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The Burden of Defense in Imperial Russia, 1725-1914

WALTER M. PINTNER

The central role of military forces and the notion of Russia as an armed camp are familiar concepts. Yet little close attention has been paid to the character of Russia's military effort, its impact on civilian society and the economy, and the ways it influenced Russia's position in the world at large in times past. Because the military establishment loomed so large, the burden of military effort must have affected every other feature of Russian life. The purpose of this essay is to determine: 1) What were the most important demands made on society by the military? 2) To what extent did these demands change over the course of the eighteenth and nineteenth centuries? and 3) how did these changes affect Russia's position as a great power, and particularly what were the consequences for Russia of the "industrialization of warfare" in the late nineteenth century?

For about a century and a half, from Peter the Great's defeat of Charles XII at Poltava in 1709, until the Crimean War ended in defeat in 1856, Imperial Russia emerged successful from almost every conflict (the major exceptions are Peter's defeat by the Turks in 1711, and the War of the Third Coalition, 1805-07). From 1856 to 1917 Russia had increasing difficulty maintaining its position vis-a-vis the other major European powers and suffered major defeats in the Russo-Japanese War and in World War I.

Because Russia was and is culturally different, and in many respects, backward from a Western standpoint, European observers have attributed her defeats to backwardness, while crediting "barbaric force," the weather, the errors of the opposing commanders, or some other unique factor for her victories.¹ It is absurd, however, to suppose that a century and a half of remarkable good luck made special circumstances work in Russia's favor in every case. Nor is Russian

¹This matter is discussed at length in Walter M. Pintner, "Russia as a Great Power, 1709-1856: Reflections on the Problem of Relative Backwardness, with Special Reference to the Russian Army and Russian Society," *Kennan Institute for Advanced Russian Studies, Occasional Paper*, no. 33, 1978.

backwardness a satisfactory explanation for failure in the very years of Russia's most rapid industrial, technical, and cultural development. One must try, rather, to explain long-run military success or failure in terms of basic factors of resource mobilization, technology, motivation, and so forth.

What were the basic characteristics of land warfare in the era of Russian success (1709-1856)? Most notably, it was a period of static technology. The chief weapons were the smooth-bore muzzle-loading musket and comparable artillery pieces, both characterized by low rates of fire, short range, and inaccuracy. Transport was by foot or horse, and occasionally by water. The decades of Russian military decline were marked by rapid technical progress. The range, accuracy, rapidity of fire, and destructive capacity of weapons of all types increased greatly. Transport was revolutionized by the widespread introduction of the railroad as a logistical tool and means of mobilization. In terms of manpower utilization, the first period was marked, in Western Europe, by small standing forces, often at least partly mercenary, followed by a shift to larger conscript armies after 1789; Russia made this change only in 1874.

The explanation of Russia's difficulties at the end of the nineteenth century would seem to be obvious: the new technology was either too complex, too expensive, or both, for a relatively backward power to deal with. Before this conclusion can be accepted, a more careful look at the mobilization of both material and human resources is necessary.

Technical and Productive Capacity

In terms of simple technological ability and productive capacity, it seems clear that from the time of Peter the Great at least until the mid-nineteenth century Russia had no great difficulty in meeting its needs for weapons. The military hardware of the day was simple. Technology was virtually static, and individual pieces were expected to last a long time. Muskets had an anticipated life of forty years and many were in service much longer. The commander of the Litovskii Regiment, for example, reported in 1802 that his men had muskets that went back to 1700.² Presumably the commander was not boasting about the antique weapons in his arsenal, but even if we assume that the average effective life of a musket was only twenty or thirty years, it puts the problem of weapon supply into a proper perspective.

Armies in the eighteenth century were rarely destroyed or forced to abandon their hand weapons; once a reasonably large arsenal was built up, the demand for new muskets was confined to replacements

²L. G. Beskrovnyi, *Russkaia armii i flot v XVIII veke (očerki)*, Moscow, 1958, p. 18.

and a quantity to match the increase in the total size of the army—in Russia from about 200,000 in 1719 to around 450,000 in 1795. As early as 1710 an Austrian diplomat in St. Petersburg reported that it was no longer necessary for Peter's government to import muskets because there were now ample supplies made from domestic iron.³ Certainly, when there was a rapid increase in the size of the army, as between 1740 and 1756 (from 240,494 to 344,000), there may well have been temporary shortages or a need to import some additional weapons. On the whole, however, it is clear that shortages of muskets were not a significant problem for the Russian army in the pre-industrial era. Over the 41 years from 1737 to 1778 the main state arsenal at Tula produced 573,369 basic infantry muskets, an average of nearly 14,000 a year, plus over 200,000 firearms of other types. These figures indicate that Russia was self-sufficient in hand guns.⁴

The artillery was the most technologically advanced division of warfare. If technological or economic backwardness had been a major factor in Russia's military situation, that is where it would presumably be the most evident. In fact, it is particularly in this area where Russia earned early and continuing distinction, even before Peter's time. In 1705 the English ambassador, Charles Whitworth, commented on the high quality of Russian artillery, and the tradition seems to have been maintained down through the eighteenth century and even through the Crimean War.⁵

The production of cannon, nevertheless, occasioned somewhat more difficulty than that of muskets, but the important point is that from Peter's time onward Russians managed it and, indeed, had got off to a good start well before the eighteenth century.⁶ Casting large iron guns that would not crack or burst when fired was a task that required an experienced master foundryman whose knowledge was intuitive, based on long practice, not on any readily reproduced application of

³Beskrovnyi, *Russkaia armii*, p. 93. Thomas Esper suggests that it was probably not until 1716 that enough Russian-produced weapons became available. In any case Russia was certainly self-sufficient well before the end of Peter's reign. Thomas Esper, "Military Self-sufficiency and Weapons Technology in Muscovite Russia," *Slavic Review*, vol. 28, 1969, p. 207.

⁴Beskrovnyi, *Russkaia armii*, p. 346.

⁵Andrew Bissett, *Memoirs and Papers of Sir Andrew Mitchell, K.B.*, vol. 2, London, 1850, p. 437, citing a dispatch of the English ambassador to St. Petersburg dated March 25, 1705; Prussia, Grosser Generalstab, *Die Kriege Friedrichs des Grossen*, Berlin, 1890-1914, 19 vols. in 18, part 3, vol. 4, pp. 4, 113, 119, vol. 10, p. 17; Robert Wilson, *Brief Remarks on the Character and Composition of the Russian Army*, London, 1810, p. 20, cited in Christopher Duffy, *Borodino*, New York, 1973, pp. 45-47; John Shelton Curtiss, *The Russian Army under Nicholas I*, Durham, 1965, pp. 148-151, citing a number of foreign observers.

⁶Esper, "Military Self-sufficiency," pp. 185-202.

known rules of metallurgical chemistry.⁷ As late as the 1780's Russia was still importing foreign experts to help set up new cannon foundries. Nevertheless, despite the myriad difficulties with local labor, inconsistent government policies, foreigners who were often far from virtuous and sometimes incompetent, enough cannon were produced to maintain the reputation of the Russian artillery in wartime.

Russia had a more than adequate supply of pig iron from the early eighteenth century onward, drawn largely from the newly established ironworks in the Urals. The techniques of smelting iron ore were not particularly difficult, and, once learned, the scale of production depended on the amount of ore, charcoal, and cheap labor available; all these commodities were readily available in the Ural area.

Thus production of the essential military hardware, cannon and muskets, like that of iron itself, was a task that could be accomplished with a tiny handful of skilled men (whether or not some of them were foreign does not really matter) supported by a larger force of unskilled peasant laborers. The scale of the whole operation did not impinge on the economy as a whole or require changes in the social system or in the general level of education. Only in the remote Ural area, where the iron smelting industry was concentrated, did it disturb the traditional order. That industry remained isolated, however, and ultimately stagnated when it was unable to shift from charcoal to coke in the early nineteenth century. The nation's needs for weapons were met without great difficulty for nearly 150 years, but that effort made little lasting contribution to the development of the economy as a whole, involving as it did narrowly defined and locally specialized production facilities.

A more difficult problem for Russia than arming her troops was clothing them. Not only did the severe climate require warm garments, but the fashions of the day and the style of warfare in the eighteenth century demanded standardized and reasonably handsome uniforms. Tactical doctrine regarded the individual soldier as a cog in a machine; each cog had to look the same as all the others and add to the overall appearance of the machine on parade. Peter the Great was the first monarch to require all Russian soldiers to wear specified uniforms.⁸ One of the major manufacturing achievements of the Petrine era was to make substantial progress in the development of a woolen textile industry that could meet the army's demands for coarse cloth. The demand was so large, however, that it was not until the 1760's that domestic

⁷Roger P. Bartlett, "Scottish Cannon-founders and the Royal Navy, 1768-1785," *Oxford Slavonic Papers*, New Series, vol. 10, 1977, p. 52; see also his "Charles Gascoigne in Russia: A Case study in the Diffusion of British Technology, 1786-1806," in A. G. Cross, ed., *Russia and the West in the Eighteenth Century*, Newtonville, MA, 1983, pp. 357-363.

⁸Beskrovnyi, *Russkaia armia*, p. 98.

production was sufficient, even for peacetime needs. From time to time afterwards the demands of war required imports. Only in 1824 was the government finally able to announce that the problem of cloth supply for the army and navy had been solved "forever." The impact on the economy as a whole was small, however. Very much like the Ural iron industry, which became technologically obsolete in the early nineteenth century, the woolen cloth producers were technologically conservative, dependent on state orders, and unable to compete in the civilian market, which demanded finer fabrics. Ultimately it was cottons for civilians, not woolens for soldiers, that were the basis for the modern mechanized textile industry that developed in Russia during the first half of the nineteenth century.⁹

The remaining supplies required by the Russian army were obtained from a few specialized state-sponsored enterprises, as in the case of gunpowder; they served their purpose without any broad impact on society or on the economy as a whole. Or else, as with leather goods and the like, needs were met from existing small-scale handicraft industry, with the traditional merchant community acting as middlemen.

Russia was thus able to field a highly effective army without significantly changing her economic or social system or developing anything that could be called a modern industrial capacity, even by the standards of the day. By the time of the Crimean War, that situation was possibly beginning to change, but it is far from clear that Russia's marginal inferiority in quality and quantity of equipment at that time was related to the backwardness of Russian industry, or whether it was simply the result of poor planning by those in charge.

Budgetary Constraints

That there were no major shortages of military supplies at least down to the mid-nineteenth century does not mean that Russia's military resources were without limit. In terms of gross manpower, Russia was comparable in size to Austria and France in the mid-eighteenth century and substantially larger by the early nineteenth. For technical reasons and because of the fiscal and socio-political constraints that were inherent in the old-regime monarchies, armies in Western Europe were relatively small prior to the revolutionary era. Did comparable limits operate in Russia, despite the obvious differences in the social and political systems? In other words, were the limiting factors on the size of the Russian army primarily related to the ability of the state to

⁹Konstantin A. Pazhitnov, *Ocherki istorii tekstil'noi promyshlennosti dorevoliutsionnoi Rossii: sherstianaiia promyshlennost'*, Moscow, 1955, pp. 19, 27, 34; Walter M. Pintner, *Russian Economic Policy under Nicholas I*, Ithaca, 1967, pp. 226-228.

raise money or to its ability to mobilize men, and did these limiting factors change rapidly in the second half of the nineteenth century?

To answer the first question one must attempt to determine the major costs to the state of maintaining an army. Any attempt to establish these costs over a long period is fraught with difficulties, particularly for the earlier periods. Both Soviet and pre-revolutionary students of the eighteenth-century state budget throw up their hands in despair. The basic problem is that there really was no state budget—no central pot into which money poured and from which it flowed. Instead there were many little pots, each with its own income and outgo. S. M. Troitskii, the leading Soviet student of the subject, says of state expenditures:

The insufficient centralization of financial administration, the lack of a central treasury, the secrecy of the budget, the unsatisfactory recording of business and the lack of accountability in agencies, and the almost complete lack of state fiscal control of expenditures, all resulted in the inability of the state to make an overall account of income and expenditures during the period in question [1725-1763].

Troitskii's distinguished predecessor, N. D. Chechulin, voiced similar complaints about the data for the reign of Catherine II: "reports are usually incomplete, sometimes they contain almost impenetrable confusions and contradictions, partly they are accounts of expenditures made, partly of expenditures proposed ...," and so forth. Only for the years after 1781 does Chechulin feel that he can offer any truly satisfactory accounting.¹⁰

With those warnings in mind, let us see what can be made of the available data. A monetary budget is a way of summarizing the allocation of resources for one purpose or another. Russia's military expenditures could be expressed in *chetverts* of grain, *arshins* of woolen cloth, and *poods* of metal and powder. Those figures, plus the numbers of men involved over the years would not be entirely meaningless even though they cannot be added up, because there were not too many different things involved and the inputs remained relatively stable for at least 150 years. But it is precisely this stability that makes the relative importance of the inputs significant. Presumably both the Napoleonic soldier or the early twentieth-century soldier ate about the same amount of grain and needed about as much woolen cloth for his uniform as did the Petrine soldier. Only if we can compare the relative importance of the sustenance component to the weapons component over time can we begin to say something interesting about the nature of

¹⁰S. M. Troitskii, *Finansovaia politika russkogo absolutizma v XVIII veke*, Moscow, 1966, p. 221; N. D. Chechulin, *Ocherki po istorii russkikh finansov v tsarstvovanie Ekateriny II*, St. Petersburg, 1906, p. 266.

Russia's military effort and its relationship to changes in the economy as a whole.

To aggregate the various components we depend on prices, and frequently on prices that are not those actually paid but simply those stated as what ought to be paid. For example, to estimate the annual cost of uniforms in 1803 we take the price of each item as stated in the *Polnoe sobranie zakonov Rossiiskoi imperii*, divide the price by the expected years of useful life (also included in the laws), add up the various items to get an annual uniform cost, and multiply this cost by the number of soldiers to get a total. We emerge, perhaps surprisingly, with a plausible number.¹¹ The sources for Table 1, which summarizes the available data, are diverse, and include both archival material and information from published sources.

The chief costs of maintaining an army were officers' pay, food and clothing for the men, and fodder for the multitude of horses required. Officers were expected to meet all of their living expenses including uniforms and weapons from their pay (and their private resources, if any). The lower ranks received a tiny sum for personal expenses, plus a ration of flour, an allotment of cloth and leather from which they made their uniforms and boots, and money for "meat and salt." These items were usually given to groups (*arteli*) of men who cooperated in cooking, sewing, and so forth. Before the latter half of the nineteenth century there was no provision in the budget for housing. Except on campaigns, the troops were quartered in towns and villages in private homes, much to the distress of the occupants. Householders were paid an allowance to cover the cost of feeding their unwelcome guests, and towns without troops to quarter paid an additional tax for the privilege of not having them. In the field, officers had to provide their own tents. The men were expected to construct huts from local materials.¹²

Prior to 1863 there are no convenient series of budget data available from either published or archival sources. Nevertheless, the predominance of subsistence expenses over the cost of weapons is overwhelmingly clear despite the scattered nature of the data (Table 1). In 1731, for example, pay, uniforms, and food for officers and men

¹¹The expected life of most items is a reasonable one to four years, except for grenadier's hats which were supposed to last twenty years, making them, at .93 rubles each or .05 rubles per year, the most economical of all the items. Musketeer's hats, on the other hand, had to last only two years, at a cost of .2 rubles a year. *Stoletie voennogo ministerstva: 1802-1902*, vol. 5, part 1, *Glavnoe intendantskoe upravlenie*, St. Petersburg, 1903, pp. 90-91.

¹²*Stoletie*, vol. 5, part 1, pp. 120-123; G. de la Messeliere, "Zapiski Messil'era," *Russkii arkhiv*, vol. 12, book 1, 1874, pp. 965-966.

Table 1
 Percentage Distribution of Military Costs, 1731-1857
 (Data for Various Years)

A. 1731

	Infantry Regiment	Heavy Cavalry Regiment
Pay, food, uniforms	89%	58%
Officers rations	3	4
Horses (remounts)	0.3	17
Fodder	1	12
Muskets and accoutrements	6	10

Source: D. I. Zhuravskii, "Statisticheskoe obozrenie raskhodov na voennye potrebnosti (s 1711 po 1825 god)," *Voennyi sbornik*, 1859, no. 9, p. 30.

B. 1763 - Costs for a regiment

Weapons (Muskets, swords, pistols, artillery pieces, and powder and shot)	1.3%
Artillery practice (excluding powder)	2.2
Subtotal - Weapons and Artillery practice	3.5
Pay	56.0
Food, salt and meat	14.6
Uniforms and accoutrements	17.9
Transportation and horses	2.2
Rations for horses	5.1
Subtotal - subsistence items	95.8

Source: TsGVIA, *f. 23, op. 1, d. 938, chast' II, sviazka 26, l. 35*; data for artillery and shot estimated from costs in TsGADA, *f. 20, Gosarkhiv, d. 197, ll. 122-123*.

C. 1803 - Total army expenditures

Pay	31%
Food	38
Uniforms	11
Weapons, "Equipment,"	
Horses and Medical	15

Source: *Stoletie voennogo ministerstva: 1802-1902*, vol. 5, part 1, *Glavnoe intendantskoe upravlenie*, St. Petersburg, 1903, pp. 90-91.

D. 1798 - Total Army Statutory Budget, excluding artillery and uniforms

Pay	30%
Food	24
Fodder	17
Weapons and Accoutrements	28

Source: Zhuravskii, "Statisticheskoe obozrenie," *Voennyi sbornik*, 1859, no. 11, p. 8.

E. 1829 - Actual expenditures

Artillery Department	1.8%
Commissariat (uniforms and pay)	46.5
Provisions Department	32.8
Remainder	26.1

Source: TsGVIA, *f. 1, op. 1, d. 7603, l. 74* (for departmental figures); *Ministerstvo finansov 1802-1902*, vol. 1, p. 628 (for total military budget).

F. 1835-36 - Military Budget

	1835 (spent)	1836 (planned)
Artillery Department	5.2%	4.5%
Commissariat	45.6	47.8
Provision Department	45.8	42.6
Others	3.4	5.1

Source: TsGVIA, *f. VUA, d. 17449, ll. 1-2*.

G. 1847-57 - Per capita annual costs of one soldier (Excludes officer corps and artillery)

	1847		1857	
	in rubles	% of total	in rubles	% of total
Pay	3.50	10.0	3.50	8.4
Food	15.10	43.0	20.97	50.1
Uniforms	15.57	44.3	16.23	38.8
Weapons and Practice	0.91	2.6	1.14	2.7
Total	35.08	99.9	41.84	100.0

Source: Ministry of War estimates in TsGVIA, *f. 1, op. 1, d. 23608, l. 83*.

took up 89 percent of the statutory budget of an infantry regiment, while muskets and accoutrements amounted to only six percent. In a cavalry regiment the relative share of subsistence for men falls because of the cost of the horses themselves and of their fodder (29 percent of the total), but the share represented by weapons, about ten percent, remains virtually unchanged.¹³ Indeed the cost of weapons and ammunition was such a minor matter that it does not regularly appear in the accounts of the main costs. However, by combining a number of archival sources with published data it has been possible to produce an estimate of the costs of artillery pieces, powder and shot to add to the other expenses of a typical mid-eighteenth century regiment. Even though all the assumptions made in the calculations tend to exaggerate these costs, they still only add three-tenths of one percent to the proportion of regimental expenses attributable to weapons. The data are so imprecise that the true sum could well be several times greater or less, but the basic picture would not change at all.¹⁴

Fielding an army, at least down to the 1860's, thus had almost nothing to do with industry or technology, but simply depended on the basic production of an agricultural economy and, most particularly, on the ability of the state to mobilize the resources generated by that economy.

The nineteenth century is, of course, the century of the great transformation that marked the end of the pre-industrial era in Europe. That transformation had its impact on warfare, as on every other aspect of life.¹⁵ To what extent and when did the industrialization of warfare affect Russia? The problem is of central importance, because, so long as warfare was essentially pre-industrial, Russia suffered no great disadvantages vis-a-vis the West, and may have enjoyed certain significant advantages.

If the technological developments of the late nineteenth century had a major impact on the military economy, the relative importance of various components of the military budget should change significantly.

¹³D. I. Zhuravskii, "Statisticheskoe obozrenie raskhodov na voennye trebnosti (s 1711 po 1825 god)," *Voennyi sbornik*, 1859, vol. 5, no. 9, p. 296; L. G. Beskrovnyi, *Russkaia armia i flot v XIX veke*, Moscow, 1973, p. 25. The Zhuravskii work, *Voennyi sbornik*, 1859, vols. 5 & 6 (nos. 9-12), was also published as a separate book (St. Petersburg, 1859). It is probably the single most useful published source on military budgets prior to 1863.

¹⁴Tsentral'nyi gosudarstvennyi voenno-istoricheskii arkhiv, Moscow (hereafter TsGVIA), *f.* 23, *op.* 1, *d.* 938, *chast'* II, *sviazka* 26, *ll.* 17, 35; TsGADA, *f.* 80 (Gosarkhiv), *d.* 197, *ll.* 122-23.

¹⁵The most important work on the subject is probably Ivan S. Bliokh (or Jan G. Bloch), *Budushchaia voina v tekhnologicheskoi, ekonomicheskoi, i politicheskoi otnosheniakh*, 5 vols., St. Petersburg, 1898. It was also published in full in Polish, French, and German, and partially in English.

The few scholars who have examined the problem have confined their attention almost entirely to the last decade or two of Imperial power.¹⁶ A valid discussion of the Russian military burden requires a much longer-term perspective. The extent, nature, and timing of new military costs can only be understood in the light of earlier patterns, which establish a norm against which the extent of change can be gauged. For example, did the re-equipment of the Russian army with breach-loading rifles or other types of newly developed armament bring about a significant new burden of military expenses?

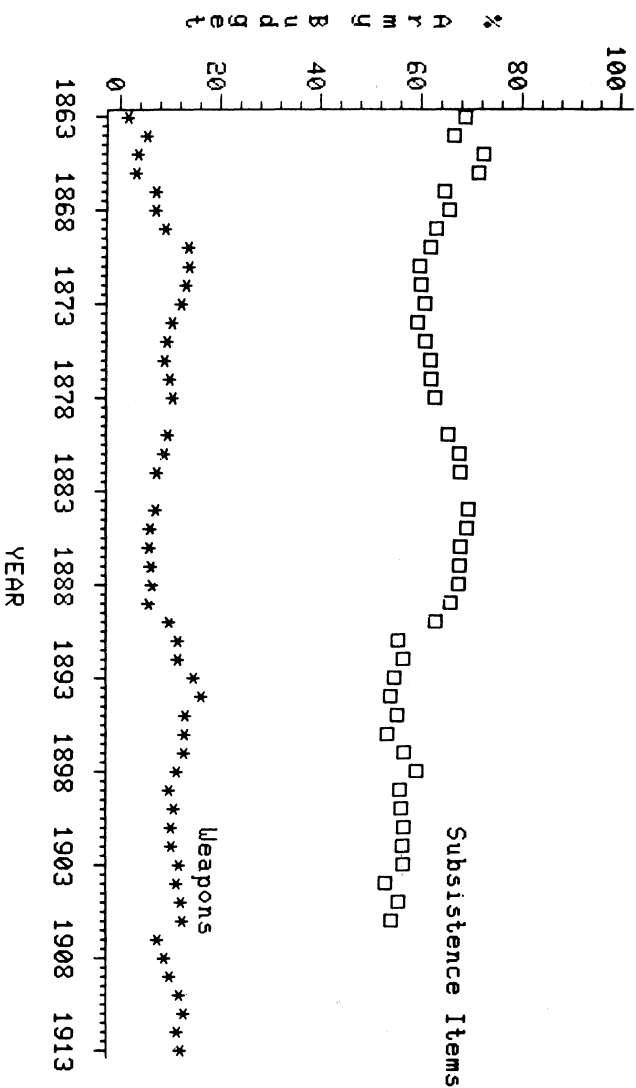
Such questions are not easy to answer because there is never enough money in a state budget, in Russia or anywhere else, for all pressing needs. Contemporary comments invariably speak of the unbearable burden of existing expenditures, not to mention any new ones that may be contemplated. New costs, particularly those involving large purchases abroad, are far more conspicuous than more traditional ones. The approach adopted here is to examine, over a long period of time, both the relative importance of the different components of military expenses, and the relationship of total military costs to the overall state budget.

As already mentioned, the fragmentary, but clearly convincing, evidence available for the eighteenth and the first half of the nineteenth centuries shows that weapons and munitions were an insignificant part of military expenses in those years. Fortunately, from 1863 onwards a reasonably detailed breakdown of the state budget is available in reports submitted to the State Council.¹⁷ The data are continuous through 1914, although a change in format from 1907 onwards causes certain comparatively minor problems. The basic data are presented in graphic form in Figure 1.

¹⁶K. F. Shatsillo, *Russkii imperializm i razvitiie flota nakanune pervoi mirovoi voyny, 1906-1914 gg.*, Moscow, 1968; A. L. Sidorov, *Finansovoe polozhenie Rossii v gody pervoi mirovoi voyny*, Moscow, 1960; Norman Stone, "Organizing an Economy for War: The Russian Shell Shortage, 1914-1917," in Geoffrey Best and Andrew Wheatcraft, eds., *War, Economy, and the Military Mind*, London, 1976; William C. Fuller, "Civil-Military Conflict in Imperial Russia, 1881-1914," Ph.D. Dissertation, Harvard University, 1980; Peter W. Gattrell, "Russian Heavy Industry and State Defense, 1908-1918: Pre-War Expansion and Wartime Mobilization," Ph.D. Dissertation, Cambridge University, 1979; Peter W. Gattrell, "Industrial Expansion in Tsarist Russia, 1908-14," *Economic History Review*, vol. 35, 1982, pp. 99-110.

¹⁷Tsentral'nyi gosudarstvennyi istoricheskii arkhiv, Leningrad (hereafter TsGIA), *f.* 1152, *op.* 6-14, "Obshchaia gosudarstvennaia rospis' dokhodov i raskhodov na — god.," annual volumes, each with its own *delo* number. These are printed volumes submitted to the State Council. At least some of them are available in the Saltykov-Shchedrin State Public Library in Leningrad.

Figure 1: Share of Weapons and Subsistence Items^a in the Total Army Budget, 1863-1914



Source: TsGIA, *f.* 1152, *op.* 6-14, "Obshchaja gosudarstvennaia rospis' dokhodov i rashodov na god" (annual volumes).

^a Includes food, pay, quarters, uniforms, and fodder.

Like most statistics, the data can be interpreted in various ways. There is a decline in the relative importance of "subsistence" elements in the budget (pay, food, fodder, uniforms, and quarters) and an increase in the share devoted to weapons, precisely as one would expect, in the late nineteenth-century decades that saw the beginning of a transformation in the nature of warfare. However, what seems remarkable about these shifts is that they were so modest.

From 1863 to 1891 subsistence items comprise about 60 to 70 percent of the total budget, roughly the same proportion suggested by the much less exact data for scattered years in the century preceding.¹⁸ From 1891 through 1912 the proportion varies slightly above and below 55 percent, only slipping below 50 percent in 1913 and 1914. Certainly, a decline of 15 to 20 percent in total share is significant, but it is far from a transformation of the pattern of military expenditure. Subsistence remained by far the largest single item of expense, despite the advent of a wide range of new weapons.

There is, surprisingly, no clear trend in the proportion of weapons expenses in the total military budget. It wobbles above and below 10 percent, reaching a peak of 12 to 15 percent on three widely separate occasions: 1870-73 (12-13 percent), 1893-97 (13-16 percent), and 1904-14 (12-15 percent). There is no steady upward trend in weapons expenditures as a share of the total, but rather a relatively constant level of expenditure with three humps that clearly represent periods of special effort in that area. At their very highest proportion (1894) they only reached 16 percent of the total.

The area where modern technology made its most massive early impact was not, however, in land warfare, but on the sea. The dreadnought could well be regarded as the first great war machine of the industrial age. The famous naval rivalry between Britain and Germany on the eve of World War I set the model for lesser powers to emulate. Perhaps it is in naval expenditures that the major impact of modern technology on the Russian budget is to be found.

Despite Peter the Great's fascination with things maritime, and the crucial role that the navy did play at certain points in Russian wartime experience, the weight of tradition and the realities of geography dictated that Russia remain preeminently a land power. From 1863 to 1894 the naval budget remained under 20 percent of the budget for land forces, although there was a slow and irregular rise in the proportion from 12 to 15 percent in the early years to 17 and 19 percent in the 1890's. In the early 1900's (1901-05) a vigorous naval program drove the share up to around 30 percent, and in the last few years

¹⁸The data for the earlier period suggest an even higher proportion but they are not sufficiently detailed to permit precise comparison.

before World War I (1912-14) renewed interest in naval expansion caused expenditures to reach 30 percent again.

Capital ships were very expensive and conspicuous. Their construction produced extensive and angry debates in the Duma, very reminiscent of recent debates in the American Congress about major weapons systems. Data on the cost of shipbuilding and naval guns are available since 1880 and, as one would expect, they represented a large portion of naval expenditures, usually a third to somewhat over a half. Inevitably, amalgamating military and naval expenses and the cost of ships and all weapons for both services raises the proportion of the total budget devoted to hardware. But what is striking is that the proportion still remains rather small; in the 1880's it amounted to about 12 percent of the total and after that (except for a dip, 1908-10) around 20 percent. Only in 1913, on the eve of World War I, did the proportion reach 25 percent. The increased level of hardware expenditures in the 1890's was the result of increased outlays on weapons for the army, especially modern artillery, and a roughly parallel growth in naval costs. The sharp rise from 1911 to 1914 is primarily attributable to heavy expenditures on warships.

Peter Gattrell has recently argued that growing defense expenditure on hardware in the six years (1908-13) prior to World War I were sufficiently large to have a major impact on industrial development, comparable to that of railroad building in the 1890's. This expenditure, he suggests, and not the increased output of consumer goods (as argued by Gerschenkron) was the basis of the old regime's last industrial boom.¹⁹ It may well be that in these final years major shifts in the overall nature of the Russian military effort were underway.

Nevertheless, throughout the last two decades of the Imperial regime about 80 percent of total military and naval expenditures went for everything *except* weapons and ships. The situation was surprisingly similar to that which had prevailed for the previous two centuries. Does this pattern suggest that Russia simply failed to adopt the new weapons of the industrial age? The experience of Russian armies in World War I confirms this explanation to some extent.²⁰ Russian forces were less well-equipped than those of their opponents, particularly Germany. Nevertheless, this explanation is inadequate. Russia did have most of the new weapons, although it perhaps should have had more of them. The Ministry of War's annual reports to the tsar show clearly that it was fully aware of technological changes in weaponry. If a small share of total military expenditures could provide much of the modern equipment that was needed, why did Russia fail to go all the way? A

¹⁹Gattrell, "Industrial Expansion in Tsarist Russia," pp. 100-109.

²⁰See Stone, "Organizing an Economy for War," pp. 109-112.

relatively modest increase in the budget share devoted to weapons could well have made an important difference in Russian military readiness. The answer is, of course, that before one arms a soldier one must feed, clothe, and (by the late nineteenth century) house him. Those expenses still loomed the largest and they had to come first. The extra rubles for more modern weapons were simply not there. As William Fuller has aptly observed, the basic Russian budgetary problem was the size of the standing army, close to twice as large as that of Germany or France in 1891 (see Table 2).²¹

The reason for Russia's large army was undoubtedly in part inertia, the tradition of simply having a large army, partly the unchanging geographical reality, the great distances and the extensive frontiers that had to be guarded. Most significantly, however, the size of the army was a product of Russia's backwardness. It was believed, rightly or wrongly, that Russian peasant recruits needed longer training than the better-educated conscripts in Western Europe. Hence, at any given time, proportionally more men had to be in uniform.²² In turn, the problem of size was exacerbated by a crucial change, the development of railroad networks, which permitted the rapid deployment of men in much larger numbers than in the past.

The mobilization of very large armies in the West was financially possible because the system of general conscription created a large trained reserve force, called up only when actually needed for war. Effective and speedy mass mobilization was, in turn, possible only because of the new system of railroad transportation, which was less well-developed in Russia than in Western Europe.²³ Thus the new technology compelled Russia to maintain forces as large or larger than those of the past. The introduction of general conscription and the reserve system in 1874 supplied the needed manpower on a more socially equitable and economical basis, but it did not solve the basic financial problem, as those who framed the reform had hoped.

²¹Fuller, "Civil-Military Conflict," Chapter 3. Another question is whether the most useful weapons were selected. Norman Stone argues that large sums were wasted on fortresses and fortress artillery that should have been spent on field artillery. Norman Stone, *The Eastern Front: 1914-1917*, New York, 1975, pp. 148-149.

²²I owe this point to Fuller, who develops it convincingly in "Civil-Military Conflict," Chapter 3. If Bushnell is correct, however, much of the training that Russian recruits received was ineffective, insofar as they were trained at all. John Bushnell, "Peasants in Uniform: The Tsarist Army as a Peasant Society," *Journal of Social History*, vol. 13, 1980, pp. 565-576.

²³TsGVIA, f. 1, op. 2, d. 24, 1877, l. 6; P. A. Zaionchkovskii, *Samoderzhavie i russkaia armia na rubezhe XIX-XX stoletii, 1881-1903*, Moscow, 1973, pp. 126-127; Fuller, "Civil-Military Conflict," Chapter 3.

Table 2: Population and Army Size (in thousands)

Country	Mid-eighteenth century			ca. 1800		
	Population	Army	Army as % of pop.	Population	Army	Army as % of pop.
Russia	23,230	292	1.3	37,414	446	1.2
France	22,000	330	1.5	29,107	350	1.2
Austria	18,300	201	1.1	21,695	325	1.5
Prussia	3,659	155	4.2	5,704	109	1.9

SOURCES: (a.) Population: Russia, 1762, 1797 and 1850 from Kabuzan, *Narodnaselenie Rossii v XVIII—pervoi polovine XIX v.*, Moscow, 1963, p. 164; France, 1806 and 1891, Habsburg Empire (Austrian and Hungarian Provinces), 1890, German Empire, 1890, and Russia, 1897 from B. R. Mitchell, *European Historical Statistics, 1750-1975*, New York, 1980, pp. 29-31, 33, 36; France, 1750, and Habsburg Empire, 1750, from Jerome Blum, *The End of the Old Order in Rural Europe*, Princeton, 1978, p. 241; Prussia, 1752 and 1790, from J. Conrad et al., *Handwörterbuch der Staatswissenschaften*, vol. 2, Jena, 1891, p. 435; France, 1861, Habsburg Empire (as above), 1857, and all German states excluding Austria, 1864, from *Statesman's Yearbook*, London, 1864, pp. 14, 74-75, 94-95.

Mid-Eighteenth Century to 1900

Country	ca. 1850			ca. 1900		
	Population	Army	Army as % of pop.	Population	Army	Army as % of pop.
Russia	56,882	1118	2.0	126,367	1033	0.8
France	37,382	404	1.1	38,133	573	1.5
Austria	35,109	269	0.8	41,286	337	0.8
Germany	30,367	345	1.2	49,428	492	0.9

(b.) Army Size: Russia, 1756, from D. I. Zhuravskii, "Statisticheskoe obozrenie raskhodov na voennye trebnosti. (s 1711 po 1825 god)," *Voennyi sbornik*, 1859, vol. 5, no. 9, p. 57; France, average for 1757-1762, from Lee Kennett, *The French Armies in the Seven Years' War: A Study in Military Organization and Administration*, Durham, NC, 1967, London, 1977, p. 77; Austria, 1756, from Christopher Duffy, *The Army of Maria Theresa: The Armed Forces of Imperial Austria, 1740-1780*, London, 1977, p. 179; Prussia, 1756, from L. G. Beskrovnyi, *Russkaia armiia i flot v XVIII veke (očerki)*, Moscow, 1958, p. 18; Russia, 1801, 1850 (regular forces) and 1897 (regular forces), from L. G. Beskrovnyi, *Russkaia armiia i flot v XIX veke*, Moscow, 1973, pp. 12, 16, 44; France, 1805, Austria, 1808, and Prussia, 1813, from Gunther Rothenberg, *The Art of Warfare in the Age of Napoleon*, London, 1977, pp. 128, 171, 195; France, 1890, Austria, 1891, and Germany, 1891, *Statesman's Yearbook*, London, 1891, pp. 350, 479, 538-539.

Note: Army figures reflect, insofar as possible, peacetime strengths excluding reserve forces, which latter increased rapidly in the nineteenth century with the spread of universal military training.

Table 3
 Percentage Distribution of State Budget Expenditures:
 1725-1914

Year	Army	Navy	Total Military	Remainder
1725	50.4	14.1	64.5	35.5
1734	58.1	13.3	71.4	28.6
1764	40.4	5.7	46.1	53.9
1773	34.5	4.0	38.5	61.5
1781	26.3	8.0	34.3	65.7
1796	28.4	9.0	37.4	62.6
1804-09 (Avg.)	40.1	9.6	49.7	50.3
1810-14	55.2	6.0	61.2	38.8
1815-19	46.1	5.0	51.1	48.9
1820-24	40.3	5.5	45.8	54.2
1825-29	37.8	6.6	44.4	55.6
1830-34	35.1	6.8	41.9	58.1
1835-39	34.4	6.7	41.1	58.9
1840-44	33.8	6.6	40.4	59.6
1845-49	33.1	5.9	39.0	61.0
1850-54	31.2	6.2	37.4	62.6
1855-59	35.6	5.4	41.0	59.0
1860-64	30.6	5.5	36.1	63.9
1865-69	29.0	4.3	33.3	66.7
1870-74	28.0	4.0	32.0	68.0
1875-79	28.8	4.2	33.0	67.0
1880-84	26.8	3.9	30.7	69.3
1885-89	22.8	4.4	27.2	72.8
1890-94	23.8	4.3	28.1	71.9
1895-99	18.7	5.5	24.2	75.8
1900-04	17.3	5.2	22.4	77.6
1905-09	18.9	4.4	23.3	76.7
1910-14	19.0	6.2	25.2	74.8

Figures for 1804-1914 are quinquennial averages; those for 1875-79, 1800-84, 1900-04 and 1905-09 exclude war expenses.

Sources: S. M. Troitskii, *Finansovaiia politika russkogo absolutizma v XVIII veke*, Moscow, 1966, p. 243 (1725, 1734); N. D. Chechulin, *Ocherki po istorii russkikh finansov v tsarstvovanie Ekateriny II* St. Petersburg, 1906, pp. 283, 313 (1764-1796); *Ministerstvo finansov, 1802-1902*, vol. 1, pp. 620-639; vol. 2, p. 649 (1804-1902); TsGIA, *f.* 1152, *op.* 8, ;Obshchaia gosudarstvennaia rospis' dokhodov i raskhodov na — god (annual volumes) (1903-1914).

In a broad sense, then, Russia's basic military problem in the last decade of the monarchy was indeed a product of "backwardness," but not in the sense that we have usually thought. The primary problem was not inability to produce or buy enough modern military hardware; it was, rather, the result of a more fundamental backwardness, to be measured in terms of educational standards and the development of basic transport facilities.

Thus far examination of the relative importance of various components of the military budget has shown that the development of industry and the great technological changes in warfare had little effect on the distribution of military expenses. The burden of the military on society remained, as it always had been, primarily a function of the number of men involved, that is, of subsistence costs. Since the army increased in size throughout the eighteenth and through the mid-nineteenth century and, despite the new conscription system, did not decline much in standing strength after 1874 (Tables 2 and 5), the natural expectation would be to find a steadily increasing, or at least constant, proportion of the state budget spent on the armed forces. However, the opposite is clearly the case. Even allowing for the uncertainties of the eighteenth-century fiscal data, it is evident that from a peak of about half the state's expenditures in the time of Peter the Great and immediately thereafter, the proportion declined until the late eighteenth century, rose to a peak of 55 percent during the Napoleonic wars and, most surprisingly, declined steadily throughout the nineteenth century and virtually until the outbreak of World War I (see Table 3).

The decline in the age of Catherine the Great, even though the size of the army increased, probably reflects the very rapid growth in the area and population of the Empire, and the attention and expenditure that Catherine lavished on internal administration. The peak of the early nineteenth century may be somewhat misleading because it has not been possible to eliminate wartime expenses from the regular military budget in that period, as has been done later in the century. During the years 1910-14 the proportion of total state expenditures devoted to the army was about half what it was in the 1820's, despite a 25 percent growth in the standing strength of the army (1912 versus 1826), and some increased expenditure on more costly weapons.

One obvious explanation of the declining share represented by military costs is the overall growth of the economy and the population, and particularly the rapid industrial growth of the 1890's and 1907-14. Another part of the answer lies in the assumption by the state of important new functions in the second half of the nineteenth century. From the 1880's onwards, more and more of the growing railway system came under state ownership. In 1885 the Ministry of Transport budget was 2.5 percent of the total, in 1895 it was 11 percent, and by

1908 it had reached 20 percent (all of the expenses of running the railways were included in its outlays). Similarly the institution in 1895 of a state monopoly on the production of spirits increased the outlays of the Ministry of Finance substantially. Both of these operations were net revenue producers, particularly the spirits monopoly. Eliminating railways and spirits from state expenditures increases the share of military expenses in the total budget enough to level out the decline in the military's share during the final twenty-five years of the monarchy. It does not, however, alter the basic pattern of a gradual decline in the military's total share throughout most of the nineteenth century.

Table 4

Average Annual Recruitment per Hundred Male Souls
During Each 5-Year Period, 1720-1873

1726-30	1.5	1801-05	1.8
1731-35	1.9	1806-10	3.4
1736-40	4.5	1811-15	6.6
1741-45	2.8	1816-20	1.6
1746-50	1.3	1821-25	0.4
1751-55	1.0	1826-30	2.4
1756-60	2.9	1831-35	2.1
1761-65	none	1836-40	2.1
1766-70	2.3	1841-45	1.9
1771-75	3.7	1846-50	2.4
1776-80	1.0	1851-55	6.4
1781-85	2.7	1856-60	none
1786-90	4.0	1861-65	2.1
1791-95	1.4	1866-70	2.7
1796-1800	1.1	1871-73*	3.9

*Three years.

Sources: *Stoletie Voennogo ministerstva: 1802-1902*, vol. 4, part 1, book 1 (1726-1824); L. G. Beskrovnyi, *Russkaia armiiia i flot v XIX veke*, Moscow, 1973, pp. 71-86 (1826-73).

This decline represents a modest shift of resources toward non-military expenditures. No single activity seems to have benefited very dramatically, except the construction of railroads, which from time to time took up as much as ten percent of the state budget. Other functions—general internal administration or education, for example—increased their share by very modest amounts. Combining such small increases, however, accounts for most of the shift. The rest is

attributable to the growth of payments on the state debt, always a major item. The extent to which increased state debt can be attributed to growing military expenses remains to be calculated.

The Human Burden: Recruitment

Undoubtedly Russia's major advantage over its Western adversaries in the eighteenth century and well into the nineteenth was its ability to mobilize manpower easily and at low cost, and to convert raw recruits into reliable soldiers under the command of an effective officer corps. This achievement was the doing of Peter the Great, although he used the tradition of centralized political power and elaborated a system of conscription that was based on the longstanding institutions of peasant serfdom and obligatory noble service.²⁴

Long before Western Europe, Russia had a conscript army. In the eighteenth century, conscription was for life, and from 1793 through 1874 for 25 years. Until 1762 nobles were required to serve in the military or in the civil service. The ordained clergy and members of the merchant guilds were exempt from military service, so the burden of recruitment into the ranks fell overwhelmingly on the peasantry. From the point of view of the state, the system worked well. It certainly would not have lasted, essentially unchanged, from the time of Peter the Great until 1874 had it not been reasonably satisfactory. An official report in 1832 concluded that the only real problem was the great length of time needed to gather the recruits. From the time of the proclamation of the levy in St. Petersburg to the arrival of the uniformed, but still untrained, recruits in their regiments a full five months was needed.²⁵

Satisfactory though the system seemed to the officials involved, the peasants, understandably, did everything they could to avoid service. For the individual selected to fill the village quota, recruitment was an unmitigated catastrophe, usually destroying forever his ties to his village and family, to the only world he had ever known. Almost all these young peasants were illiterate, so their chances of maintaining contact with home were negligible. The recruit was taken away and rarely heard from again. Many fled during the process of the call-up and returned to their villages, where they were hidden despite severe penalties for both the recruit and the community as a whole. Self-mutilation was common and frequently not discovered and punished. Landlords also attempted to circumvent the regulations and pass off on

²⁴Richard Hellie, "The Petrine Army: Continuity, Change, Impact," *Canadian-American Slavic Studies*, vol. 8, 1974, pp. 237-253.

²⁵TsGVIA, f. VUA, "Sekretnyi zhurnal Voennogo Soveta, 19 i 22 Oktiabria 1832 ...," ll. 1-2.

the army their least fit and useful serfs; the rejection rate at the recruitment depots was very high, despite the superficiality of the medical examination. Of some 8465 recruits presented for service in Moscow Province in 1839, for example, only 30 percent were accepted as fit.²⁶ But the total number of men called for in the original levy allowed for the high level of wastage along the way, and the army got the number it required.

Despite all the losses during the recruitment process, once the conscripts were delivered to their regiments and integrated into army life, desertion rates were apparently far lower than in Western Europe in the eighteenth century and comparable to those in the nineteenth.²⁷ The reliability of the Russian peasant soldier was an important factor in the success of Russia's armies, but, in the eighteenth century, their commanders made little effort to maximize this potential advantage through tactical innovations.²⁸

²⁶TsGVIA, f. 1262, op. 1, d. 47, ll. 1-2; TsGVIA, f. 1262, op. 1, d. 6, ll. 2-3; TsGVIA, f. 1262, op. 1, d. 13, ll. 5, 23; TsGVIA, f. VUA, "Sekretnyi zhurnal...", l. 11. George Bolotenko provides an excellent description of peasant attitudes, and administrative shortcomings in "The Administration of State Peasants in Russia Before the Reforms of 1838," Ph.D. dissertation, University of Toronto, 1979, pp. 405-461.

²⁷Data on desertion is elusive but, in contrast to the numerous references to massive desertion from mid-eighteenth century Western armies, the few mentions of Russian desertion suggest very low rates. Scattered references from 1795 to 1864 give peacetime desertion rates as follows: 1795-96, over fourteen months for the Black Sea forces, 1.03 percent per year; for July, 1812, for one regiment, 4.14 percent per year; for 1857 and 1858, all forces 0.6 and 0.5 percent per year; for 1864, all forces, 0.54 percent per year. TsGVIA, f. 41, op. 199, d. 562, ll. 9-54; TsGVIA, f. 395, op. 119, d. 69, l. 48; Russia, Voennoe ministerstvo, *Vsepoddaneishii otchet za 1858 god*, pp. 2-4; TsGVIA, f. 1, op. 1, d. 26759, ll. 296-298. Data given by Fedorov for 1861-70 indicate annual rates below one percent; A. V. Fedorov, *Obshchestvenno-politicheskoe dvizhenie v russkoi armii: 40-70 gg. XIX v.*, Moscow, 1958, p. 27. For earlier in the eighteenth century there seem to be no statistics available, but nothing suggests a substantially different picture. Dmitrii F. Maslovskii, *Russkaia armiiia v semiletniuiu voynu*, 3 vols., Moscow, 1886-91, vol. 1, p. 16; Beskrovnyi, *Russkaia armiiia*, pp. 434-435; "Iz reliatsii P. S. Saltykova Imperatritse Elizavete o pobede russkoi armii pod Pal'tsingom (18 July 1759)," in N. M. Korobkov, ed., *Semiletniaia voina*, Moscow, 1948, p. 470. Virtually every account of Western armies in the eighteenth century refers to the problem of massive desertion, for example, Eric Robson, "The Armed Forces and the Art of War," in J. O. Lindsay, ed., *New Cambridge Economic History*, vol. 7, Cambridge, 1970, p. 181. Two revisionist articles by Willerd R. Fann have recently questioned the established view, at least as far as it applies to the Prussian army in peacetime: "Peacetime Attrition in the Army of Frederick Wilhelm I, 1713-1740," *Central European History*, vol. 11, 1978, pp. 323-333; "On the Infantryman's Age in Eighteenth Century Prussia," *Military Affairs*, vol. 40, 1977, p. 165-270.

²⁸The classic tactics of eighteenth-century warfare were in large measure governed by the assumption that soldiers were likely to desert at the first opportunity. Since Russian soldiers did not do this to the same degree as those in the West, it was possible to anticipate the tactical innovations of the revolutionary era, but there is no evidence that any Russian commander before Suvorov seized the apparent opportunity. This matter is discussed in greater detail in Walter M. Pintner, "Russia's Military Style, Russian Society,

TABLE 5
Total Forces and Number of Officers, 1720-1912

YEAR	Total Men in Army	Number of Officers
1720	N.A.	4,300
1725	164,396	4,965
1731	204,092	6,164
1734	194,511	5,874
1763	274,667	8,295
1765	303,529	9,167
1795	413,473	12,487
1796	507,538	15,328
1826	874,626	26,425
1866	779,257	29,843
1897	1,033,153	38,008
1912	1,100,000	45,582

The number of officers for 1725-1796 is estimated on the assumption that the ratio of officers to men is the same as that for 1826 (3.02 per hundred). If the 1720 total of officers is applied to the 1725 total of men, the ratio of officers would be 2.62. In 1720, the total of forces may have been higher than in 1725 because the Northern War was not yet over. Therefore, estimates of the number of officers are probably on the high side.

Sources: F. von Stein, *Geschichte der Entwicklung des russischen Heeres*, Leipzig, 1895, pp. 92, 100, 151, 359 (men in 1725, 1731, 1763, 1796); L. G. Beskrovnyi, *Russkaia armiiia i flot v XVIII veke (očerki)*, Moscow, 1958, pp. 58, 330 (men in 1734, 1765, 1795); L. G. Beskrovnyi, *Russkaia armiiia i flot v XIX veke*, Moscow, 1973, pp. 40, 62 (men and officers, 1826-1897); *The Russian Yearbook*, London, 1912, p. 72 (men in 1912); Officers in 1720 estimated in M. D. Rabinovich, "Sotsial'noe proiskhozhdenie i imushchestvennoe polozenie ofitserov reguliarnoi russkoi armii v kontse Severnoi voiny," *Rossiiia v period reform Petra I*, Moscow, 1973, p. 136; Peter Kenez, "A Profile of the Pre-revolutionary Officer Corps," *California Slavic Studies*, vol. 7, 1973, p. 132 (officers 1912).

The state strove, at least in theory, to avoid leaving families without able-bodied workers, but the condition of the records was officially admitted to be so bad that no accurate judgment of the eligible workers in a given family could be made, even in the unlikely case that the officials involved were entirely honest and efficient. Another government report noted that the exemption of short men produced

and Russian Power in the Eighteenth Century," in Cross, *Russia and the West in the Eighteenth Century*, pp. 262-270.

great injustices, leaving some families untouched and others impoverished. Nicholas I refused, however, to reduce the height requirement even to that used during the wartime emergency period of 1812-13.²⁹ Nonetheless, despite all its defects and the crushing sacrifices it demanded of some, the system of recruitment was abandoned only when the military requirements of the second half of the nineteenth century dictated the introduction of universal short-term service to provide a large reserve force of trained men.³⁰

If attention shifts from the individual to peasant society and economy as a whole, the picture (see Table 4) becomes less bleak. In a typical five-year period a village with 100 male souls could expect to lose from one to three young men. Twice in the eighteenth century the drain reached four per hundred in five years. And only twice, during the Napoleonic invasion and during the Crimean War, did it ever significantly exceed four. The overall average for the years 1826-73 is only very slightly higher than for the preceding 125 years (.54 men per year per hundred compared to .46).

It is probable that, in the eighteenth century, the supply of peasant labor was usually the limiting factor in agricultural production, and therefore recruitment had some negative effect on output. As the nineteenth century proceeded and population density grew, particularly in the central black-earth provinces, the impact of recruitment on agriculture presumably declined. An average of about one man per hundred every two years does not seem to be a loss that would have a major economic impact on a village. Of course, the losses came in spurts, corresponding to the army's need for manpower, but the big spurts of 1812-14 and 1853-55 were relatively short-lived.

Much more important than the loss in agricultural output, and hence head taxes for the state and in revenues for the landlord, was the fact that, once the peasant left the village, he immediately ceased to be productive and had to be supported for the rest of his life. As we have already seen, the major cost of the army was food and clothing. For every soldier in the army the state had to use the revenue derived from about thirty peasants still working productively in the village.³¹

²⁹TsGVIA, f. 1262, op. 1, d. 13, ll. 22, 46.

³⁰Alfred J. Rieber, *The Politics of Autocracy*, Paris, 1966, pp. 24-29; P. A. Zaionchkovskii, *Voennye reformy 1860-1870 godov*, Moscow, 1952.

³¹The crude annual cost of the army per soldier was about 50 rubles in the late eighteenth century (total army budget divided by the number of soldiers). At that time a peasant paid 1 ruble head tax per year plus about another 0.6 rubles from the vodka tax, if he drank the average amount. The state revenue from approximately 31 male peasants was thus required to support each one who was taken away to be a soldier. A similar calculation for earlier and later periods yields roughly comparable figures: 1763, 26 peasants; 1850, 23 peasants; 1897, 34 peasants. Data from Chechulin, *Ocherki po istorii russkikh finansov*, pp. 262, 316; Arcadius Kahan, "The Costs of Westernization in Russia," *Slavic*

The military reform of 1874 drastically changed the whole basis of the recruitment system and brought Russia into line with the other great powers of continental Europe. The major innovations were general conscription applied to all social classes, short-term service, and the creation of a large trained reserve. No longer was the hapless recruit destined to spend virtually all of his most productive years in the army. Active service was for six years (later reduced to five). For men with even elementary education, service was for only two years (later increased to three), and even shorter terms were specified for those with higher levels of education.

Liability for service was universal, but in practice only about 25 to 30 percent of the eligible group actually served. Some were excused because of physical defects, many more for family reasons, and the remaining surplus were simply let off through a lottery system because the army could not afford all of the available men.³² The new system clearly ended the profound injustice of the old. Nonetheless, because of the relatively long term of service and the large size of the standing army, the reform did not alleviate the economic burden on the state; the number of men on active service was not significantly reduced, even as the trained reserve grew steadily. Labor was generally underutilized in rural Russia in the late nineteenth century, so the temporary absence of twenty-five percent of each year's cadre of 21 year-old men is hardly likely to have had significant impact on agriculture.

More difficult to assess than the diversion of peasant labor into the army is the apparent commitment of much of the upper class male population to a career as army officers. Service to the state (military or civil) was required by law until 1762 and was common for reasons of prestige and frequently of economic necessity for the rest of the eighteenth century. In the nineteenth century, civilian service became more popular, and gradually other career opportunities developed in the professions and private business. By the beginning of the twentieth century the social role and status of the army officer bore little resemblance to what it had been a century earlier.

In 1720 there were about 4,300 active commissioned officers, in 1731 about 6,000. By 1763 or 1765 the total may have approached 8,000 or 9,000, and in 1796, 15,000. By 1826 the total was nearly doubled at 26,425, but it changed little in the following twenty-five years, reaching only 27,209 in 1850. Growth was only moderate in the second half of the nineteenth century, the total being 38,008 in 1897 and

Review, vol. 25, 1966, p. 51; *Ministerstvo finansov, 1802-1902*, vol. 1, pp. 616-635, vol. 2, pp. 616-649; V. M. Kabuzan, *Narodonaselenie Rossii v XVIII—pervoi polovine XIX v.*, Moscow, 1963, p. 161; Brokgauz-Efron, *Entsiklopedicheskii slovar'*, vol. 27a, p. 112.

³²Zaionchkovskii, *Samoderzhavie i russkaia armia*, pp. 114-119

45,582 in 1912 (Table 5).³³ Kabuzan estimates that there were about 50,000 male nobles not in military service in 1762. Adding all of the 9,000 military officers (1763), on the assumption that virtually all were nobles, gives a maximum total male noble population of 59,000 in the mid-eighteenth century, of whom 15 percent were in military service as officers.

When the 1,200 noble civil officials with rank (1755) are added to the military officers, the result is that at most 17 percent of the male nobility were in state service above the fourteenth rank in the mid-eighteenth century. By 1795 the growth of the civil service to about 38,000 (of whom 14,880 were probably nobles) had increased the percentage of the total male nobility in service with rank to about 35 percent, compared to 17 percent in the mid-eighteenth century. The proportion in military service remained about the same, at about 16 to 20 percent (assuming that all officers were noble, undoubtedly an exaggeration).³⁴

The conclusion to be drawn from these admittedly approximate calculations is that, although a substantial but undetermined number of nobles were serving in both civil and military positions below the fourteenth rank (non-commissioned officers and enlisted men in the army, clerks in the civil service), the proportion of nobles in service was almost certainly less than it is generally assumed to have been, particularly before the abolition of compulsory service in 1762.

³³The figure for 1720 is a reliable estimate of those actually in service by M. D. Rabinovich, "Sotsial'noe proiskhozhdenie i imushchestvennoe polozenie ofitserov reguliarnoi russkoi armii v kontse Severnoi voiny," in N. I. Pavlenko, ed., *Rossia v period reform Petra I*, Moscow, 1973, p. 136. Rabinovich includes both field and garrison forces and assumes a twenty percent deficit compared to theoretical staffing quotas (*shtaty*). See the source statement for Table 5 for an explanation of the estimate of the number of officers, 1725-1796. For 1826, 1850, and 1897, see Beskrovnyi, *Rusaskaia armia i flot v XIX veke*, pp. 15-16, 62; for 1912, Peter Kenez, "A Profile of the Pre-revolutionary Officer Corps," *California Slavic Studies*, vol. 7, 1973, p. 132.

³⁴Data on the total number of nobles (in territories included in the first revision) is from Kabuzan, *Narodonaselenie*, pp. 154, 161; data on the civil service through 1860 is from Walter M. Pintner, "The Evolution of Civil Officialdom," in Walter M. Pintner and Don K. Rowney, eds., *Russian Officialdom from the Seventeenth to the Twentieth Century*, Chapel Hill, 1980, pp. 192-200, and H. J. Torke, *Das russische Beamtenum*, Berlin, 1967, p. 136; the proportion of noble officers and 1897 civil service data from A. P. Korelin, *Dvorianstvo v poreformennoi Rossii 1861-1904 gg.*, Moscow, 1979, pp. 86, 94. The higher figure for 1795 is based on the large estimate of officers for 1796. Kabuzan's data imply 77,199 male nobles in 1795. Note that using the territories of the first revision excludes the areas acquired in the partitions of Poland. This is important because of the very large number of Polish nobles, relatively few entered military service. According to Korelin (p. 40), 46 percent of all the nobles in the Empire in 1897 were in the nine western provinces, where the nobility was predominantly Polish.

Between 1795 and the middle of the nineteenth century there was a significant decline in the proportion of the total noble population involved in military service, although there was a rapid rise in the number of positions available, particularly on the civil side (116 percent growth in civil officials compared to a 62 percent rise in the number of military officers). The total number of hereditary nobles grew 84 percent between 1800 and 1857, but a declining proportion probably entered the officer corps. Data for the first half of the century are lacking, but in 1864 only 56 percent of the military officers were nobles. On the civil side the proportion of nobles remained roughly the same in the first half of the century. The end result is that by the middle of the nineteenth century, while 32 percent of the male hereditary nobles were in state service above rank fourteen, only eight percent were in military service as officers. By 1897, however, there was a substantial decline in the proportion of the total nobility serving the state (to about 14 percent) while the proportion in military service remained about the same at nine percent.³⁵

Thus, over the course of a century, not only was the nobility's impact on both the civil and military service declining as more and more non-nobles entered service, but, what is even more striking, the impact of service life on the nobility as a whole must have declined as the proportion of nobles involved decreased. Since the pool of educated men from which officers were drawn was rapidly growing in the late nineteenth century, the impact of military service on society as a whole presumably declined as well. It must be noted, of course, that the figures offered above indicate the proportion of nobles in service at a particular time, not the proportion who had seen service at some time during their lives, undoubtedly a much higher figure.

At high rank-levels in both the military and civil hierarchy, nobles retained their predominance. Korelin's figures for 1864, 1874, and 1897, and Kenez's for 1912 show that among generals and admirals the predominance of hereditary nobles remained at about 90 percent, and for other senior officers at about 70 percent.³⁶ Within the socially and economically diverse category that was legally designated "the nobility" there was certainly an elite group that retained a strong tradition of devotion to state service.

Despite the general upgrading of military education, particularly after the Miliutin reforms of 1874, the general level of officer training remained poor. The differences between the more privileged and the

³⁵Calculated from data in Korelin, *Dvorianstvo*, pp. 40, 86 (excluding the nine western provinces, the Baltic provinces, Poland, and Finland). The figure may be on the high side because it does not exclude non-Russian officers, while excluding the home territories of most of them.

³⁶Korelin, *Dvorianstvo*, p. 86, and Kenez, "A Profile," p. 132.

less privileged branches of the service and between the graduates of military schools of differing quality continued to be very great. The emergence of a true elite of merit, the graduates of the Academy of the General Staff, had little effect on the social divisions and the quality of the officer corps as a whole, because it was such a very small group.³⁷ The overall social composition of the officer corps remained stable, as noted above, until the very eve of World War I. Faced with a severe shortage of officers, the regime began to admit more commoners, producing in one year, 1911-12, a decline of three percent in the proportion of nobles.³⁸

The fundamental problem in the late nineteenth and early twentieth centuries was that the economic position of the military officer was very bad, so bad that except for persons from the lower social orders, the career of an ordinary officer was not attractive to talented men. Civil careers and, increasingly, non-governmental employment attracted those who would have chosen a military career in the past. There remained, of course, the traditional elite with independent means who trained in the Corps of Cadets and served in fashionable Guards regiments. Efforts to foster an *esprit de corps* among officers as a whole by, for example, maintaining the practice of dueling, had limited success and served only to isolate the officers from the rest of society and to undermine their status in the eyes of other educated Russians. Little about their way of life, frequently marked by excessive drinking and neglect of duties, would seem to have recommended them as a symbol of national honor or achievement.³⁹

Thus from the eighteenth century to the early twentieth, the Russian officer corps was transformed from a career, a social institution, that was central in its significance for society and provided a role for many educated and influential men, to a marginal profession with low social status (at least in the eyes of much of society) and with poor economic rewards, and which increasingly attracted men from the less privileged and less educated social groups.

Despite Russia's position as a great power at the end of the nineteenth century and despite its large military establishment, the foregoing discussion suggests that the impact of the military effort on society as a whole was declining in the last fifty years of the Empire. The overall budget share devoted to military expenditures was decreasing and, except perhaps immediately prior to 1914, military hardware

³⁷Matitiahu Mayzel, "The Formation of the Russian General Staff, 1880-1917: A Social Study," *Cahiers du monde russe et soviétique*, vol. 16, 1975, pp. 297-321.

³⁸Kenez, "A Profile," p. 131.

³⁹John Bushnell, "The Tsarist Officer Corps, 1881-1914: Customs, Duties, Inefficiency," *American Historical Review*, vol. 86, 1981, pp. 753-780.

production was of limited economic significance.

Mass participation in military service through conscription seems to have had a less pronounced impact on the peasantry than might have been expected. The noble officer corps, once a dominant element in upper class society, was declining in economic and social status. Is it perhaps possible to speak of a tendency toward the demilitarization of Russian society from 1856 to 1914?