare directives for the People's Commissariats concerning the defence tasks before 10 June. Finally, upon receiving the proposals back from the commissariats, Gosplan by 20 August was to process them, and present to the government a report on the five-year plan for the army and the defence industry.<sup>9</sup> In May 1932, the military sent Gosplan's Defence Sector a specification of the types of tanks, tractors, self-propelled guns, armoured vehicles and other transport equipment that would be requested over the coming years.<sup>10</sup> The "guide-line long-term plan" from the Gosplan Defence Sector was thereafter used by the "special sector" of the Tractor Association

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<sup>5</sup> *Voprosy oboronnoi piatiletki promyshlennosti*, RGAE, f. 4372, op. 91, d. 1097, l. 165.

<sup>6</sup> *ibid*, l. 155.

<sup>7</sup> *ibid* l. 161.

<sup>8</sup> *Orientirovochnyi perspektivnyi plan razvitiia brone-tankovogo proizvodstva pri variante voiny vo 2-i piatiletke 1933-1937gg.*, RGAE, f. 4372, op. 91, d. 1475, l. 11-9.

<sup>9</sup> *Ob organizatsii raboty po otrazheniiu trebovaniia oborony v piatiletnem plane Narodnogo Khoziaiatva*, *Postanovlenie Sovnarkoma*, 11.05 1932, RGVA, f. 40438, op. 1, d. 197, l. 3. The draft resolution had been adopted by the Deputies conference and sent to *Komissiiia Oborony*.

<sup>10</sup> *Zapiska Lebedeva, NTK UMM RKKA*, 9.05 1932, RGAE, f. 4372, op. 91, d. 1475, ll. 14-12.

(*Spetssektor*, also referred to as the Secret Department, *Sekretnyi Otdel VATO*, *Vsesoiuznoe ob"edinenie Traktornoï Promyshlennosti*), in order for the industry to draft detailed production plans for each of the factories involved.<sup>11</sup> This VATO initial outline of a five-year plan was discussed at a meeting at the Defence Sector on 28 June, where Kolesinskii that it should be "considered as optimal".<sup>12</sup>

In June 1932, Gosplan's Defence Sector produced their preliminary versions of the necessary war-time capacity in tank and aircraft production.<sup>13</sup> For the further elaboration of the long-term plan for the tank industry, it was suggested that a special group should be formed, comprised of experts from NKTP<sup>14</sup>, NKVM<sup>15</sup>, the Workers' and Peasants' Inspectorate and Gosplan.<sup>16</sup> The expert group, as soon as possible, was to evaluate the accuracy of the calculations of metal, equipment and armament requirements, as well as the projected assimilation and co-operation. Notably, it should check the choice of factories for war-time production and evaluate how realistic the projected capacities might be. This expert group eventually was to draft the final version of the five-year plan for the tank industry, both as to mobilisation capacity and the peace-time order plan.<sup>17</sup>

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<sup>11</sup> *Zapiska Nachalnika Spetssektora VATO - GVMU NKTP SSSR*, 2.08 1932, with copies to the Red Army Staff and Gosplan's Defence Sector, RGAE, f. 4372, op. 91, d. 1475, l. 55. *VATO. Perspektivnyi plan razvitiia tankostroeniia v 1933-37gg.*, *ibid.* ll. 54-53. The Tractor Association also analysed the organisation of "special machinery construction" and its influence on the standard production, further calculated the approximate necessary capital investment and the metal requirements for implementing this programme, see *ibid.*, ll. 52-50, 42-39.

<sup>12</sup> *ibid.*, l. 33-32.

<sup>13</sup> RGAE, f. 4372, op. 91, d. 1475, ll. 28-28ob, 27, and 26.

<sup>14</sup> *GVMU*, Main Military-Mobilisation Directorate, *Orudob"edinenie*, Gun Association, *Stal'*, Steel Association, *VOMT*, Machine-building Trust, *Kotloturbina*, Boiler-Turbines and *Glavaviaprom*, Aviation Industry Main Directorate.

<sup>15</sup> 5th Directorate of the Red Army Staff, the Motorisation-Mechanisation Directorate and the Main Artillery Directorate.

<sup>16</sup> The Gosplan Sectors for Machine-building, Mining and Metallurgy, Automobilsation and Airification.

<sup>17</sup> *Zapiska zam. Nach. Sektora Oborony Gosplana SSSR Kolesinskomu*, 23.06 1932, RGAE, f. 4372, op. 91, d. 1475, ll. 30-29.

We have thus established the formal network, in which the long-term plan for the tank production was formulated step-by-step:

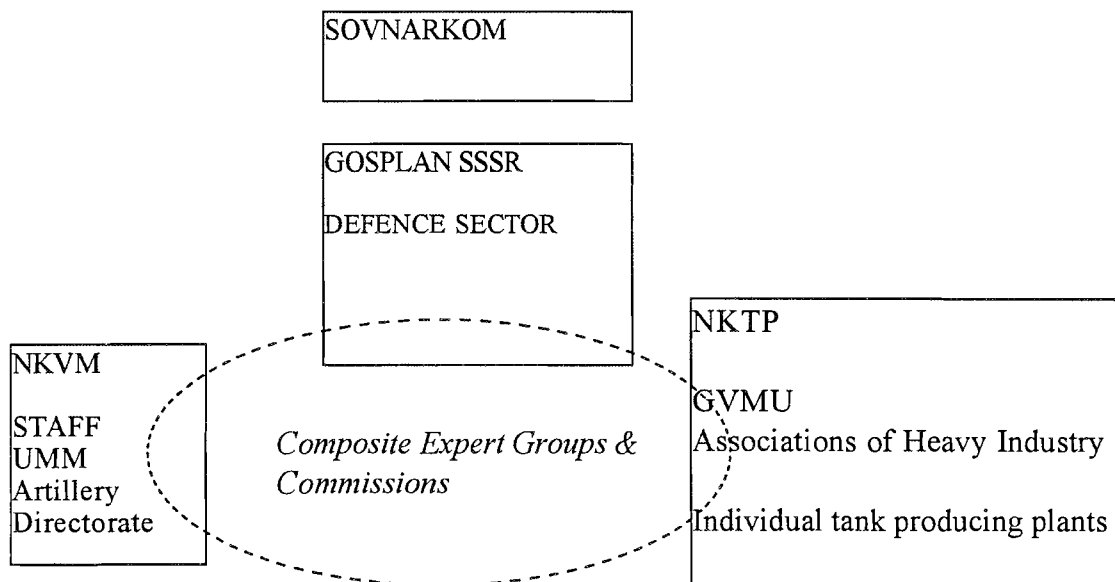


Fig. 8. 1 The formal decision-making bodies for tank production

There was, however, often an informal network, the extent of which is difficult to establish with any certainty as long as access to Stalin's archives is denied. From the memoirs of famous Soviet designers and managers, it is known that the General Secretary over the years took an increasingly direct role in defence matters.

In the context of the 1932 tank program failure, there exists a description of a late night session in the Kremlin, written by the Head of RKKA Mechanisation and Motorisation Department, Innokentii Khalepskii, to Defence Commissar Voroshilov:

On the 21st of November at nine o'clock in the evening, I was summoned to comr. Ordzhonikidze's apartment, where comr. Stalin soon arrived, and in the company of the director of the Stalingrad Tractor Plant, comr. Pudalov and comr. Pavlunovskii, we discussed the further construction of the Stalingrad Plant, as the future tank basis in war-time, as well as the corresponding type of crawler tractors that would replace the wheeled INTERNATIONAL.

The meeting was very long, and comr. Stalin and comr. Ordzhonikidze asked us about every aspect of the reconstruction of the factory.<sup>18</sup>

<sup>18</sup> RGVA, f. 33987, op. 3, d. 376, ll. 73-74.



After this late night meeting in a Kremlin apartment, Khalepskii wrote a memorandum on the tank construction to Stalin. After some discussion, the Revolutionary War Council approved Khalepskii's proposals. He ended his letter to Voroshilov with the message that he had just heard that the Politburo also had approved the proposal. They had decided that the Stalingrad Tractor Plant was to produce crawler-type Carden-Lloyd tractors, with a surge capacity of 40 000 units per year, and that in war-time, 12 000 Vickers-type (T-26) tanks should be produced.<sup>19</sup>

### **What intentions do the mobilisation requests reveal?**

It seems appropriate to scrutinise these plans, even if the present project does no more than *illustrate* whether or not these projections for the period 1933–1937 were based on sound calculations of raw materials, intermediate products and machinery. A possible method for evaluating the realism of the Soviet mobilisation plans would be to gather and summarise reports from as many representative test mobilisations as possible. At the present time, such an undertaking lies beyond the scope of this study.

The magnitude of the mobilisation preparedness of industry, in 1932 as well as in 1933, implies that the leadership had approved a substantial degree of rearmament even before the Nazi threat had emerged. The documents of the Red Army Staff explicitly stated that the perceived threat in 1932 was still the anti-Soviet coalition scenario (Poland and Romania supported by France).<sup>20</sup> It is similarly remarkable that the Great Depression, which had struck the Western world in the early 1930s and which certainly would impede any militarist ambitions of the "imperialist" powers in Europe, does not seem to have influenced the Soviet military's long-term plans, at least not in the area of mobilisation requirements.

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<sup>19</sup> The Politburo decision of 25.11 1932, RTsKhIDNI, f. 17, op. 3, d. 907, p. 106/82.

<sup>20</sup> For the Red Army Intelligence estimates of a possible French participation - as perceived in the early 1930s - in a war against the Soviet Union, see Vypiski i mobzapiski 4. Upr. RKKA "Uchastie frantsuzskikh voisk v voine protiv SSSR". 28.05 1932, RGVA, f. 29, op. 35, d. 23.

## 8.2 The military's long-term claims on industrial production

In 1932, the Red Army Staff stated that the principle task for the second five-year plan should be to create such a "military-productive foundation" that the Soviet Union would be guaranteed superiority, particularly in the modern weapons (airplanes, tanks and trucks), over the most powerful enemy, France, and its allies Poland and Romania.<sup>21</sup>

An independent base for military production must be established in Siberia in order to guarantee a reliable defence of the Soviet Far East. This new industrial base would utilise a wide-ranging co-operation with existing industry and take full advantage of the new projects such as the Kuznetsk region, the Angara hydropower station and the natural resources of the Far Eastern region (*Dalno-vostochnyi Krai*). The military urged that the transfer of industry from European Russia should continue, with an increasing proportion of new construction being in the Urals and the Volga region. It also was recommended that the military-industrial capacity of Leningrad should decrease further during the five-year plan.

The economic plans for industrial development also should contain a defence option that took into account the requirements for a sustainable balance between the armed forces and the rear during a war of 2 to 3 years' duration. In the plan-period, the development of armaments production should mainly be directed at utilising the overall industrial base - through the assimilation of production in civilian factories. Better specialisation among the factories in the defence industry should be instituted.

The military also put these general proposals into concrete figures for what sort of technical restructuring was required. The first long-term proposal, in the form of a mobilisation request for 1938, was developed during 1932. It was done at a time when the "big leap" in tank production in particular and in many other branches as well, had not yet resulted in chaos and a lack of co-ordination.

In aviation, Soviet industry was by 1937 to become "the most advanced country in Europe" and with a capacity as great as that of the United States in 1931, roughly 60 000 aircraft per year.<sup>22</sup> As to tank production, the Red Army Staff expected that the American

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<sup>21</sup> *Vypiska iz materialov "Voprosy oboronnoi piatiletki promyshlennosti"*, RGVA, f. 40438, op. 1, d. 197, l. 19.

<sup>22</sup> *ibid*, RGVA, f. 40438, op. 1, d. 197, l. 10 ob.

capacity of 40 000 tanks per year would be reached already in 1933. In a bold mood the report continued that a 2- to 3-fold increase of the tank programme was feasible:

Since tank production is entirely integrated with the auto and tractor industry, its further development will be determined by the growth of this branch.<sup>23</sup>

Gosplan had plans for 170 000 tractors and 400 000 trucks by 1937, consequently the military calculated a war-time tank production of 90 000 tanks. That output would still not occupy more than half of the tractor industry's, and less than one third of the auto industry's capacity.

Table 8.1  
**The military's calculated tank production in war-time**  
(units)

Item, production location	in 1933	in 1938
Small tanks	13 500	20.000
of which: "Bolshevik" factory	1500	1 500
Stalingrad Tractor Plant	12000	18 500
Medium tanks	2 000	15 000
of which: Kharkov Locomotive	2 000	2 000
Cheliabinsk Tractor Plant	-	13 000
Heavy tanks	-	1 000
"Ekskavator" Plant, the Urals		
Escort tanks etc.	8 000	20 000
Iaroslavl Auto Plant, AMO		
Tankettes	16 000	30 000

Source: *Vypiska*, RGVA, f. 40438, op. 1, d. 197, l. 11.

During the Summer of 1932, the Chief of Staff estimated the requirements for the Red Army's deployment at mobilisation (*potrebnost' na razvërtyvanie*). These data are of particular interest because these plans, elaborated prior to the Nazi take-over in Germany, opted for an enormous increase of the air force and of armoured units, with a corresponding increase in artillery fire-power. The deployment quantities were for an air force of 32 000 planes, of which

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See also *Voprosy oboronnoi piatiletki promyshlennosti. (Materialy dlia direktivy)* RGAE, f. 4372, op. 91, d. 1097, l. 149. The aircraft production should concentrate on developing heavy bombers and heavy civilian airplanes.

5 800 fighters, 8 000 heavy bombers and 9 500 light bombers and attack planes. The figures for one war-year production, given the estimated loss rate for the various forces by 1938, were considerably higher. The mobilisation request adopted in 1933 was accompanied by the war-year production figures.

Table 8.2

**Mobilisation deployment of the Red Army, 1932 project**

(units, unless spec.)	1933	1938
Airplanes	10 400	32 000 <sup>a</sup>
Tanks	11 000	40 000
Tankettes	9 000	20 000
Tractors	9 000	100 000
Armoured vehicles	1 200	6 000
Trucks	70 000	500 000
Artillery systems, all types	28 800	84 500
Shells (million rounds, with 2 months reserves)	38.3	75.0
Rifles & Automatic rifles	2 878 000	3 850 000
Heavy and light machine-guns	164 000	338 500
Cartridges (millions)	3 500	5 800
Aerial bombs (in tons)	62 000	400 000

Source: *Sostav RKKA po razvėrtyvaniu vo 2-i piatiletke i materialnoe osnashchenie eė*. Signed by Chief of Red Army Staff Egorov, 8.06 1932. RGVA, f. 33988, op. 3, d. 301, l. 191.

Before proceeding to the analysis of the military request, it is necessary to see how the planners formulated their directives for the elaboration of the second five-year plan.

<sup>23</sup> *ibid.*

<sup>a</sup> The composition of air force was to be 5 805 fighters, no less than 8 000 heavy bombers, 9 492 attack planes, light bombers and reconnaissance planes, plus 8 700 training planes.

### 8.3 The formulation of defence targets in the second Five-year plan

In this section, how this directive was converted into a plan will be discussed. Finally, there is however the paradox that despite all the preparatory work done during 1932 and early 1933, in the end no definite five-year plan for the defence industry in 1933-37 was ever adopted by the Government. Instead, the mobilisation requests for 1938 seem to have served as the basic guidelines for rearmament.

The following tables 8.3 and 8.4 show the projected increase in capacity (*moshchnost*) of tank and aircraft production. These estimates were the work of the various groups in the planning network outlined above. These figures both for tank and for aircraft production in case of war have never been presented in any previous study of the Soviet military. The required and planned war-time strength of the Soviet tank and air forces would be a most important parameter for any evaluation of the country's strategic situation.

In a wider context, it would be necessary to link these industrial mobilisation targets with the evolution of military doctrine: from "deep battle" to the concept of fighting the war on the enemy's territory that was prevalent in the late 1930s. At present, it will just be noted that the target for the Soviet tank industry was raised from a war-time production of some 40 000 tanks and tankettes in 1933 to 90 000 units by 1938. We also note that a comparison with the actual production in a war-situation is complicated by the fact that the role of tanks in general, and of light tanks in particular, was revised in light of the experience of the first large-scale tank battles in the Spanish Civil War. Similarly, there was a formidable expansion projected for the aircraft industry over the second five-year plan, from a total capacity of roughly 13 000, to over 46 000 units in 1938.

Table 8.3

**War-time annual capacity for tank production**

(units)

Type of tank <sup>24</sup>	Factory	1933	1934	1935	1936	1937	1938
Tankette T-27	Auto No 2	4 000	4 000	5 000	5 000	6 000	6 000
	Nizhgorod Auto	12 000	12 000	14 000	16 000	18 000	20 000
Small tank, "Voroshilov", Lgd		5 000	5 000	5 000	6 000	6 000	6 000
T-26	Stalingrad Tractor	8 800	10 000	12 000	14 000	17 000	21 000
Light tank	Kharkov Locomotive	2 000	4 000	4 000	4 000	4 000	4 000
BT	+ 2 new auto plants for heavy trucks	-	-	2 000	4 000	6 000	8 000
Medium tank	Cheliabinsk	400	1 000	2 000	4 000	7 000	10 000
T-28	Tractor plant						
Heavy tanks							
T-35	Ural Excavator	-	250	725	1 000	2 000	3 000
T-75	"-"		-	25	500	1 000	2 000
T-600	"-"	-	-	-	-	5	10
Tanks for 2nd echelon, AMO		8 200	10 000	10 000	10 000	10 000	10 000
<i>ZIS, Zavod im. Stalina</i>							
Planned total							
war-time production		40 400	46 250	54 750	64 500	77 000	90 000

Source: *Perspektivnyi plan razvitiia avto-traktornogo proizvodstva vo vtoroi piatiletke* (1933-1937gg.), Plan for the armour-tank production 1933-37, Project by Gosplan's Defence Sector, July 1932, RGAE, f. 4372, op. 91, d. 1097, l. 204 <sup>25</sup>

A year later, a directive from the Council of Labour and Defence (*STO*) ordered that the tank building capacity should be accelerated. The capital construction budget for tank and armour factories in 1934 was set at 125 million rubles.<sup>26</sup>

<sup>24</sup> In the present work, technical data on the tanks have been omitted. For engine, armour, speed and armaments characteristics of Soviet tanks, see the data tables in Milsom, John, *Russian Tanks 1900-1970. The Complete Illustrated History of Soviet Armed Theory and Design*, London 1970.

<sup>25</sup> For other components, cf. *Perspektivnyi plan razvitiia avto-traktornogo proizvodstva vo vtoroi piatiletke* (1933-1937gg.), RGAE, f. 4372, op. 91, d. 1097, ll. 107-106 (for metals) and 94 (for rolled iron).

<sup>26</sup> *5-letnii plan razvitiia moshchnostei tankovogo proizvodstva*, RGVA, f. 32871, op. 1, d. 2, ll. 81-82.

Table 8.4

**War-time annual capacity for aircraft production**

(units)

Type of airplane <sup>27</sup>	Factory	1933	1934	1935	1936	1937	1938
Bomber TB-3	Plant No 22	600	600	600	1 000	1 000	1 000
	Plant No 18	1 500	1 500	1 500	1 500	1 500	1 500
	Plant No 24	400	1 200	2 400	2 400	2 400	2 400
	Plant No 26	200	200	200	500	500	500
	New factories	-	-	-	1 200	2 400	2 400
<b>Total bombers</b>		<b>2 700</b>	<b>3 500</b>	<b>4 700</b>	<b>6 600</b>	<b>7 800</b>	<b>7 800</b>
Fighters,	Plant No 21	2 400	2 400	3 500	3 500	3 500	3 500
	Plant No 31	1 000	2 000	2 000	2 000	2 000	2 000
	New Plant	-	-	1 200	2 400	3 500	3 500
<b>Total Fighters</b>		<b>3 400</b>	<b>4 400</b>	<b>6 700</b>	<b>7 900</b>	<b>9 000</b>	<b>9 000</b>
Attack planes		500	1 000	1 800	2 000	2 000	2 000
Reconnaissance		4 500	6 500	9 800	11 500	13 000	13 000
<b>TOTAL AIR FORCE</b>		<b>11 100</b>	<b>15 400</b>	<b>23 000</b>	<b>28 000</b>	<b>31 800</b>	<b>31 800</b>
Training planes		1 500	5 500	9 500	11 000	14 000	14 000
Special planes		500	500	500	500	500	500
<b>TOTAL AVIATION</b>		<b>13 100</b>	<b>21 400</b>	<b>33 000</b>	<b>39 500</b>	<b>46 300</b>	<b>46 300</b>

Source: *Tretii variant po aviopromyshlennosti na vtoroe piatiletii, Sektor Oborony Gosplana*, Aviation industry capacity 1933-1938. Project by Gosplan's Defence Sector. 8.08 1932, RGAE, f. 4372, op. 91, d. 1097, l. 205.<sup>28</sup>

In October 1932, Gosplan's Defence Sector complained that the decisions taken by the government (*Komissiiia Oborony*) were not regularly distributed. Gosplan's work on the long-term and the annual plans, therefore, risked being at odds with the latest changes in government policy.

A situation has arisen where Gosplan's Defence Sector is detached from the actions of the government and therefore cannot responsibly fulfil its main task

<sup>27</sup> The evolution of the Soviet combat aircraft is described in many works. See e.g. Shakhurov, V.B., *Istoriia konstruktsii samolëtov s SSSR do 1938g.*, Mashinostroenie, Moskva 1994; Iakovlev, A.S., *Sovetskie samolety*, Moskva 1982. For a more general treatment of the Soviet Air Force, and data about the pertinent number of aircraft produced, respectively in operation, see Shumikhin, V.S., *Sovetskaiia voennaia aviatsiia 1917-1941*, Moskva 1986, pp. 144-205.

<sup>28</sup> For engine construction capacity over the five-year plan, cf. *Tretii variant po aviopromyshlennosti* ibid., l. 204, and for raw material requirement for this plan, see ibid., ll. 203-202.

on defence planning parallel to the corresponding functions of the whole of Gosplan with respect to the economic planning.<sup>29</sup>

During early 1933, when the results of the first five-year plan and, particularly, the failure to fulfil the annual plans for 1932 were known, the planners of the Defence Sector had received new instructions for their work on the various parts of the five-year plan. Balances for rolled iron, non-ferrous metals and chemicals were to be calculated. The capital investment plan was to be analysed to determine the investment levels required in war and civilian industry, and measure the growth of capacity year by year. The production plan was to be formulated in concrete terms with the collaboration of industry. Of particular importance were the "qualitative indicators": norms for material usage, time of technological adaptation, mobilisation preparedness and reduction of deficient goods. The Defence Sector also worked on labour questions, as well as on productivity, transportation, agriculture and regional policy.

The Head of the Defence Sector Botner reminded that:

All work must be strictly confidential; it is categorically prohibited to inform the commissariats, or their individual members, about the proposals of Gosplan or its Defence Sector, without my special permission.<sup>30</sup>

Later, in April 1933, Botner complained that the Heavy Industry Commissariat (NKTP) had not yet presented its long-term capital construction plan, nor any other production plan. Botner even doubted that NKTP's Main Military-Mobilisation Directorate (GVMU) had drafted any such plans at all. Botner also complained to Gosplan's Deputy Chairman Mezhlauk that NKVM, the Defence Commissariat, had not reworked its plan for the second five-year plan.<sup>31</sup> This state of affairs is particularly notable, since a simplistic interpretation of the directives issued by Sovnarkom's Chairman Molotov in 1932 concerning the procedures for the drafting of the five-year plan could take implementation for granted. Botner indicated that

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<sup>29</sup> *Zapiska nachalnika Sektora Oborony Gosplana, Botnera zam. Predsedateliu Gosplana Unshlikhtu*, 14.10 1932, RGAE, f. 4372, op. 91, d. 796, ll. 241-241ob.

<sup>30</sup> For the actions of the Defence Sector, see *Programma rabot po sostavleniiu 2-i piatiletki*, February 1933, RGAE, f. 4372, op. 91, d. 1273, ll. 128-126. (Quotation on l. 127ob.)

This program was more encompassing than the year before. Besides the balances for rolled-iron, chemicals and non-ferrous metals, the Defence Sector was to draft a plan that took account of the investment program, of the labour supply and of productivity, transport and agriculture questions.

<sup>31</sup> *Zapiska nachalnika Sektora Oborony Gosplana, Botnera zam. Predsedateliu Gosplana Mezhlauku, Po voprosu o plane voennoi promyshlennosti na 2-oe piatiletie*, 9.04 1933, RGAE, f. 4372, op. 91, d. 1273, ll. 42.



Gosplan had proceeded with a plan for capital construction by using the various government directives as guidelines. But for production planing, Gosplan was at a loss:

The amount of defence production remains unclear in the absence of the annual order plan from the War commissariat, and the question of civilian production at the defence industry is totally left aside because the Heavy Industry commissariat, as a rule, does not consider or elaborate it.<sup>32</sup>

The Heavy Industry Commissariat's ignoring of civilian applications, however, would have far-reaching consequences. Botner estimated that the fixed capital of the defence industry by 1 January 1933 was 1 200 million rubles, of which 900 million rubles was in machine-building industry. The number of metal-working and wood-working machines was 73 000 in the statistical census for 1932. Given that the defence industry's production in 1932 had been 2 100 million rubles, and had taken up not more than 50% of capacity, and given, furthermore, projected investments of 2 500 million during the second five-year plan (the Gosplan limit), the capacity could easily be tripled over the plan period, (all according to Botner). If the military annual orders were to remain constant over the period, at 1 000 to 1 200 million rubles, Gosplan's Defence Sector predicted that the production of civilian goods from the defence industry could reach 3 500 to 4 000 million rubles by 1938.<sup>33</sup>

Botner, however, stressed that the defence industry, in principle, could produce most types of machine-tools, instruments, spare parts, textile machines and possibly also heavy machinery. If this was not properly planned, however, the expansion of the machine-building sector, with separation between civilian and defence industry's plans, would most likely continue as before. A large over-capacity had obviously been created in the civilian and war machine-building sector.

Finally, Botner proposed that instead of projecting peace-time orders as almost constant over the 5-year period, an annual increase of 13% in military orders should be used. With this new growth rate, the concerned parts of Gosplan, the Sector for Machine-building and the Defence Sector, ought to recalculate the plan for machine-building, taking better account of the civilian production in the defence industry.<sup>34</sup>

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<sup>32</sup> *ibid.*, l. 42ob.

<sup>33</sup> *ibid.*

<sup>34</sup> *ibid.*, l. 150ob.

During the following months of 1933, the Gosplan Defence Sector could proceed with drafting a five-year plan. A production program for the defence industry for 1933-37 was presented to Gosplan Chairman Kuibyshev in July. This program calculated that the necessary capital investment in the defence industry should be increased from 2 400 million rubles, as the Heavy Industry Commissariat had proposed, to at least 3 000 million rubles. Furthermore, the program set the production target at 3 500 million rubles, so that the enormous capacity created (three times the 1933 level) could be better utilised.

This is dictated by mobilisation considerations (preserving the cadres of workers and technicians and the mobilisation preparedness of the factories), but even more so by the economic interest in using the defence industry as a mighty branch of machine-building and chemicals, and thus also avoiding great losses in frozen capital.<sup>35</sup>

In the proposals for the second five-year plan there is thus a very complex pattern, where on the one hand, an enormous capital construction is projected and on the other hand, increasing civilian production is emphasised as much as possible. The familiar dilemma, "butter or guns", would thus almost have been solved by the Soviet planners. The burden of building up a huge potential for warfare would be partially eased if this production apparatus could indeed have some planned alternative civilian, uses. The preparation of the civilian sector for conversion, on the other hand, would not tie up resources in a separate defence industry.<sup>36</sup>

During 1933, the Gosplan Defence Sector further detailed the defence production over the second five-year plan. In April, the planners had drafted *two versions* of this long-term plan. In the first version, all government decisions were taken into account. In the second, the "limits" for capital construction as fixed by Gosplan limited maximum expansion. It seems that the planners also took a more realistic approach, solidly based on the experience of introducing crash programmes during 1932.

A closer examination of *how* the government decisions in question were subsequently elaborated is informative because for each of the principal producers, the Gosplan Defence

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<sup>35</sup> *ibid*, I. 122, The report indicated a number of civilian products for the defence industry, such as: instruments, locomotives, platforms, tractors, trucks, cars, motor cycles, bicycles, chemical and textile machinery. See *ibid*, I. 122-121 for quantitative and value estimates.

<sup>36</sup> For the July 1933 plan of civilian production (51 products in machine-building and 7 in the chemical industry) in the defence industry, see *Grazhdanskaia produktsiia voennoi promyshlennosti v tsenakh 26/27g. Na 2-e piatiletie*, RGAE, f. 4372, op. 91, d. 1448, ll. 118-119.

Sector could question the decisions taken by the State and Politburo Commission. Some of these decisions are presented in the following figure:

**Soviet Government rearmament decisions and Gosplan revisions** <sup>37</sup>

<i>Komissiiia Oborony</i> , (KO)	<i>Gosplan</i> suggestion
<b>Artillery:</b> KO, 1 July 1931, 19 000 guns in 1933	To be reached by 1937
<b>Tanks:</b> KO, 1 August 1931, 40 000 tanks by 1932	Gosplan, target for 1937
<b>Shells:</b> KO, 20 October 1931, 117 mn. rounds by 1934	Can possibly be reached in 1937.
<b>Aircraft:</b> KO, 11 January 1932, 35 000 planes by 1935	Gosplan plans for 31 200 in 1938 or 18 200 (capital Investment limit)
<b>Powder:</b> KO, 11 January 1932, 200 000 tons in mid-1935	Gosplan - in late 1937, or not at all in the plan period.

The long-term decisions of the Soviet leadership, in this case *Komissiiia Oborony*, (KO), it can be assumed, were based on a general threat perception. Decisions concerning one branch of military production, however, were to be taken frequently without due consideration to the interrelations with other branches. In passing, it can be noted that the decision for a substantial increase of the tank program and of artillery production had been taken by KO in July and August 1931, prior to the Japanese invasion of Manchuria. If the Japanese threat assessment had influenced these decisions, it would thus have been an *anticipated threat*, not the events that actually occurred later that autumn. The upward trend in the mobilisation requests, therefore, can be seen as the combined result of the *general rearmament policy* and of the *specific threat pictures* in 1931-32.<sup>38</sup>

<sup>37</sup> *O plane razvitiia voennykh proizvodstv vo vtorom piatiletii, Doklad predsedateliu Gosplana, 4.04 1933*, RGAE, f. 4372, op. 91, d. 1448, ll. 181-180.  
<sup>38</sup> Following Robert Davies' discovery of the large, previously not published, figures for the 1932 defence budget, Sally Stoeker emphasised the Manchurian crisis as a crucial event in changing the Soviet political leadership appreciation of the military's claim for higher defence appropriations. In view of the on-going deliberations in the *Party-State* authority that *Komissiiia Oborony* actually was, in my mind, the decisions taken by the group of political and military leaders in 1930 and 1931 represent a specific form of continuously heightening defence capacity, while keeping the current equipment at modest levels. For Davies on the Manchurian crisis, cf. "Soviet Military Expenditure", 1993, op.cit. For Stoeker, see "Forging Stalin's Army", op.cit., Ch. II.

Poor co-ordination between the decision-making bodies and the planners concerning defence sometimes led to conflicting directives. On one occasion, even Voroshilov, who had the double function of War Commissar and member of *Komissiiia Oborony*, was perplexed and asked Ordzhonikidze, the Heavy Industry Commissar, for advice when the result of a series of KO decisions was to exceed the annual defence budget for military orders.

In a memorandum to Ordzhonikidze, Voroshilov noted that the decisions of KO during 1932 would grossly exceed the budget limit. In May 1932, the Defence Commission had decided to produce 3 000 aircraft. By October, the motorisation and mechanisation programme called for 7 000 tanks and finally, in November, a new naval construction plan was adopted. These orders, in turn, would determine the orders for artillery products, ammunition and trucks. In Voroshilov's estimation, the military order (*voennyi zakaz*) for 1933 would reach 2 600 million rubles. "What is to be done?", Voroshilov asked with a classic phrase.<sup>39</sup>

This evidence indicates that the planners did in fact try to evaluate, and also to make sensible revisions in the decisions of *Komissiiia Oborony*, is now available. One reason for the planners' reductions in the government decisions was obvious weak spots, which had not been taken into account from one decision to another. Powder production was the most serious bottle-neck, limiting the production of artillery and, consequently, also hampering tank and aircraft production.

#### **8.4 Capital investment over the second Five-year plan**

In the April 1932 project, Gosplan estimated the capital investment needs for both versions of its five-year plan. In order to come close to the targets established by the government, 4 200 million rubles would be necessary. Using the capital construction limits, 2 900 million was sufficient. In comparison, capital investment during the first five-year plan had been 1 700 million rubles.<sup>40</sup> The composition of defence investment is presented in table 8.5.

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<sup>39</sup> *Zapiska Voroshilova Ordzhonikidze*, RGVA, f. 33987, op. 3, d. 395, l. 297.

<sup>40</sup> *ibid*, l. 178.

Table 8.5

**Planned capital investment in the defence industry, 1933-1937**

(million rubles)

	Government decisions	Gosplan revision
Artillery, torpedoes	636	362
Shells, Cartridges	893	610
Rifles	232	207
Aviation	1 000	810
Tanks	65	65
Gun-powder, chemical weapons	1 435	846

Source: RGAE, f. 4372, op. 91, d. 1448, l. 178. <sup>41</sup>

The relatively low investment in tank production was due to the projected use of the automobile and tractor industry as a basis for tank production. Most investments would be devoted to aviation, chemicals and artillery shells. Even in this area, however, a significant part of the expenditures on artillery shells, powder, explosives and chemical weapons would be provided by civilian industry.<sup>42</sup>

The five-year plan proposal also included balances for the most important raw materials. The balances simply compared the required consumption in both versions of the plan with the calculated production for 1937. Whereas rolled-iron and steel, as well as zinc and lead, needs could be covered, bottle-necks would appear in copper and aluminium. Of the chemical components in the defence program, only chlorine would impose limits on the plans.<sup>43</sup>

Besides the request for mobilisation, the military also specified its peace-time request for 1938. By then, the Red Army expected to have in operation (*dolzhny byt' v stroiu*) 15 000

<sup>41</sup> For the details of the five-year plan 1933-37, see RGAE, f. 4372, op. 91, d. 1448, ll. 173-170, *Dinamika moshchnosti po piatiletnemu planu*, 167-164, *Kapitalovlozheniia po voennoi promyshlennosti v 1933-1937gg* and ll. 161-159, for listings of the most important new construction projects in the defence industry.

<sup>42</sup> In the first version 105 million out of 165 million artillery shells would be from the civilian sector, as well as 26 500 out of 42 500 tanks, 82 000 tons out of 201 000 tons of powder, 79 000 tons out of 182 000 tons of explosives. Chemical weapons exclusively would come from civilian enterprises.

<sup>43</sup> *O plane razvitiia voennykh proizvodstv vo vtoroi piatiletii*, RGAE, f. 4372, op. 91, d. 1448, ll. 175-174. The military demand for copper was 230 th. tons in the high version, compared with an expected production of 190 th.tons, and for aluminium - 140 th.tons vs. an expected production in 1937 of only 70 th.tons.

tanks and 7 500 aircraft (plus 5 000 in reserve). The air force was projected to have 700 heavy bombers, 2 200 light bombers and attack planes, and 1 500 fighters.<sup>44</sup>

In the Summer of 1933, a commission, headed by Sergo Ordzhonikidze, chairman of the Heavy Industry Commissariat (*NKTP*), had elaborated a defence industry mobilisation plan for 1936. The *NKTP* mobilisation plan calculated that war-time production already by 1936 would reach 100 million artillery rounds, 40 000 tanks, 14 000 aircraft and 8 milliard rifle cartridges. *NKTP* calculated the required capital investment over 1934-1935 to be 3 000 million rubles in the defence industry and another 650 million rubles for the production of ammoniac and oleum.<sup>45</sup> The commission had opted for investment in 1934 alone on the order of 2 350 mn rbs. The second five-year plan had allotted the following capital investment to the defence industry in the years 1934 - 510 mn rbs, 1935 - 500 mn rbs, and 1936 - 460 mn rbs, or a total of 1 470 mn rbs for these three years.

To achieve the necessary capital investment for this program will undoubtedly be enormously difficult. Already next year, we must double capital construction to twice the amount of 1933. Judging by how the plan for last year was fulfilled, by 1934 we can expect even more pressure.<sup>46</sup>

The necessary capital investment in the aviation industry was calculated to be 1 450 million rubles by the Ordzhonikidze commission, and 1 200 mn rbs by Gosplan. The principal weak spot of the program, however, was that a sufficient metal supply was not guaranteed. Aluminium and copper production in 1936 would suffice for only half the required output.

The proposals of the Heavy Industry commissariat were approved by the Council of Labour and Defence. In its directive of 9 September 1933, plans for war-time capacity were specified for the following items (table 8.6).

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<sup>44</sup> *Spravka po mobzaiavke NKTP* Hand-written note, July 1934, RGAE, f. 4372, op. 91, d. 1455, ll. 43-42.

<sup>45</sup> RGVA f. 4372, op. 91, d. 1455, l. 43.

*Ob"iasnitelnaia zapiska po 2-i piatiletke aviapromyshlennosti*, *ibid*, ll. 19-4ob. See also *ibid*, l. 47 for the investment plans for artillery, torpedoes, ammunition, rifles, tanks, aviation and powder.

<sup>46</sup> *Spravka*, op.cit., l. 42.

Table 8.6

**Revised war-time planned capacity**

	1934 war year	1935 war year	1936 war year
Artillery shells, mn rounds	60	76	100
Rifle cartridges, mn	3 000	6 000	8 000
Aerial bombs, th. tons	150	250	300

Source: *Postanovlenie No 85/ss Soveta Truda i Oborony*, 9 September 1933, RGVA, f. 32871, op. 1, d. 2, ll. 76-85.

The resolution carefully enumerated all new construction and repairs that were to be undertaken at the powder factories. The necessary quantities of all raw materials for powder and explosives (ammoniac, nitric acids and so on) were specified. The expansion of the new Bereznikov chemical combine plant was to be monitored by a special commission. The resolution also dealt with the requirement in war-time for chemical weapons, smoke generators and gas de-activators. The capacity in chemical weapons was to nearly double, from 56 tons in 1934 to 105 tons in 1935. The new directives also modified the earlier mobilisation plans for the aviation and tank industries, in that the targets originally established for 1933 were postponed to 1935 or 1936.<sup>47</sup> Total capital investment in the aviation industry during the second five-year plan was estimated at approximately 1 450 million rubles.<sup>48</sup>

### **The second defence industry five-year plan was not adopted by the government**

It has not been possible to determine exactly how the five-year plan for defence production was finally decided. No definite five-year plan was ever given Sovnarkom, i.e. government approval:

The Defence Commissariat's plan for the second five-year period was not adopted by the Council of People's Commissars of the USSR.<sup>49</sup>

This fact deserves emphasis, because orthodox Soviet sources sometimes paint a picture where the plans for the military, the defence industry and the economy as a whole run smoothly and in harmony over time. Marshal Zhukov wrote about such work in his memoirs:

At the end of my work during this period in the apparatus of the Defence Commissariat we initiated the elaboration of the second five-year plan for the development of the Red Army in 1934-1938.<sup>50</sup>

<sup>47</sup> For these war-time plans, see RGVA, f. 328761, op. 1, d. 2, ll. 81-82.

<sup>48</sup> RGAE, f. 4372, op. 91, d. 1448, ll. 104-99. Gosplan's proposal for a revised second five-year plan for the aviation industry.

<sup>49</sup> "Plan NKO na 2-oe piatiletie utverzhdeniia SNK SSSR ne poluchil." Cf. *Dokladnaia zapiska Sektora Oborony o vypolnenii 2-go piatiletnego plana*, RGAE, f. 4372, op. 91, d. 3290, l. 14.

The plan projects that have been examined here, however, illustrate the major traits of long-term planning. As was shown above, the individual targets adopted by the government could not be put into a coherent five-year plan by Gosplan, whether or not the limits for capital construction were followed. The Gosplan proposals tried to maintain the level of the government targets but postponed their achievement. In 1933, the Heavy Industry Commissariat obviously demonstrated that some parts of the five-year plan even could be accomplished earlier, provided that some investment were redirected. The principal conclusion, however, is that the industries were guided by annual plans, just as during the First Five-year plan.

### 8.5 The revised military mobilisation request of 1933

In June 1933, the Red Army Staff delivered a number of important reports on the further expansion of the "new weapons", tanks and aircraft. Chief of Staff Egorov reported on the development of mechanisation and motorisation in the second five-year plan and on the new operational possibilities opened up by mechanisation. In this report, Egorov analysed the role of tanks in various foreign military doctrines and the tendencies in the further development of this weapon.

While the operational ideas and characteristics of the various tank forces described in the report are familiar from specialist military history,<sup>51</sup> Egorov's motivation for and emphasis on integrating tank to production the tractor and automobile industry is notable:

Being 'the war version' of the most peaceful tractor or automobile, tanks are produced on the basis of ordinary auto-tractor industries and therefore, generally speaking, only the capacity of the latter put a quantitative limit to the mechanisation of the army.

The enormous possibilities of the auto-tractor industry of the capitalist countries allow us to speak of tens of thousands, and in the future without any doubt, about

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<sup>50</sup> Zhukov, Georgii K., *Vospominaniia i razmyshleniia*. 10. Dopolnennoe izdanie, Novosti, 1990, t. 1, p. 178. Given that whole sections of Zhukov's memoirs might have been "edited", the description is not correct in taking the "first five-year plan for the military development" (ibid, p. 175) as based on the July 1929 Politburo resolutions. Zhukov might have consciously omitted references to the *crucial mobilisation targets* for industry.

<sup>51</sup> On the development of the Soviet tank doctrine, see Glantz, David M., *Soviet Military Operational Art. In Pursuit of Deep Battle*, Frank Cass, London 1991, Ch. 4; Turner, Frederick, "The Genesis of the Soviet 'Deep Operation': The Stalin-era Doctrine for Large-Scale Offensive Manoeuvre Warfare", Ph.D. thesis, Duke University 1988.



hundreds of thousands of tanks that can be produced during the first year of war.<sup>52</sup>

The future mechanisation of the army would follow three main lines. First, the deployment of separate, large mechanised units, and later in co-operation with aviation. Second, the introduction of tanks in all general units and third, the motorisation of the rear. The logical outcome, in this scheme, would be the complete mechanisation of the army. In Soviet doctrine, the army would still be a mass army, but with a different structure. The Red Army opted for three types of tanks: fast, cross-country tanks, amphibious tanks and flying tanks.<sup>53</sup> At this time, the fast, cross-country type was the Soviet modification of the Christie 1930 tank with combined wheel-crawler motion. Amphibious tanks had been developed from light tanks. Flying tanks were part of Soviet experimental development and would not prove to be successful. In the early 1930s, the development in the USA of air-lifted and dual purpose tanks (wings and wheels) were followed closely by Soviet designers.<sup>54</sup>

In June 1933, the War Commissariat and the Revolutionary War Council (RVS) had approved a guide-line plan for annual order for the remainder of the five-year plan, a new mobilisation request for one year of war at the end of the 5-year plan, and a proposal for the NKVM budget for 1934-37.

The purpose of the present work has been to delineate the specific characteristics of the defence industry planning. In the elaboration of the second five-year plan, a clear pattern can be discerned. The military detailed the mobilisation request in terms of the basic nomenclature of weapons, tanks, aircraft and so on. The main items received official sanction by the government and form the "*mob-zaiavka*". This mobilisation request was used as a guide-line by the planners and the industrial commissariat for their investment plans. Quite separate from the "*mob-*

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<sup>52</sup> *Osnovnye tendentsii dalneishego razvitiia mekhanizatsii i motorizatsii armii*, Egorov, RGVA f. 33988, op. 3, d. 191, l. 153.

<sup>53</sup> *ibid*, l. 152

<sup>54</sup> For the Christie Tank in its various Soviet BT, "Bystryi Tank" (i.e. fast tank) developments, see Shmeliev, I.P., *Tanki BT*, Khobbikniga, Moskva 1993; for Christie's unsuccessful projects of flying tanks, see Christie, Edward, *Steel steeds Christie: Memoirs of the Life of J. Walter Christie*, Manhattan, Kansas 1985, pp. 43, 49, 58-66. For the deliberations behind the Soviet acquisition of the first Christie M-1930 tanks in 1930, see Hofman, George F., "The United States' Contribution to Soviet Tank Technology", *Journal of the RUSI*, March 1980, pp. 63-68.

In the above-mentioned biography by Edward Christie and Hofman, only the first Christie model is mentioned. However, it is a fact that Walter Christie also in 1935 offered the Red Army, through

*zaiavka*", the peace-year annual order was sent from the military to the planners, so that the production plan for the coming year could be drafted. The final order (*zakaz*) was then *negotiated* between the defence industry plants and associations, on the one hand, and the military supply directorates, on the other hand.

The following tables over the mobilisation request for 1938, as adopted by the military in June 1933, illustrate the substantial increases in the war-time requirements.

Table 8.7

**The NKVM mobilisation request for 1932, 1933 and 1938**

(production in 1 year of war)

Item	Industry limit for 1932 (1 war-year supply)	MR 15 (1933)	M-18 (1938)
AIRCRAFT	7 490	14 500	30 000
of which:			
fighters (1- and 2-seater)	2 367	5 000	8 000
heavy bombers	402	1 300	3 250
light bombers, attack planes	3 814	5 430	6 850
reconnaissance planes	—	1 070	8 850
other aircraft	907	1 700	3 050
Air plane engines	11 200	24 000	75 000
TANKS, all types	19 800	32 200	45 000
of which:			
Reconnaissance T-37	400	15 000	14 200
General T-26	13 800	11 500	20 000
Operational BT - PT-1	2 000	5 000	7 000
<i>Proryv</i> Break-through T-28	—	200	2 000
Heavy tank T-35	—	100	800
Self-propelled artillery	—	400	1 000
Armoured vehicles	900	2 000	5 000
Automobiles	50 000	75 000	200 000
Crawler tractors	4 000	5 400	15 000
GUNS	18 000	28 615	41 600
SHELLS (mn rounds)	46.4	84.2	160
RIFLES	1 575 000	2 000 000	3 000 000
Machine-guns	117 800	175 000	206 000
Cartridges (mns)	5 500	8 000	14 000
Aerial bombs (in tons)	100 000	200 000	500 000
Chemical weapons (tons)	63 000	150 000	250 000

Source: *Mobzaiavka NKVM na god voyny na konets vtoroi piatiletki (1938)*, June 1933, Request by Defence Commissar Voroshilov, sent to Gosplan Chairman Kuibyshev, RGVA, f. 40438, op. 1, d. 184, ll. 7-8.

Note: The original figure in the document is 30 200 tanks. It is impossible to judge whether this figure is correct and some of the subsets incorrect, or if the addition was incorrect. The tank categories mentioned for 1932 do not add up to 19 800, presumably because that mobilisation request included 2 700 tanks of older design.

*Amtorg* in New York, the *blue-prints* for his new M-1932 tank and the technical assistance to build this tank in the Soviet Union.

Apart from peace-time naval construction, a special naval program was to be implemented at the beginning of mobilisation. The following table shows both the peace-time orders for 1932, the mobilisation request by 1933, the proposed peace-time plan for the rest of the second five-year plan and, finally, the mobilisation request by 1938.

Table 8.8

**Naval peace-time construction and the mobilisation program, 1932 to 1938**

(units) (war-time figures in italics):

	1932 order	1933 mob-request	1934-37 plan	1938 mob-request
Battle-ships	1 to be finished		1	
Cruisers	1 to be finished		12	
Destroyers	10 to be finished	<i>19</i>	<i>77</i>	<i>30</i>
Submarines	64 to be finished	<i>70</i>	<i>171</i>	<i>100</i>
Torpedo boats	21 to be finished	<i>124</i>	<i>160</i>	<i>200</i>
Naval guns	68	<i>4 000</i>	<i>3 768</i>	<i>5 950</i>
Shells for naval guns	116 700	<i>8,05 mn</i>	<i>1,41 mn</i>	<i>10 mn</i>
Mines	5 000	<i>25 000</i>	<i>33 000</i>	<i>30 000</i>
Torpedoes 21"		<i>2 500</i>	<i>3 100</i>	<i>6 000</i>

Source: *Mobzaivka NKVM na god voiny na konets vtoroi piatiletki (1938)*,

RGVA, f. 40438, op. 1, d. 184, ll. 7-8. <sup>55</sup>

By 1937, the military long-term planning took into account the strength of a possible coalition between the partners of the Anti-Komintern pact. The estimated strength of these states in war-time by far superseded the mobilisation requirements that had hitherto guided the build-up. With an outlook to the coming war, the new parameters in the threat perception would also call for changes in industrial structure and for new management forms in the defence industry.

<sup>55</sup> For naval construction during this period and the long-term plans, see Westwood, J.N., *Russian Naval Construction, 1905-1940*, Macmillan, London 1995, pp. 138-144.

Table 8.9

**Soviet estimates of Nazi Germany's, Poland's and Japan's military capacity**  
(units)

	In operation		War-time production		
	Air force	Tanks	Aircraft	Tanks	Shells
Germany	4 500	5 000	42 000	48 000	228 mn.
Poland	1 600	2 000	4 800	4 800	21,6 msn.
Japan	3 000	900	12 000	2 500	60-80 mn.
Total	9 100	7 900	58 800	55 300	309-329 mn.

Source: *Doklad Predsedatelia Gosplana, Smirnov, G.I. predsedateliu Sovnarkoma, Molotovu*, 5.06 1937, RGAE f. 4372, op. 91, d. 3002, l. 139.

As a consequence, the mobilisation targets were raised substantially during the third Five-year plan 1938-1942. The total capacity in aircraft construction was to increase from 20 600 in 1938 to 50 000 aircraft by 1942, in tank production capacity - from 35 400 to 60 775 units and in artillery shell production - from 101 to 489 million rounds.<sup>56</sup>

The conclusion of the Anti-Comintern Pact had also implied the threat of a two-front war. The economic strength of the Soviet Far East should increase to allow for the waging of war with mostly the regional military industry as supply basis, i.e. independently of whether the Trans-Siberian railroad would be open or not. In the worst case scenario, the Soviet Far East would in practice be cut off from European Russia by Japanese forces.<sup>57</sup>

<sup>56</sup> *Doklad Predsedatelia Gosplana*, op.cit., RGAE, f. 4372, op. 91, d. 3002, ll. 197-133.

<sup>57</sup> For a contemporary military description of the Far East as a self-reliant economic base in case of war, see the General Staff study from early 1937 by major I.M. Strazdyn, *Osnovnye linii razvitiia promyshlennosti Dalne-Vostochnogo Kraia, kak baza dlia vedeniia voyny*, RGAE, f. 4372, op 91, d. 2942.

## Chapter 9

### THE DEVELOPMENT OF ARMAMENTS PRODUCTION IN 1933-1937

This chapter analyses the development of armaments production. Although no five-year plan for the defence industries for 1933-1937 was ever approved by the government, a number of documents contain the long-term military demands, both for peace-time military orders and for war-time mobilisation requests (*mob. zaiavka*). From the industrial mobilisation targets, it is much clearer to what extent the Soviet armed forces were expected to expand upon mobilisation. Thereafter, the treatment of the annual defence budget in the decision-process is analysed. A common view of the Soviet economy is that the defence sector had top priority in many respects; for budget allocations, machinery, labour and raw materials. For the period studied, however, there was no automatic process that guaranteed the acceptance of any military request, at least until 1937.

#### 9.1 Current defence orders

Although some fears concerning the situation in the Far East persisted into late 1932, the military's judgement of the *actual* threat had obviously not resulted for a call for any increase in the annual supply of weapons, neither "modern" nor "old". Table 9.1 shows, that for the following five years, the Red Army did not plan on significantly *increased* weapons procurement. The expected orders for aircraft were to decline from 3 515 in 1933 to 2 000 first-line aircraft over the last years of the FYP. The military order for tanks was to increase slightly during the five-year plan, but still be much less than what had been aspired to in 1932 and 1933. All the same, these yearly deliveries were to provide the Red Army with 9 000 new aircraft, of which 2 000 fighters, 800 heavy bombers, 2 000 light bombers and attack planes and 1 650 reconnaissance planes. It also was to receive 9 700 tanks, of which 1 400 were of the most advanced BT (*Bystryi tank*), i.e. Christie type, 900 were break-through and 400 were heavy tanks. Only the planned procurement of artillery and shells seems more expansive. For rifles, machine-guns and chemical weapons the planned annual procurements were to be almost constant.

Given that this plan reflected the military's medium-and long-term threat assessments, it may be concluded that the actual changes in production compared to this plan were a response to new external threats. Furthermore, once this plan became the guide-line for the period, a drop in military production from one year to the next can not automatically be interpreted as being due to production problems. Finally, it would be incorrect to impose a growth perspective on the defence industry. Expansion of the defence industry's suppliers would be of interest for the overall military-industrial potential. The assessment of the level of rearmament, however, in the sense of war-time capability, cannot be implied from the development of the actual production of weaponry. From the performance of the Soviet economy, centred on growth rates in this period, the analysis now will proceed to the parameters of direct concern to the actors.

Table 9.1

**Guide-line plan of military orders for 1934-1937**

(units, unless specified)

Item	1933	1934	1935	1936	1937	Total for 1934-37
approved order						
First-line aircraft	3 515	3 000	2 000	2 000	2 000	9 000
Engines	6 000	7 000	7 000	7 500	7 500	29 000
Tanks of all types	4 220	2 100	2 300	2 500	2 800	9 700
Trucks	7 150	8 000	9 000	11 000	12 000	40 000
Crawler tractors	300	800	1 000	1 100	1 200	4 100
Guns (except naval guns)	5 200	5 600	6 900	7 800	8 400	28 700
Rounds (mn) (except naval)	2.7	5.0	6.0	6.5	7.0	24.5
Rifles	125 000	200 000	200 000	200 000	200 000	800 000
Machine-guns	32 000	26 000	27 000	29 000	29 000	111 000
Chemical weapons (tons)	1 000	1 500	2 000	2 200	2 300	8 000

Source: *Orientirovochnyi plan Zakazov NKVMor'a na ostavshiesia 4 goda vtoroi piatiletki po osnovnym nomenklaturam*. June 1933 draft by Chief of RKKA Staff, RGVA, f. 40438, op. 1, d. 184, ll. 9-10.

## 9.2 The defence budget of the second Five-year plan

The draft budget for the remaining years of the second five-year plan (1934-37) provided a total of 24 milliard rubles, which implies a total of 28.8 milliard rubles for the whole five-year plan. Of this amount, 14 milliard rubles were for weapons, 2.3 milliard rubles for construction and 12.5 milliard rubles for salaries.<sup>1</sup> The distribution of the budget allocation in this draft indicates that the artillery and the navy were the most expansive sectors of the army, in terms of procurement costs. The artillery order was to increase from 527 million rubles (for a total of 5 200 guns) in 1933 to 1 140 million rubles (for 8 400 guns) by 1937. During the second Five-year plan, the naval construction cost was to increase from 400.9 million rubles in 1933 to 1 200 million rubles in 1937.

Table 9.2

### The budget proposal for 1934-1937 (million rubles)

	1933	1934	1935	1936	1937
<u>Weapons and equipment, total:</u>	1 896.3	2 374	2 872	3 227	3 466
of which:					
Aviation	438.7	440	410	420	420
Moto-mechanisation	347.6	350	360	370	380
Artillery	527.0	660	850	1 040	1 140
Chemical weapons	57.7	85	95	120	125
Communication	70.0	75	82	90	103
Engineer equipment	54.4	64	75	87	98
Navy	400.9	700	1 000	1 100	1 200
Construction	582.0	500	460	420	420
Consumption, wages etc.	2 228.5	2 370	2 525	2 665	2 815
<u>Total defence ministry budget</u>	<u>4 706.8</u>	<u>5 244</u>	<u>5 857</u>	<u>6 312</u>	<u>6 701</u>

Source: *Proekt biudzheta NKVM na 4 goda piatiletki*, RGVA, f. 40438, op. 1, d. 184, l. 11.

In conclusion of the analysis of the military's long-term goals, the projected increase in military strength is illustrated in table 9.3. The first column shows the stocks in 1933. These can be said to represent the results of the first five-year plan. The second and third columns show the military's approved norms for deployment at mobilisation, in case of war in 1933 and 1938, respectively. These are just some of the numbers for various items to be deployed.

<sup>1</sup> *Proekt biudzheta NKVM na 4 goda piatiletki*, RGVA, f. 40438, op. 1, d. 184, l. 11

Taking into account the estimated loss rates, the Staff also calculated the required annual production in war-time. Material deployment and war-time production is of course crucial in the analysis of an enemy. Judging by the figures presented here, it is clear that, at least in crucial items, German intelligence under-estimated Soviet strength and capacity in the mid-30s.

It can be noted that the mobilisation deployment of the Red Air Force was to increase from 10 400 to 32 000 planes. One of the more remarkable aspects of this mobilisation plan is the heavy bomber fleet that was to consist of no less than 8 000 heavy bombers. Given the anticipated 200% loss rate, the military requested a war-time production of 20 000 heavy bombers. The total bomb-load for one year of war was set at 2 million tons by 1938.

Table 9.3

**Red Army strength, mobilisation deployment and war-time requests**

(units, unless specified)

ITEM	Stock in 1933	Deployment in 1933	Deployment in 1938	Loss rate estimate	Total prod. in war-year 1938
AIR FORCE:					
Airplanes,	4 915	10 400	32 000	100-250%	74 000
of which					
Fighters	920	3220	5 805	250 %	13 500
Heavy bombers	500	620	8 000	200 %	20 000
Light bombers, attack & recon.	2 600	5 238	9 494	200 %	27 500
Air Engines	9 500	17 600	71 000	same as planes	203 000
AUTO-ARMOUR-TANK FORCES:					
Tanks	6 000	11 000	40 000	150 %	85 000
Tankettes	5 300	9 000	20 000	200 %	40 000
Armoured vehicles	630	1 200	6 000	200 %	15 000
Trucks	15 200	70 000	500 000	100 %	500 000
Crawler tractors	1 520	9 000	100 000	100 %	100 000
ARTILLERY					
Guns, mortars & Howitzers, all types	22 700	28 800	81 900	30 - 100%	86 300
Shell rounds, all types (mn)	28.6	38.3	75.0	-	250
Aerial bombs (tons)	40 000	62 000	400 000	-	2 000 000

Source: *Vedomost osnovnykh pokazatelei plana stroitelstva RKKA na vtoroe piatiletie*. Signed by Chief of Staff Egorov, 8.06 1932. RGVA, f. 33988, op. 3, d. 301, d. 183-185.

Notes: The artillery figure includes all field guns, tanks and aircraft guns, as well as anti-tank and anti-air guns.

In the military estimate, it is equally remarkable which kind of tank forces the Red Army Staff counted on. For a war-year in the late 1930s, 40 000 tanks were to be deployed at



mobilisation. Considering the expected loss rate, this assumes a surge capacity of tank production to 85 000 tanks. These figures are higher than the estimates by Western scholars about Soviet plans in the 1930s.<sup>2</sup>

### 9.3 Military transformation as reflected in the annual plans and budgets

Without any doubt, by 1941 the Soviet economy had achieved a huge increase in defence production. Because the official Soviet budget, under diverse headings, concealed several aspects of arms build-up, previously available data on the military budget seemed to show a "kink" around 1934, with allocations to defence relatively constant prior to 1934 and thereafter steadily rising. The true development of the defence budget was, however, another.

For some years during the 1930s, the official Soviet defence budget was purposely distorted. The figures for 1932-34 purposely were falsely listed as almost *constant* compared with 1931. The official Soviet budget, as presented to the League of Nations in the first half of the 1930s purported to show a substantial increase (from 1.4 to 5.1 thousand million rubles) only in 1934. These figures were the only available previously to researchers in the West. Only recently did the British economist Robert Davies find archival evidence allowing to compute a series, in which a turning-point actually occurred in 1932.<sup>3</sup> For that year, the defence budget jumped to 4.8 milliard rubles. From a level of less than 10% of the total state budget in the early 1930s, the defence budget then increased to 14% from the mid-30s.

While there is so far no evidence that the Soviet defence budget for the 1920s were under-reported officially, the new findings of Davies calls for explanations. During a number of years, the official budget was consciously manipulated. The data for the official and the secret assignment to the Defence Commissariat for the crucial years is shown in table 9.4.

There were contemporary explanations, notably by Stalin himself, about partial industrial mobilisation in 1932. This was allegedly due to the acute threat from Japan. In the following, I will point to some more systemic feature that may provide yet other answers to the puzzling evidence.

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<sup>2</sup> As mentioned above, only peace-time production figures have been available. The mechanisation plans hitherto known did not permit any projections back to production, cf. Glantz, D.: "Soviet Mobilisation", op.cit.

<sup>3</sup> Davies, R. W.: "Soviet Military Expenditure and the Armament's Industry 1929-1933: A Reconsideration", *Europe-Asia Studies*, Vol. 45, No. 4, 1993.

Table 9.4

**The Soviet defence budget, official and secret, 1925/26 - 1935**

(millions rubles, current prices)									
1925/26	1926/27	1927/28	1928/29	1929/30	1931	1932	1933	1934	1935
570	651	765	880	1046	1 790	4 751	4740	5794	8820
-	-	-	-	1046	1288	1296	1421	5019	8186

Sources: For 1925/26 to 1928/29, Cooper, J. "Defence Production", op.cit, p.35  
for 1929/30 to 1933: Davies, R. W.: "Soviet Military Expenditure", op.cit., p. 580,  
for 1934 and 1935, RGVA, f. 33987, op. 3, d. 1046, l. 144.

The discussion concerning what constituted the defence items in the Soviet budget deserves to be mentioned here. Several items of a strictly defence nature were listed under headings of other People's Commissariats (ministries), as well as in municipal budgets and in the budgets of various public associations. It remains, in my mind, an open question as to whether or not and using which criteria, to include investments in combined civilian-military use of new industrial facilities. Intricate problems of evaluating the military significance of the chemical industry investment is but one of many fields, which however are beyond the scope of this study.

**The defence budget as an indicator of rearmament?**

While mobilisation requests are the result of strategic rearmament considerations and determine the level of investment, short-term alterations in the annual budgetary allocation reflect the immediate concerns of the leadership. From the data now available, it is possible to illuminate parts of the process of adopting the military budget. There are ample opportunities to follow the deliberations, prior to the assignment of various items.

Beyond the budgetary figures, it is possible also to see the outcome of the allocation process. The budget is the final outcome of the deliberations during the year in question. What the archival documentation may reveal is which options were debated, before a budget was

adopted. Further, it can show what actually happened during a given year. In the following, it will be shown first, that defence had not become a first priority, even by the end of the first five-year plan, and second, that it is crucial to distinguish between the plan budgets and the actually implemented budget. As these new data demonstrate, there was sometimes a significant difference between the amount of weapons actually procured and the budgetary limits.

It thus can reasonably be stated that the second five-year plan did not include a *rearmament*, in the sense of a massive equipping of the army with modern weapons. Tanks and aircraft procurement were expected to remain relatively stable over the plan period. A large increase, however, planned for the artillery production, which, as noted above, was considered to be one of the "weak spots", both in composition and in comparison with the assumed mobilisation capacities of the advanced countries.

Over the years of the five-year plan the changing international situation evidently resulted in changes in the annual defence budget. The first major changes as compared to the "guide-line" budget occurred in 1935, but they were mainly increases in the salary component of the budget, required for the increase in army personnel.

For 1936 and onwards changes in the weapons procurement program compared to the guide-line project can be discerned in all the major weapon categories.

For the second five-year plan as a whole, a comparison of the initial "guide-line" budget, with the revised, *adopted* budget and the *implemented* budget are shown in tables 9.5 and 9.6.

Table 9.5

**The guide-line defence budget project for 1933-1937**

(million rubles)

	1933	1934	1935	1936	1937	2nd FYP
Orders, total	1 896	2 374	2 872	3 227	3 466	13 835
Construction	582	500	460	420	420	2 382
Consumption, wages etc.	2 229	2 370	2 525	2 665	2 815	12 604
Total defence budget	4 707	5 244	5 857	6 312	6 701	28 821

Source: *Proekt biudzheta NKVM na 4 goda piatiletki*, RGVA, f. 40438, op. 1, d. 184, l. 11.

The guide-line for the defence budget assumed a doubling of procurement orders, but with only a modest increase in army consumption and wages. This was based, obviously, on the assumption of constant size of the armed forces personnel and only modest changes in wages. When the peace-time strength of the Red Army was enlarged in the mid-30s, the budget was consequently expanded for this reason. Table 9.7 shows the radical change in military orders, as approved year by year, compared to the original plan, from 1935 onwards. While the production results for 1937 have not been located, the implemented procurement for 1935-36 show a wide gap between allocations for military orders and actual procurements. Out of a military order to industry for 3 194 million rubles in 1935 only 2 225 million rubles worth of armaments were actually supplied. The respective figures for 1936 were 5 912 million rubles and 4 558 million rubles. The non-fulfilment (by 30% respectively 23%) of the military orders was one main reason for leading officers to call for yet another review of the mobilisation planning.

Table 9.6

**The adopted and implemented defence budgets for 1933-1937**

(million rubles)

Adopted budget	1933	1934	1935	1936	1937	2nd FYP
Orders	1753	2292	3194	5912	7594	20745
Construction	678	745	1108	2517	1875	6924
Consumption	2307	2764	4983	8151	10570	28775
Total Defence budget	4738	5801	9285	16580	20039	56444
Implemented budget	1933	1934	1935	1936	1937	2nd FYP
Orders	1 505	1 947	2 225	4 558	7 593	17 830
Construction	620	716	1 186	2 517	1 875	6 915
Consumption	2 173	2 729	4 762	7 805	10 566	28 039
Total Defence budget	4 298	5 392	8 173	14 880	20 034	52 785

Source: *Zakliuchenie po planu zakazov NKO na 1937 god*, RGAE, f. 4372, op. 91, d. 3290, l. 2.

Note: The 1937 figures were merely preliminary, expected actual budget figures. The categories for this year are not available, but the actual budget is elsewhere given as 17 481 million rubles. Consequently the data for the second five-year plan as a whole must be seen as rough approximations.

During the second five-year plan, a total of 52 milliard rubles had been spent on the Defence commissariat, as compared to the 28.8 milliard rubles planned in the "guide-lines". The most significant increase was due to the enlargement of the army from 1935 onwards, including the required construction (barracks and new training fields), whereas the armament orders increased from 13.8 milliard rubles planned to roughly 17.8 milliard rubles.<sup>4</sup>

Since the focus has been on the "weapons materiel" side of the defence planning, the changes in the procurement plans are shown below:

<sup>4</sup> RGAE, f. 4372, op. 91, d. 3222, l. 18.

Table 9.7

**The budget proposal and implementation for weapons and equipment in 1933-1937**  
(million rubles)

	1933	1934	1935	1936	1937
Guide budget project	1 896	2 374	2 872	3 227	3 466
Adopted budget	1 753	2 292	3 194	5 912	7 594
Implemented budget	1 505	1 947	2 225	4 558	7 593

Source: *Proekt biudzheta NKVM na 4 goda piatiletki*, RGVA, f. 40438, op. 1, d. 184, l. 11.

Note: The data for 1937 are from a proposal by the Defence Commissariat.

One document on the actual procurement, divided into the main armaments categories, has been found (table 9.8). It is contained in a Gosplan summary of the defence order for 1937.

Table 9.8

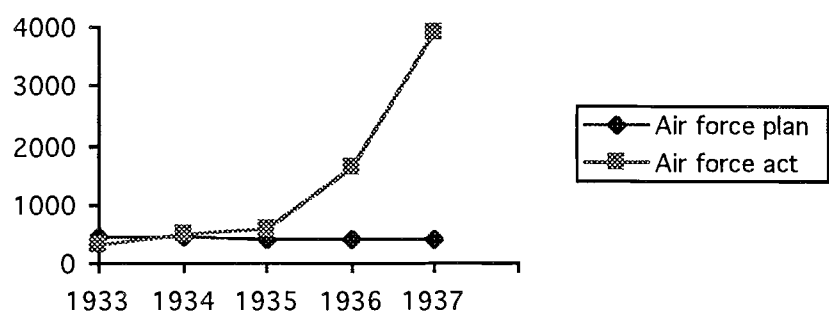
**Actual weapons procurement in the second Five-year plan**  
(Million rubles, current prices)

	1933	1934	1935	1936	1937 <i>projected</i>
Aviation	411.8	510.3	596.0	1 614.0	3 908.0
Auto-tank	334.2	344.8	535.0	1 093.0	1 784.3
Artillery	478.0	585.8	947.0	1 416.0	2 348.6
Chemical weapons	45.0	45.7	60.5	91.0	228.4
Radio & tele	90.0	92.0	74.6	121.0	178.0
Special technique	-	-	32.8	45.0	62.0
Engineer	52.0	52.7	53.7	100.0	143.5
Naval construction & aviation	335.0	645.5	881.5	1 370.0	2 759.1
Railroads	7.0	15.0	13.0	48.0	50.0
Fuels	-	-	-	14.0	49.5
Total	1 753.0	2 291.8	3 194.1	5 912.0	11 511.4

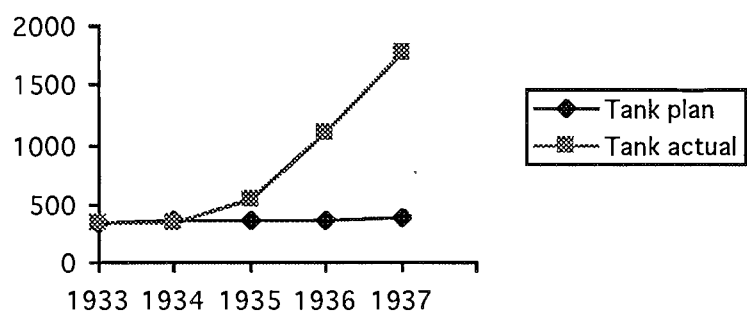
Source: *Zakliuchenie po planu zakazov NKO na 1937 god po predmetam boevoi tekhniki*, Gosplan report 13.12 1936, RGAE, f. 4372, op. 91, d. 3106, ll. 94-93

Assuming that the main weapons categories in this table are reasonably close to the ones in the "guide-line budget" of NKVM, the changes (in value terms, million rubles) during the second five-year plan can be shown clearly to have taken place in 1936. It can in any case serve as a survey for more detailed research, should the price changes be possible to establish.

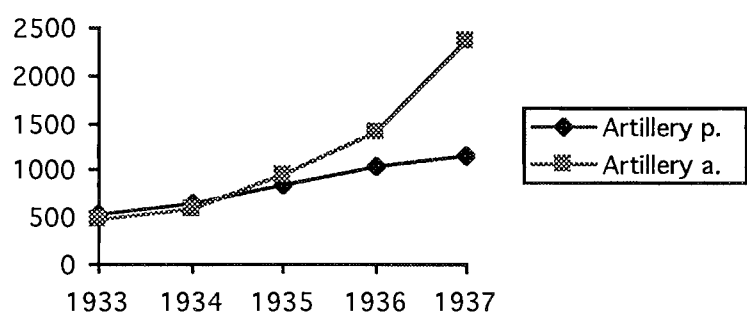
Figures 9.1-4 **Planned and actual expansion of the airforce, tank forces, artillery and naval construction, 1933-1937** (mn rubs, constant prices for plan, current for actual output)



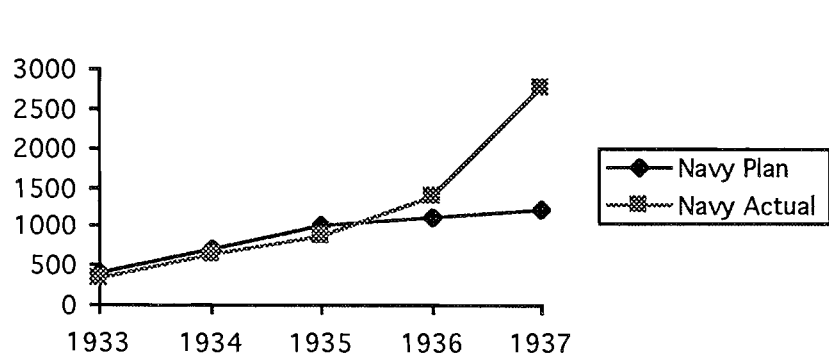
**Air force, planned and actual expansion (million rubles)**



**Tank force, planned and actual expansion.**



**Artillery, planned and actual expansion.**



#### 9.4 Annual defence industry plans, 1933-1937

The first proposal for the 1933 Defence commissariat's budget was discussed on 25 July 1932 by the Revolutionary War Council (RVS). Including increased salaries, RVS proposed a budget of approximately 5 750 million rubles.<sup>5</sup> A few days later, RVS even issued a directive for the 1933 budget which proposed 6 317 million rubles, of which 3 030 million rubles were to be for the procurement of weapons, 800 million rubles for construction and 2 487 million rubles for salaries and consumption.<sup>6</sup> By late August 1932, the NKVM draft budget was utilizing the Government approved sum of 5 800 million rubles for defence, of which 2 620 million rubles were for procurement, 750 million rubles were for construction and 2 080 for consumption.<sup>7</sup> In the end, the defence budget adopted by the government was for merely 4 378 million rubles, and the actual budget used in 1933 was 4 299 million rubles.

The reduction of the budget was explained in part by lagging industrial performance during 1932. The following table shows the expected results, compared with the plan for 1932 and the military annual order for 1933.

Table 9.9

#### The defence industry plan and performance in 1932, the NKVM order for 1933

(units, unless indicated)	1932		NKVM's 1933 order	
	Plan	Expected fulfilment	August	September
Airplanes	3 461	2 350	4 610	3 329
Engines	5 310	4 360	9 050	5 275
Tanks	10 000	3 000	7 000	10 000
Guns	5 494	2 300	7 326	5 194
Rifles	385 000	300 000	377 000	385 350
Machine-guns	81 300	61 000	61 650	--
Shells (ths.)	7 828	---	5 016	8 274
Gunpowder (tons)	11 800	5 600	5 500	11 800
Trotyle (tons)	11 900	6 500	15 000	11 900

Source: *Postanovlenie Komissii Oborony, 14.11 1932*, RGAE, f. 4372, op. 91, d. 1566, ll. 57-55.

<sup>5</sup> *Zasedanie RVS, 25.07 1932*, RGVA, f. 4, op. 14, d. 22, l. 354.

<sup>6</sup> *Postanovlenie RVS, 29.07 1932* RGVA, f. 4, op.14, d. 22, ll. 380-380ob.

<sup>7</sup> *O plane zakazov, Doklad nachalnika 5-go upravleniia Shtaba RKKA, 31.08 1932*, RGVA, f. 4, d. 18, d. 22, ll. 461-462.



Gosplan's Defence Sector refused to approve the August version of NKVM's project. In September, Gosplan concluded that the proposal could not be approved, first because of insufficient industrial capacity and second, because of a lack of metal and chemicals. The total cost of the military-industrial order (*voennyi zakaz*), only from the Defence Commissariat, NKVM, would have reached the amount to 4.5 milliard rubles. Gosplan stated:

It is obvious that the supply of similar quantities of deficit materials to NKVM is unacceptable from the point of view of the economy.<sup>8</sup>

Gosplan's Defence Sector proposed that the NKVM order to be kept at the same level as the previous year. The reductions that the planners suggested are shown in the following table:

Table 9.10  
**The 1933 military order, drafts by the military, industry and Gosplan**

Product	NKVM proposal	NKTP proposal	Gosplan Defence Sector: Proposal
Aircraft	6 290	5 040	3 500
of which TB-3	800	450	500
Engines	17 160	10 000	7 000
Tanks	10 000	7 500	8 000
Guns (except coastal)	10 475	9 580	7 400
Rifles	900 000	400 000	400 000
Shells (rounds)	7 318 000	4 720 000	5 000 000
Aerial bombs	20 000	30 000	20 000

Source: *Zakliuchenia Sektora Oborony Gosplana*, 3.09. 1932, RGAE, f. 4372, op. 91, d. 1566.

Gosplan's Defence Sector proposed a gross defence industry production in 1933 of approximately 2 700 thousand rubles. The proposed plan for 1933 still implied an increase of 40% over the expected results for 1932. The defence industry had an annual plan of 2 763 million rubles, but the expected performance was merely 1 924 million rubles, or 70% of the plan.<sup>9</sup> In November 1932, the Defence Sector received a new draft of the 1933 order from

<sup>8</sup> *Zakliuchenia Sektora Oborony Gosplana*, 3.09. 1932, RGAE, f. 4372, op. 91, d. 1566, l. 67. These calculations were made by the Head of the Defence Sector of Gosplan in September 1932.

<sup>9</sup> Plan for 1932                   2 763 thou rubles in 1926/27 prices  
 Fulfilment 1/2 year       874 thou rubles  
 -"- in 3rd quarter       500 thousand rubles  
 -"- in 4th quarter       550 thou rubles  
 Expected fulfilment   1 924 thou rubles, or 69,7% of the annual plan.

NKVM. This proposal had a reduction for most items compared with the earlier proposal. Even so, however, Gosplan's Defence Sector estimated that, for example, the plan for 7 326 guns would exceed the metal available.

Table 9.11

**NKVM armament orders for 1933**

Sector	Units	Cost (thousand rubles)
Aviation		430 000
	3 615 planes & 6 010 engines	305 000
Auto-armour-tank production		340 000
	4 220 tanks	226 000
	1 650 tractors	28 000
	476 armoured cars	10 000
	7 000 lorries et al.	53 000
Naval construction		375 900
	ships	205 000
	armaments	126 000
Artillery		521 000
Communication and tele-mechanics		69 200
War-chemical production		57 500
Engineer production		56 600
Railroad construction		7 800
<b>TOTAL</b>		<b>1 857 500</b>

Source: *Postanovlenie STO*, 5.12 1932, RGVA, f. 4, op. 17, d. 76, ll. 549-559.

In November, the Head of Defence Sector reported to Gosplan's Chairman, Kuibyshev concerning the 1932 plan. The defence industry was to deliver goods for 2 804 million rubles, of which 1 633 was for military equipment. Since actual production in 1932 was expected to be merely 1 900 to 1 950 million rubles, with weapons accounting for 1 100 million rubles, the proposed increase was rejected by the planners in the Defence Sector. In addition to the deliberations between the military and the planners, there were on-going discussions between

the military and industry leaders. Table 9.12 shows the reduction, which the industry opted for, in the various weapons categories.

Table 9.12  
**The down-scaling of the NKVM annual order for 1933**

million rubles	RKKA project Summer 1932	Industry project Autumn 1932	RVS <i>zakaz</i> November 1932 project
Aviation	1 350	625	600
Auto-tank	677	450	440
Artillery	1 095	758	870
Chemical weapons	102	60	80
Radio & tele	153	100	110
Special equipment	-	-	33
Engineer	57	40	60
Navy & naval aviation	563	500	450
Railroads	7	15	10
Total	4 652	2 542	2 620

Source: RGVA, f. 4, op. 18, d. 22, ll. 461-462.

The Revvoensovet had asked for a budget of 5 800 million rubles, of which 2 620 million rubles were for industrial orders. Even this number was a large reduction compared with the initial proposal of the RKKA Staff from the summer of 1932.

Faced by this reduction in orders and investments, some military officials complained to Stalin. Referring to the weak position of the military on many commissions, Tukhachevskii asked Stalin to intervene before the final Gosplan and VSNKh defence investment plans for 1933 were submitted to the government.<sup>10</sup>

Actual production during the rest of the five-year plan can be followed in the reports submitted by Gosplan. In many cases, it would be desirable to follow both the fulfilment in physical terms, as a measure of military expansion, and in value terms, so as to evaluate the economic performance and planning proficiency. At the present time, such all-inclusive data is not available. The following data for an individual year merely indicates some of the disparate performance of the defence industry (table 9.13).

<sup>10</sup> *Zapiska Tukhachevskogo Stalinu*, 21.12 1932, RGVA, f. 33988, op. 3, d. 262, ll. 88-86

Table 9.13

**Fulfilment of the 1933 defence industry plan**

(units)	Produced in 1933	% of annual plan
Rifles (units)	240 987	119.5
Cartridges (ths)	311 920	101.4
Machine-guns	32 658	100.5
Artillery systems	937	85
Shells, small calibre	667 177	97
medium calibre	433 397	221
large calibre	73 937	81
Tanks	3 640	86
Aircraft	4 116	87
Engines	7 775	104

Source: *Ob itogakh raboty voennoi promyshlennosti po proizvodstvu v 1933 godu*,  
Report to Mezhlauk, deputy Sovnarkom Chairman and Chairman of Gosplan.  
28.05 1934, RGAE, f. 4372, op. 91.

In value terms, production was 2 125 million rubles, representing an increase of 3.5% compared to 1932. After the near-failure of the 1932 tank program, the rate of expansion of the tank procurement was reduced. Annual production came much closer orders (table 9.14).

Table 9.14

**Tank production in 1934 and 1935,  
by tank type and factory**

	1934		1935	
	order	delivery	order	delivery
Vickers T-26, "Voroshilov" plant	1 380	1 426	1 200	1 263
Vickers T-26, Stalingrad Tractor	120	23	200	105
Christie, "BT", Kharkov Locomotive	1 100	1 105	650	500
Heavy tank, T-35, "-"	10	10	10	7
Medium tank, T-28, "Kirov" Plant	50	50	30	32
Amphibious tank, T-37, Plant No 37	950	951	1 100	1 102
"-", Gorkii Auto Plant	50	-	100	36
Total production	3 660	3 565	3 290	3 055

Source: *Spravka o vypolnenii voennoi promyshlennosti zakazov NKO za 1934 god*,  
RGAE, f. 7297, op. 41, d. 243, l. 16, *Spravka o vypolnenii voennoi promyshlennosti  
zakazov NKO za 1935 god*, RGAE, f. 7297, op. 41, d. 177, l. 65.

Note: These were reports sent to Stalin, Molotov and Voroshilov by VSNKh's Mobilisation-Planning Department

During the years 1933 - 1935, the impression is that military orders were regularly more in accordance with the capability of the industry.<sup>11</sup> The absolute numbers of tanks and tankettes that the Red Army opted for during these years do not seem to be of a magnitude that hindered the development of the tractor production. In other words, the combined military and civilian production at tractor plants, first of all at the Stalingrad (STZ) and Cheliabinsk (ChTZ) Tractor Plants, seem to indicate that, with the surge capacities and the conversion ratio tractor-tanks involved, there would be no apparent contradiction between the dual purpose in peacetime.

Even in 1936, the military requirements for 1937 would undergo a similar down-scaling as at the beginning of the second five-year plan. The original project from the Defence Commissariat and the Gosplan revised proposal are shown in table 9.15.

Table 9.15  
**The military order proposal for 1937, Defence Commissariat  
Gosplan and government version**

	Defence Commissariat 1937 <i>project</i>	Gosplan project 1937	Government Order for 1937
Aviation	3 908.0	2 430	2 700
Auto-tank	1 784.3	1 515	1 000
Artillery	2 348.6	2 004	1 636
Chemical weapons	2 759.1	2 342	2 200
Radio & tele	228.4	170	115
Special technique	178.0	163	137
Engineer	62.0	62	35
Naval construction. & naval aviation	143.5	139	105
Railroads	50.0	40	35
Fuels	49.5	35	35
Total	11 511.4	8 900	8 000

Source: The NKO project, RGAE, f. 4372, op. 91, d. 3106, ll. 93-92; Gosplan's revised project, RGAE, *ibid.*, l. 84; The Defence order, *Postanovlenie STO*, December 1936, RGVA, f. 4, op. 14, d. 1814, l. 130-131.

<sup>11</sup> *Spravka o zakaz i vypolnenii po tankam, pulemetam, vintovkam in vintpatronam...*, RGAE, f. 7297, op. 41, d. 12, l. 8; *Svodnaia tablitsa po snariazheniiu snariadov aerobomb VKhT...*, *ibid.* l. 6

## 9.5 Defence production results of the second Five-year plan

When summing up the evolution of the Soviet defence industry during the second five-year plan, several approaches are possible. Traditionally, reference has been made to the expansion that actually occurred under the more "modest" growth targets that were established for this plan, i.e. in comparison with the goals of the early 1930s. It is also possible to point to the expansion of defence-significant sectors in metallurgy, metal-working and machine-building, as being the prerequisites for eliminating the "bottle-necks" that characterised the defence industry of the Soviet Union in the late 1920s. A rough indicator of the growth of defence potential has been derived from the few figures that earlier were available from Soviet sources, statistical and otherwise. In the present study, a number of such earlier lines of enquiry have been mentioned. However, given the very vague and general character of such findings it soon proved necessary to find a new approach. Unlike earlier studies, this work used the participants own testimony concerning how long-term plan was formulated.

The main results of the materiel production during 1933 - 37 are tentatively summed up in the tables above. The actually implemented augmentation of defence orders in the years 1936 and 1937 was well within what had been projected in the alternative, war-year plans.

On the other hand, even during the latter years of the plan period, the performance of certain sectors of the defence industry was so weak that the military and the planners considered the mobilisation plan to be threatened. The "weakest link in the chain", or the bottle-neck of the mobilisation request (*mob.zaivka*) as a whole, was the ammunition supply.

To a certain extent, the deficiencies in the defence industry's performance was addressed by administrative changes. The efforts at integration, whereby a huge mobilisation request had been spread over a large number of defence and civilian enterprises was, step by step, giving way to the creation of a separate defence industry. The defence industry was separated from the Commissariat of Heavy Industry (NKTP) in 1937, and subordinated in various directorates of the Commissariat of Defence Industry (*Narodnyi Komissariat Oboronnoi Promyshlennosti*). Two years later, this commissariat was, in turn, divided into four different defence industry Commissariats (for armaments, ammunition, aviation and naval construction). Gosplan's Defence Sector was reorganised and replaced with a mobilisation sector in 1937.

The administrative changes that the defective mobilisation planning and industrial preparedness seem to have called forth, however, were only one element of change during the last years of the plan period. Far more important were the effects of the Terror that spread throughout the Party, the planning agencies and the state administrations and, not the least, in the Red Army. The "decapitation of the Red Army", i.e. the repression of tens of thousands of officers in 1936-1938, probably had more far-reaching consequences compared with the other groups mentioned. In June of 1937, Tukhachevskii and three other marshals were sentenced to death in a show trial. The same fate struck thousands of officers in both the central army apparatus and the military units.

The consequences of the Terror in the army and in the planning organisation thus led to a stifling of debate concerning military strategy and the development of new doctrines. The younger officers, who replaced the victims, were not as capable of handling the mobilisation organisation. Whereas the goals of the third Five-year plan could be formulated in general terms by the planners in 1937, the shake-up of Gosplan hindered the timely drafting of the third Five-year plan. All the evidence indicates that the long-term goals were now subject to annual reviews and short-term targets essentially defined by Stalin's Politburo and other agencies that he controlled.

In more than one sense, the year 1937 was a water-shed. Apart from the political convulsions, the industrial and economic mobilisation framework that had been established for more than a decade continued to function. The new actors within this network, however, had to start in a qualitatively different setting.





## SUMMARY AND CONCLUDING REMARKS

Central to the economic-historical analysis of any industrialisation process is the growth rate of the economy as a whole and that of individual branches, as well as the institutional setting. With regard to Soviet industrialisation, and particularly its military implication, such analysis has been hampered by paucity of statistical data, by non-market prices and by scarcity of original documents. The true defence goals of the party and military leadership, therefore have remained obscure.

The present study has pursued both a methodological and an empirical path. The focus has been shifted from the annual and long-term growth targets, planned or achieved, to the specific defence industry targets established for the contingency of war (*mobilizatsionnaia zaiavka*). Previously, it has not been possible in any detail to assess the mobilisation targets for the Soviet defence industry plans. The same holds true for the actual possibility that these plans could have been fulfilled, had a war erupted. In other words, to assess how realistically the mobilisation targets were set. The disputes between the military authorities and industrial administrators during the early and mid 1930s indicate that a central concern was the enhancing of the capacity and guaranteeing a sustainable production of armaments in a year of war, and even during several years of war. Despite a wide mobilisation network in economic and other state agencies, and the elaboration of a number of contingency plans (for the mobilisation period and for one year of war), worries about the realism of industrial mobilisation plans were reflected in reports of so-called test mobilisations

This study has traced the roots of the planning apparatus for military production to the debates within the party and military leadership in 1926-27. Concern over the outcome of, according to Marxist doctrine, the inevitable, armed confrontation with a coalition of capitalist countries made the importance of including all aspects of defence in the general framework of long-term planning clear to the Soviet leadership.

A nucleus of the Soviet military-industrial planning complex was established in 1927. It has been demonstrated that a subordination of this kernel in the State Planning Commission (*Gosplan*) to the military authorities, as was advocated by then Chief of RKKA Staff, Tukhachevskii, was eventually rejected. Nonetheless, the principles, the functions and the personnel composition adopted by Gosplan for defence industry planning, in co-operation

with the military authority's (the Defence Commissariat, the Red Army Staff) preparations for war, already in the autumn of 1927 constituted a planning framework. This framework was to influence, and even define, the priorities and the required capacities of key branches of industry during industrialisation. Given the character of military production, particularly the wide gap between peace-time and war-time needs, it has been emphasised in this study that the influence of the military-industrial planning complex was more *qualitative* than quantitative in nature. The absolute levels of arms production in themselves were impressive. Contemporary observers, as well as scholars in the West, noted the production of modern weapons, such as aircraft, tanks and chemical weapons, in the early 1930s. Comparing in detail the investment plans, and their implementation, in the defence industries proper, as well as their supplying industries, i.e. the defence industry complex in a wider sense, likewise calls for another investigation.

That would show from practical experience, whether or not the principles of the planning model determined defence industry investments as in all aspects emanating from the mobilisation requests (*mob.zaiavki*). The present study has outlined the problem and noted some methodological problems.

One aspect of the present study has been to reformulate the problem of militarisation of the economy. It has been argued that none of the weapons procurement undertaken by the Red Army in the late 1920s should be called rearmament, but rather a reconstruction of defence ability. Given the state of the country's armed forces, as described in great detail in the first war plan from 1926 and in *The Future War*, the *magnum opus* of Soviet Military Intelligence and Tukhachevskii personally, much of the restructuring of the defence industry thereafter seems rather to have been a race against time with a technologically far more advanced West. The main threat was felt to be a coalition of the contiguous states, supported by Western countries. The rational response was a thorough *modernisation* of the Soviet military machine during the first Five-year plan. The evidence further shows that while a groundwork for a modern army (equipped with tanks, aviation, automatic guns and so on) was being laid in 1930-32, the military, as well as the Party, leadership rejected urgings from the planning agencies (Snitko) and from individual military officers (Tukhachevskii) to establish a mass army with tens of thousands of aircraft and tanks. Instead, during the years 1932-34,

perhaps even longer, the "model of industrialisation" that was pursued by the planners attempted to obtain an industrial structure, like the Soviet economists' perception of the American, that is, an advanced economy with a civilian sector (particularly machine-building) that could be mobilised in case of war. As a consequence of this reasoning, the Soviets developed a number of truly dual-purpose sectors, the automobile, tractor, aviation and chemical industries being the prime examples. The surge capacity of an enterprise was determined by the military request (for war-time production). As long as peace lasted, however, actual output could have any ratio of civilian vs. military production. How much of the new investment in the first and second Five-year plans was of this *dual* military-civilian nature, as well as the determinant factor of civilian vs. military output, is left to future research. To the extent that the evidence of the planners' and the military leaderships' intentions by 1933-34 allow for judgements, it seems inappropriate to describe the defence industry build-up in that period as *militarisation of the economy*. The first reason for this has already been mentioned: an "American industrial mobilisation", according to the Gosplan opinion, would be less costly for the Soviet economy in the long run, which in their calculus included both the pre-war, the war and the post-war situation (the latter implying a military triumph over capitalist states). A second reason for not applying the concept of *militarisation* to the early 1930s Soviet Union is that it would attenuate the concept. As this study shows, the principles and methods for industrial mobilisation were common currency in Soviet Russia and in Western countries such as Italy, France and, particularly, Germany. The preparation of an economy for the needs of total war, as pursued in all these countries would thus constitute militarisation. It seems preferable not to use the term *militarisation* as long as the activity referred to is merely planning, not the actual direction of production streams. When, however, the mobilisation targets, as they were set by the planners for the third Five-year plan 1938-1942, far outstripped any feasible mobilisation of civilian industry, the Soviet leadership had no choice but to abandon any hope of using the "American model". The implementation of defence industry plans for the years 1938 and 1939, therefore, does constitute a shift towards *militarisation* of the economy in a sense that seems verifiable and appropriate.

With the outcome of an historical process as obvious as in the Soviet case, it is tempting to extrapolate back to supposed origins. I prefer to argue that what is called the Soviet

military-industrialisation complex, and which has its roots in the military-planning framework established already in the late 1920s, actually had at least two development paths: one civilian and one military. The first grew along the lines of American industry, with an ever more complex heavy industry, a machine-building industry and a modern infrastructure (aviation and motorisation). Since the war threat in the late 1930s surpassed what the planners had projected, they had to expand the specific war industry to a larger degree and encompass it in a new organisational superstructure. In this sense, the conclusions of the present study have given another kind of evidence, that tends to support the second interpretation of Soviet history, described in the introduction as "deformed socialism". The evidence for this is, of course, the limited extent of military orders as planned in 1932 for the second Five-year plan, while at the same time the contingency, the case of war by the end of that period, called for a high industrial mobilisation preparedness.

After these very general conclusions, a summary of the main findings may be in place.

In the first part of this work, it was demonstrated how general concern for the lagging development of the defence industry led to a reorganisation of the industry's administration and a new defence industry planning organisation. While the "war scare" of 1927 might have had political and psychological repercussions throughout society, the evidence here presented shows that the military does not seem to have been particularly concerned about an imminent war. The planning that was initiated, with solid military representation in Gosplan and in many People's Commissariats had a longer time horizon. According to the prevailing Marxist analysis, a "future war" was inevitable. The outbreak of that war, however, in most scenarios was placed more than a decade away.

New doctrines adopted by some leading military men in the mid-1920s opted for modern weapons, such as aviation, tanks and armoured vehicles. In practice, the plans for transformation of the armed forces were initially directed on a modernisation of the artillery. It became obvious, however, that of even more concern than the production in the near future was the preparedness of the economy and society as a whole for the anticipated future protracted war. This concern over organisation, rather than production, seems to have been at the root of the conflict between Defence Commissar Voroshilov and Chief of the Red Army Staff, Tukhachevskii. Contrary to a common conception, this work has made it probable that

Tukhachevskii was not relieved of his duty in 1928 because of any far-reaching proposals for rearmament. The central question in that conflict was rather the amount of influence and control of the planning process.

Should war erupt in the 1920s, before industrialisation had made progress, *The Future War* and other studies of the Red Army indicate that the Soviet forces would probably be able to hold off a hostile coalition. Victory over an anti-Soviet bloc, however, would require 5-10 years of progress in industry and infrastructure.

In the second part, it was shown that there did not exist any specific five-year plan for the armed forces, or for the defence industry for the years 1928/29-1932. Several drafts for such plans had indeed been elaborated. The military was also consulted over the drafts for the five-year plan in general. Their opinion on the needs for the armed forces in case of war was reflected in plan goals for many sectors of the economy.

The Soviet planners, in other words, formulated merely a set of priorities for general expansion of defence-significant industrial branches and also a set of specific industrial mobilisation targets. These targets were ratified at the highest political and state level. The mobilisation targets (*mobilizatsionnaia zaiavka*) defined the planned *production capacity* for a number of important weapons at a particular time. The mobilisation reserves, accumulated stores of guns, ammunition and equipment, were expected to be sufficient for no more than the first three months of war. At the beginning of the period here studied, the industrial mobilisation was expected to require up to six months for transition to war-time capacity. Considering the rapid technological changes and the huge combat loss rates for the modern weapons systems, it would be impossible to accumulate sufficient mobilisation reserves in peace-time even for three months of war. The war-preparedness of the nascent tank and aviation industries, therefore, included not only huge investments for war-time capacity, but also a constant testing of rapid transition to full-scale war production.

The defence plans had a dual character. The contingency plans (1-year-of-war-plan, first-period-of-war-plan, balances for a war-economy) and the army mobilisation requests together determined the parameters for the long-term plans. In order to illustrate the pattern of the defence planning, military and economic preparedness for war, the following model (figure C.1) may prove helpful. Production, planned or actual, is projected over the "peace-time axis".

This represents the development of planned and real production of in this case tanks in the early and mid 1930s.

But considering the end-use of armaments, as decisive means in a possible war, the war-time capacity (production during one year, first, second etc. year of war) enters as the crucial factor. The Soviet defence industry planning involved also a "war-time axis". For every weapon category, as mentioned, there existed a required amount that the government had ratified. In principle, these authorised mobilisation requests (*utverzhdennye Politbiuro zaiavki*) would include all essential military goods, and in turn, determine the investment pattern year by year. In practice, the industrial mobilisation targets would allow for such a smooth determination more as an exception than as a rule.

The "shadow" planning was the military's estimates of needs (reserves and supply norms) in the first period of war and during one year of war. The determinants of military demand, in turn, were the war plans, the expected deployment of various weapons, the number of battle days, the supply norms for ammunition and the expected loss rates. The present study has illuminated the principles of Soviet defence industry planning, both in theory and in organisation. The practical implementation of these principles has been illustrated with examples from individual branches. .

It may be underlined that this twin aspect of planning in figure C.1 is introduced, not for the sake of exactly depicting the evolution of tank production *per se*. The purpose is rather to give a new perspective on Soviet planning a graphic illustration. Traditionally, Soviet studies have centered on the actual production in comparison with what Soviet leaders, or planners, purported to be their targets. When Sovietology came of age, it was common knowledge how to disentangle some of the myths surrounding the "plan fulfilment" statistics.

When original data, debates and reports from one of Gosplan's sectors have become accessible, a certain number of reconsiderations on a general level may be required. The word "exploratory" used in the section on sources, above in the introduction, would correspond to the classic historic dictum "*wie es eigentlich gewesen wäre*". The model here presented will serve its purpose, if that new perspective of a military-industrial planning system is purveyed to the reader.

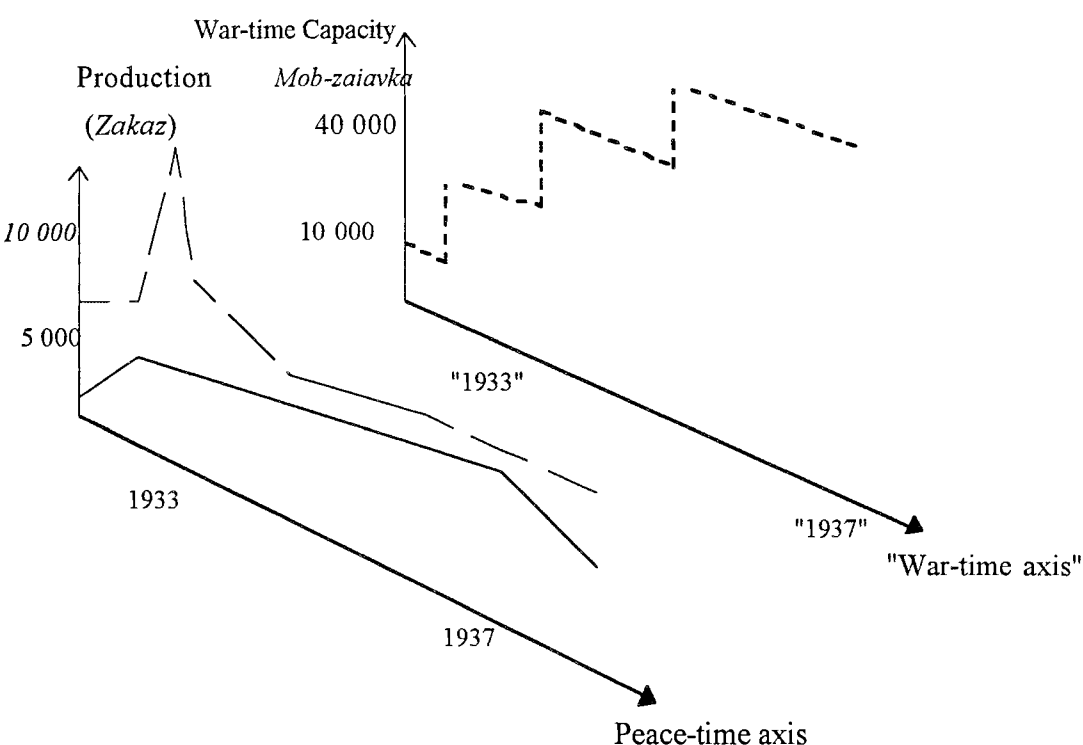


Fig. C.1 The twin aspect of Soviet defence planning

Legend: ——— Actual production (*vypolnenie zakaza*)  
 - - - - - Planned production (*zakaz*)  
 . . . . . War-time capacity (*zaiavka*)

The figure merely intends to illustrate the pattern of tank production during the mid and late 1930s. After a failed attempt to produce 10 000 tanks in 1932, the plans and actual levels of production remained fairly stable over the next years. At the same time, the mobilisation requests for a war-year 1938 were established at between 32 000 and 40 000 units. It seems preferable to keep these plans as two distinct. In any ordinary production, the current use of capacity would be, say in the range from 70% and upwards. In the defence industries, as has been shown on several occasions in this work, the capacity is usually a high multiple of current production.

When reaching our conclusions about the Soviet defence industry planning, we may mention, once again, the conclusions of Holland Hunter on the timing of defence and other

investments. The policy judgements behind the budgetary allocations for defence were described by him in the following manner:

"Adequate national defence meant ... building a heavy-industry base that could supply the armed forces with guns and munitions, tanks, aircraft ... required for war. Adequate defence would therefore come in two stages: first a period of purely economic construction and then a period of military procurement.<sup>1</sup>

The investment pattern is here described as *first* a period of purely economic construction, with concentration on the heavy industry, transportation etc. as the base and *then*, after a shorter or longer conversion period, the munitions production. The longer the Soviet leaders delayed the conversion - in expectation of a coming war - the larger would be the basis for mass-production of weapons.

While such a general conclusion is reasonable, the analysis can now be carried further. This study shows that the Soviet political, economic and military leadership had a more encompassing defence-decision and defence-planning "model". It was obvious to the Soviet leaders, that the more five-year plans they could enjoy as a "peaceful breathing-spell" until the inevitable "imperialist war", the better and more solidly they would be prepared for that war. For each of these years, however, Gosplan and the military had, what here is called a dual-time planning model. As mentioned, the requests of the military - in the event of war during the relevant period - determined the ammunition, weapons and equipment deliveries at mobilisation and in the first period of a war. Such requests also, in principle, determined the investment policy. We should therefore add this determining factor in the form of mobilisation request for (in Hunter's terms) the "general economic development". The so-called general economic development was, in other words, more strictly determined by a military dimension than has been known in the West.

Our research has further found that, although the dual-defence planning model, in various regards, would be lacking in effectiveness (because completeness, *komplektnost*, was hard to obtain in several branches), the planners must certainly have acquired a substantial experience in handling the macro- and micro-economic industrial mobilisation during the period up to the late 1930s and the outbreak of the Second World War. During the two five-year

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<sup>1</sup> Hunter, Holland & Szymer, Janusz: *Faulty foundations*. op.cit., pp. 137-139.



plans, 1927-37, more than six mobilisation requests were adopted by the government (from "S-30" to "M-18"). It can hardly be said that there had been "improvisation" about mobilisation of industry in 1941.

What has further been shown in the present study is *how* the Defence Sector (*Sektor Oborony*) of Gosplan coupled with the tasks. The experience of mobilisation preparedness was obviously unsatisfactory, because from 1931 and onwards the deputy war Commissar Tukhachevskii would urge that, on the one hand, proper methods of industrial mobilisation should be studied in Germany. In the framework of the secret German-Soviet military co-operation, industrial leaders and economist followed not only Reichswehr courses on *Wehrwirtschaft* but also studied the mobilisation technique at factory level. In 1932, there is a sense that the "Soviet way of militarisation", which had been the foundation in the mid-20s, was outmoded. With the German methods of industrial mobilisation and the American way of assimilating war production in the expanding machine-building sector, the Soviet leading planners hoped to get the best of two worlds: the advanced capitalist organisation forms in a state-owned, planned setting. They also hoped that this would if not resolve, at least attenuate the dilemma "butter or guns?" If the rearmament could be accomplished by forming an expansive civilian sector, with the necessary flexibility to convert to military production, then the Soviet Union could avoid what was called the German or Tsarist model of arms industries. In the latter case, huge specialised factories would be built with capacity for war-time production. The German model assumed that in peace-time the unused capacity in labour and capital was freely used for consumer and other civilian goods. The Tsarist model did not have this peace-time versatility.

The implementation of the second Five-year plan 1933-37 shows that to a large extent, the "American model" was successful until at least 1935. The mobilisation request for the second Five-year plan were, to a large extent, expected to be covered by the civilian sector. During these years Gosplan, as well as the industrial administration, did cope with both the peace-time defence orders in accordance with plans, on the one hand, and also expanded the huge production facilities in the core defence and the defence-related (machine-building, chemicals) industries, on the other hand.

However, the drastic deterioration of the international climate in the mid-30s altered the situation. The annual military orders leaped in the years 1936 and 1937, but those quantities in themselves were well within what had been prepared for by the mobilisation requests. But in 1935 and 1936, the military war plans that had been drawn up in the early-30s for a war on the Western borders were drastically revised. The threat of a German invasion, either through Poland (as Belgium had been overleaped in the First World War) or in conjunction with the Polish army, increased the mobilisation requirements radically. The Soviet Union was more than ever faced with a two-front war when the anti-Comintern pact had been concluded in 1936. When the results of the second five-year plan were summed up, and the projects for the third five-year plan made in 1937, the combined mobilisation capacity of Germany, Poland and Japan had to be taken into account. The need to withstand and surpass the estimated potential of this hostile bloc called forth a new jump in Soviet defence expenditures.

## Appendix 1

### The composition of Gosplan's Defence Sector in 1927<sup>1</sup>

#### Presidium of Gosplan's Defence Sector:

Vladimirskii, Gosplan

Bogolepov,        "-"

Strumilin,        "-"

Larichev,         "-"

Pugachëv (deputy Chief of RKKA Staff, Revolutionary War Council), and

Efimov (Head of Organisation-mobilisation directorate of RKKA Staff).

During 1927-28, Movchin presented several lists of persons he wanted to enrol in the new Defence Sector of Gosplan. Among the civilians mentioned were:

Vankov,

Kuzovkov (budget and finances),

Saushkin (industry),

Schmidt (finance),

Sanin (from the Workers' and Peasants' Inspectorate, *Rabkrin*),

Druzhnevskii (*Gostorg*, trade questions) and

Khmel'nitskaia (the economics of war).

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The Sector also recruited specialists from industry and transport, such as:

Vysochanskii (the defence industry),

Beloruchev (transportation) and

Kutyryn (ferrous metals).

Among the military personnel who worked at the Gosplan Defence Sector from the beginning were: Borodulin (Head of Operation section; from the RKKA Staff),

Morin (RKKA Staff),

Vasiliev (RKKA Staff),

Botner (Main Directorate of RKKA) and

Movchin (Frunze Military Academy).

Dantsiger, and Zkangeliari, both from the War Academy, were to be appointed to the Sector's Mobilisation section.

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<sup>1</sup> The original composition of Gosplan's Defence Sector is pieced together from documents in RGAE, f. 4372, op. 91, d. 35, ll. 33-30.

The following military officers were to be employed by Gosplan's Defence Sector:

Name	Present occupation	Responsibility in Defence Sector
Smyslovskii,	Military Academy	Defence industry, artillery
Goldberg	Military-technical Directorate	Local transport, automobiles, transport
Karatygin <sup>2</sup>	RKKA Staff 2nd Directorate (Organisation-mobilisation)	General industrial mobilisation
Kolesinskii	4th RKKA Directorate (Military Intelligence)	Economics of war
<i>"to be recruited"</i>		<i>One Aviation specialist</i>
Minuskin	Higher Pedagogical School	Chemical Industry
Bronstein	Ukraine's Workers' and Peasants' Inspectorate	
Mastitskii	VSNKh	Evacuation, labour force
Reznik	Gosplan	Current planning
Lozovskii	-"	Economics of war
Sviatlovskii <sup>3</sup>	-"	-"

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<sup>2</sup> Karatygin, P.: *Obshchie osnovy mobilizatsii promyshlennosti dlia nuzhd voiny*, Moskva 1925.

During the Civil War, Karatygin had been Head of the Operational Department of the Staff for the Turkestan Front. In the mid-20s, he was at the disposal of the Revolutionary War Council and for several years, he had been a member of the Gosplan Defence Sector.

Karatygin was the author of a widely quoted book about industrial mobilisation: "General principles for mobilisation of industry for war" (*Obshchie osnovy mobilizatsii promyshlennosti dlia nuzhd voiny*), published in Moscow in 1925 with a foreword by Defence Commissar Frunze. He had also written a book about chemical warfare, *Gazovaia voina*, Kharkov 1923, edited with a foreword by Defence Commissar Frunze. He was probably purged in the early 1930s, and then nominated as Director of the Red Army Archives.

<sup>3</sup> Sviatlovskii had written about the war-economy of the belligerent states during World War I, *Ekonomika Voiny*, Voennyi Vestnik, Moskva 1926.

## Appendix 2

### A note on the mobilisation network in 1928

Besides the permanent military representation in Gosplan's Defence Sector, there was the mobilisation network in the various People's Commissariats. In 1927-28, this network in the planning organs, the industrial and other commissariats comprised:.

Position	Name	Position in the Red Army
<b>MPU VSNKh</b>		
Mobilisation-and Planning Directorate Supreme Council of the Economy	Postnikov	
Other collaborators in VSNKh	Shpektorov	Finished the War Academy
	Gerundov	Main Directorate of RKKA
	Poliakov	Head of Staff Operation Section
	Buikov	Higher Military Faculty
	Egorov	-"-
	Linkus	Finished the War Academy
	Kuzmich	-"-
	Taran	-"-
	Tsvetkov	Finished Higher military faculty
	Liubimov	Main Directorate RKKA
	Primakov	I. Corps Commander
Mobilisation department of VSNKh RSFSR	Dragiliev	
<b>Gosplan</b>		
State Planning Commission		
Movchin	Finished the War Academy	
Morev	RKKA Staff, 3rd Directorate	
Vasiliev	Military-sanitary Department	
Vilmut	War-Chemical Department	
Botner	Main Directorate of RKKA	
Levin	Finished the War Academy	
Dantsiger	-"-	
Kangelari	Main Directorate of RKKA	
Sokolov	War Academy	
Egorov	Tashkent Military high school	
Apoga	Finished the War Academy	
Putna	Corps Commander	

**Mobilisation sections in People's Commissariats:**

NKPS, Communication	Lemberg	3rd Dept. Of RKKA Staff
NKTorg, Trade	Georgadze	KUVNAS
NKPiT, Post and Telegraph	Gavrilov	
NKF, Finance	Girshfeld	Head of Staff Section

**Mobilisation bureaus**

NKTrud, Labour	Khudominskii
NKZdrav, Health	Arnoldov
NKZem, Agriculture	Gaevskii
NKVD, Interior affairs	Vladimirov
NKPros, Education	Gerchikov
NKSO	Efimov
NKIu, Justice	Osipovich

Besides the work carried out inside the sections of the Defence Sector, tasks could be delegated to the other Sectors of Gosplan.

In all these sectors, persons with security clearance for handling the defence issues. For a list of such persons and the occupation in the Gosplan as a whole. <sup>1</sup>

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<sup>1</sup> *Spisok sotrudnikov Gosplana, dopushchennykh spetsotdelom OGPU i podlezhashchikh zasekrichaniiu na mobrabotu po Sektoru Oborony*, RGAE, f. 4372, op. 91, d. 546, l. 3.

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*Nachalnik Shtaba RKKA*, Chief of Staff of the Workers' and Peasants' Red Army, *fond* 7.

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