



Imperial Russia, 1700-1917

Lectures 8-11

**Economic Decline in the Early
Nineteenth Century**

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IMPERIAL RUSSIA¹
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Nineteenth Century

- 8-10. Crisis and decline, 1807-1838/43.
- (a) Ecological imbalance and agrarian decline.
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 - (c) Monetary disorder and commercial dislocation.
11. The Imperial Russian economy in ca. 1850

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WEIGHTS AND MEASURES

Prior to the revolution of 1917 Russia had its own unique system of weights and measures the salient features of which are listed below:

linear measures.	arshin	=	28 inches
	sazhen	=	7 feet
	verst	=	0.66 miles
Square measures.	desyatin	=	2.7 acres
volume	chetvert	=	5.95 bushels or 2.1 hl.
weight	pud	=	36 lb

RULERS

Peter I ('the Great')	1682-1725
Catherine I	1725-1727
Peter II	1727-1730
Anna	1730-1740
Ivan VI	1740-1741
Elizabeth	1741-1761
Peter III	1761-1762
Catherine II ('the Great')	1762-1796
Paul	1796-1801
Alexander I	1801-1825
Nicholas I	1825-1855
Alexander II	1855-1881
Alexander III	1881-1894
Nicholas II	1894-1917

MINISTERS OF FINANCE

(post 1802 Reforms)

1802	A I Vasiliev	1858	A M Kniazhevskii	1892	S Yu WITTE
1807	F A Golubtsov	1862	M Kh REITERN	1903	E D Pleske
1810	D A Guriev	1878	S A Grieg	1904	V N Kokovtsov
1823	I F KANKRIN	1880	A A Abaza	1905	I P Shipov
1844	F P Vronchenko	1881	N Kh Bunge	1906	V N Kokovtsov
1852	P F Brok.	1887	I VYSHNEGRADSKII	1914	P L Bark

Economic Decline in the Early Nineteenth Century¹

CRISIS AND DECLINE, 1807-1838/42.

Lectures 8-10.

I. Ecological imbalance and agrarian decline. The pattern of agrarian change during the years 1788-1807 now set the pattern for the next thirty years - and beyond. As population increased (from 41.7 millions in 1811 to 57.1 millions in 1850) and new market opportunities opened up for producers, the output of cereals was increased.

Average annual harvest 1800-50.
(millions of chetverts)

Date	Gross harvest
1800-13	155.0
1834-40	179.0
1841-50	209.7

This, once again, involved the extension of the new technology - to the lands of the agrarian periphery where, displacing pasture and forest reserves, it sounded the death knell for the old system of husbandry, which it now displaced. By 1850 the open-field system had albut established a complete hegemony over the lands of the trans-Pontine steppe, a process which, to accommodate the extra crop land and fallow required, necessitated the addition of an extra 32 million desyatin of ploughland to the existing stock bringing the total to some 82 million desyatin or all of existing arable reserves.

Yet even these statistics do not provide a complete picture of the resource utilisation requirements of the new technology for it was, in the unfavourable climatic conditions of the years 1800-55 inherently unstable, exhausting the soil within which it was implanted. Over the period 1800-50 destructive husbandry techniques resulted in a complete turnover in the existing stock of land, as long-

¹ By way of introduction to the early nineteenth century economy the studies of J Blum, *Lord and Peasant in Russia from the Ninth to the Nineteenth Century* (Princeton, 1961), particularly chapters 17-27 on the last 150 years of serfdom, W L Blackwell, *The Beginnings of Russian Industrialization*, vol.1 1800-1860 (Princeton, 1968) and W McK. Pinter, *Russian Economic Policy Under Nicholas I* (Ithaca, New York. 1967), though now very dated, may be found useful. Reference, however, MUST also be made to studies based on more recent research referred to at appropriate places in the course of subsequent lectures.

cultivated land in the central black earth region and the north during this period had to be abandoned to the waste and replaced by new land obtained from the reserves of permanent pasture and forest.

In venturing, in unfavourable climatic conditions, to create an agricultural regime the Russians had created a waste land. Agricultural expansion of modest proportions had been achieved but only at the expense of the ecological destruction of the land and the undermining of the non-agricultural agrarian regime which had been the main source, directly or indirectly, of the average Russian's high income levels in 1807.

By 1850 the average Russian had LESS resources available to him than in 1807 and the balance between those resources had been considerably altered. Whilst per capita cropland had been increased by some 20 per cent since the beginning of the century this had only been achieved by the decimation of woodland and pasture which had been reduced to approximately two thirds and one third respectively of their previous amounts. Moreover, as the aristocracy seized the opportunity of agricultural reorganization to compensate for declining incomes by more carefully delineating the extent of their demesnes and more precisely defining their peasants' obligations in order to increase their share of agricultural resources and output, the remainder of the population were excluded from access to even the diminutive supply of resources which remained. In the southern steppe lands of European Russia, which contained the last major pastoral reserves within the empire, the process is clearly apparent from the time of the Turkish wars of 1768-74 and 1787-92. The first victims of this aristocratic aggrandisement were the Dnepr cossacks who, in the aftermath of the war of 1768-74 in which they had performed valiant service on behalf of Russia, were dispersed and their lands appropriated. They were soon followed by the Crimean Tartars whose complex high-productivity economic regime was systematically destroyed after 1792. Before the eighteenth century had drawn to its close the whole of the western sector of the trans-Pontine steppe had been cleared for Russian settlement and its pastoral reserves appropriated to the use of Russian and Ukrainian landowners. Further east the nomads at least maintained their position but as climatic conditions deteriorated after 1800, bringing an increasing sparseness to their grazings, one by one, between 1801-1825, the nomadic hordes were confined to 'reservations' and subjected to Russian administration to curb their emergent martial instincts. Before appropriation of their lands could begin, to make way for the intrusion of the extensive pastoral regimes of the aristocracy, however, changing conditions stayed the whole process and froze the prevailing territorial regime for half a century. The buoyant market for pastoral products of the late eighteenth and opening years of the nineteenth century collapsed as Russian incomes fell and from 1825 western European governments imposed tariffs against

Russian cattle. Accordingly, diminished supplies of livestock, predominantly from the eastern steppe lands, could largely satisfy market demand whilst in the west the changing terms of trade between livestock and cereals encouraged lords engaged in an extensive pastoralism to adopt the resource-destructive, agricultural regimes then being practiced further north.

Land availability and use in Russia, 1788-1875.
(millions desyatini)

Land	1788	1796	1850	1875
Arable in tillage	39	50	81	98
Arable in pasture	10	31	NIL	NIL
Pasture	60	70	54	54
Forest	188	198	164	138
Waste	90	100	150	164
TOTAL	387	449	449	456

During the years 1807-1838/42 and even beyond to 1855, therefore, the erstwhile pastoral estates of the southern steppe were drawn into that Russian extensive agricultural regime where the aristocracy led the advance in an orgy of resource-destructive pillaging of the land. Year after year, by peasant colonisation but predominantly by the extension of the lordly demesne, new land was broken to the plough, markedly expanding the area under cultivation (50-81 million desyatini), indeed more markedly than the growth of the agricultural population (39.5-45.1 million), and the amount of plough land per head grew (1.26-1.79 desyatin), most of the incremental land being incorporated into the lordly demesne in the Ukraine, the Central Agricultural Region and New Russia. Here were the great estates on the richest soils and the population were serfs.¹ Accordingly this population were expected to provide labour services - BARSHCHINA - to work the lordly acres and as the amount of these increased for him to work, so the amount of time the serf worked for his lord also increased. In the Ukraine barshchina increased from 2 to 3 days a week, the product of the serf's labour flowing into trade. Nor was the situation

¹ There is now a rapidly growing literature on the barshchina peasantry during the early nineteenth century which is totally revising the picture painted by Blum (See note 1 page 16). Amongst these works those of S L Hoch, *Serfdom and Social Control. Petrovskoe, a Village in Tambov* (1986) and the studies of P Czap on the village of Mishino: "The perennial multiple family household. Mishino, Russia 1782-1858", *Journal of Family History*, VII (1982) and "A large family : the peasant's greatest wealth: Serf household in Mishino 1814-1868" in R Wall (ed.), *Family Forms in Historic Europe* (1983) will give a particularly good flavour of the nature of this research.

very different in White Russia where the dual process of increasing labour services and expropriation of the better land allowed lords to channel an increasing flow of grain to the seigneurial distilleries.

Even as prevailing destructive agricultural practices reduced per capita resource availability, the peasantry were excluded from access to the diminutive remaining supplies. Confined to the cultivation of worked-out lands abandoned from the demesne, they experienced, accordingly, a dramatic decline in incomes which, in spite of the departure of some 12 million who having left the European Russian agricultural sector were resident elsewhere in 1850, reduced those who remained to such dire straits (1.52 chetverts per head) that poor harvests in 1830, 1839-40, 1846-7 brought them to the edge of starvation and more severe ones in 1832-3 and 1848 saw famine once more stalk the land.

Aristocratic and peasant agriculture, 1800-60.

LAND HOLDING	1800	1860
<u>Peasant holdings</u>		
Land (millions of desyatini)	34.8	48.1
Output (millions of chetvert)	141.8	149
Yields (chetvert/desyatin)	4.07	3.10
<u>Lordly demesne</u>		
Land (millions of desyatini)	3	10.6
Output (millions of chetvert)	13.2	71
Yield (chetvert/desyatin)	4.4	6.7
<u>Total</u>		
Land (millions of desyatini)	37.8	58.7
Output (millions of chetvert)	155	220
Yield (chetvert/desyatin)	4.1	3.75

II. Industrial change and the loss of foreign markets. 'Industry' went through no less momentous changes during the years 1807-1838/42, which, as in the agrarian sector, were already apparent during the 'crisis' years 1788-1802. At the height of the eighteenth century phase of economic growth, in 1788, it is convenient to divide 'industrial activity' into two branches of which that involving the fabrication of home-grown raw materials by the peasantry for their own use was by far the most important. In the case of the linen and cordage industries, for instance, at that time some 1.6 million peasants were involved part-time in the fabrication of home grown flax and hemp, producing, either in terms of value or quantity, far more than the

better known manufactories. The latter, concentrated in the case of linen in Moscow and Yaroslavl provinces and in the production of cordage and sail-cloth in the ports of St Petersburg and Archangel, absorbed only 5 per cent of raw material production and just short of 20 per cent of that portion of the crop destined for domestic textile production, turning out, in the case of linen, ca.13.4 million arshins of low-priced linen cloth, 10-11 million of which was exported. The former group of peasant-craftsmen on the other hand, working up raw materials derived from their holdings during the 'dead' winter season, deployed some 237,600 looms producing 214 million arshins of narrow linen cloth most of which was distributed within peasant society. Nor were the linen and cordage industries atypical of this branch of economic activity in general. In 1788 the peasantry largely satisfied their requirements for clothing, leather goods, tools and construction materials by their own labours working up more than 80 per cent of the raw materials they produced for their own consumption. The residual supplies (of timber and hemp, flax and wool as well as a whole host of other materials such as Ukrainian clay used in porcelain production) which they sold on the domestic market (and amounted no more than 5-10 per cent of output) provided the basis for the manufactories, initially created by Peter I in order to supply the armed forces but in 1788 predominantly supplying the export trade. Nor was the situation different in that one industry which remained independent of peasant supplies - the Urals metallurgical complex - which had also originally been created by Peter to satisfy military demand but which again in 1788 exported two-thirds of its production. In 1788 most 'industrial activity' was undertaken by peasants, producing goods for distribution within peasant society whilst the manufactories, lacking a domestic market, were forced to dispose of their products abroad.

Once again, however, the years 1788-1807 witnessed a major crisis which led to a restructuring of the industrial economy, presaging the even greater changes which would totally transform it during the following half century. The agrarian disorders, by fundamentally weakening the north Russian non-agricultural rural regime, resulted in the first breach in the self sufficiency of the peasant sector. As has been suggested the peasantry had always bought one or two items, like metals or salt, which they were incapable of producing, but the overwhelmingly greater part of their needs for food, clothing, accommodation, heating and lighting, had been satisfied by their own endeavours or by participation in that commercial network spanning, but encompassed within, peasant society. Now, due to a lack of raw materials, they abandoned the production of one of these elements - woollen cloth - buying the product instead from denizens of the non-peasant sector. It was not, however, to the manufacturers of this commodity that they turned for this fabric but to a group of impoverished peasant-workers, who stood outside the bounds of the production

structure of 1788 and who now emerged as a major element in the non-peasant industrial sector. Numbering some 262,000 these workers, who sold some 10 million rubles' worth of their cloths, made up from imported southern Russian wool and flax, at the new country fairs of Tula, Ryazan, Moscow, Vladimir, Yaroslavl, Tver, Kostroma, Kaluga, Vologda and Nizhegorod provinces as well as at the great fair of Nizhnii Novgorod, by 1807 encompassed some 12.5 per cent of sectoral output.

Linen Manufactory, 1788-1852.

Linen manufactory	1788	1805	1825	1852
Enterprises	318	199	196	112
Looms ('000)	16.1	17.6	14.6	5.6
Employment ('000)	29.3	31.8	26.8	12.4
Output ('000,000 rub.)	3.1	3.1	-	1.98
Output ('000,000 arsh.)	16	16	16	1.7
Export ('000,000 arsh.)	11	12.5	-	1.6

The performance of the manufacturing sector was less spectacular in spite of an external fall in the value of the ruble which favoured exports and served to protect domestic industries in the years to 1802/3. Textiles still dominated this sector of the economy, as they had in 1788, but in spite of a strong foreign demand for naval stores and large domestic military orders, which led to a doubling of its work force, it was losing ground. The most rapidly growing sector of manufactory was now metal fabrication, which during the last twenty years had quadrupled the size of its work force. As exports of iron had diminished, largely as a result of tariffs imposed in Britain to protect its inefficient new coke-fuelled industry, more and more of the produce of the Urals industry had been sold at home, employment in domestic metal fabrication increasing from 24,000 to 95,100 in the 1800s when it comprised 20 per cent of the manufacturing labour force. The pattern for the future was now clear. The products of the manufactories and industrial sector, for the first time subject to foreign tariff discrimination, were destined to survive only in as far as they were able to successfully diversify towards the home market which, as has been suggested (in lecture 1), was subject to a catastrophic decline in real incomes. In such a process of diversification, however, they now had to face a new competitor, a group of peasant-workers who, utilising low-cost 'imported' raw materials and willing and able (due to the lack of government wage regulations) to accept reduced earnings, had already during the years 1788-1807 made serious inroads into the domestic market.

The broad outlines of market change had been set and were now about to be played out in full during the years 1807-1838/42 and beyond. As both the spatial and

product incidence of western tariff discrimination against Russian industrial wares was extended, particularly after 1825, so the manufactories which had sold the greater part of their produce abroad (iron 60-63% prior to 1788, linen 68% in 1788 and 78% in 1805 , leather 80% in 1804) experienced acute difficulties and in many cases went into decline. Again the linen industry, the largest by far of the textile manufactories in the 1800s, provides an excellent example of the process at work.

Locked into a high-cost labour regime by possessional factory legislation, subject to rising raw material costs and unable to dispose of its high-priced products anywhere other than abroad it was doomed. Slowly declining in numbers to 1825, with the imposition of French tariffs against their products, the possessional enterprises thereafter shut down one after the other. In Vladimir province there were 85 manufactories in 1827/8 with 9,750 looms (including 4,000 located in the villages) and a work force of 15,870 (of whom more than 9,000 worked at home). In 1836 there were only 56 remaining manufactories with 3,739 looms and 13,172 workers whilst thirteen years later in 1849 there were only 48 works with 2,337 looms (1,120 in the three 'factories' of R I Nazarov, Ya N Suzdal'tsev and the merchant Menshchikov) and 7,465 workers and although decline here was more dramatic than in neighbouring Moscow province this sector of industrial activity was doomed. Nor was the story markedly different in cordage and rope or woollen and worsted manufactories. In the latter case the late eighteenth century possessional works had largely catered for the requirements of the army but after 1816 as military demand declined they were freed to sell their wares on the open market. Even at this time this absorbed only some 20 per cent of their output, however, and although it was enough to stabilize this sector to the late 1820s thereafter these enterprises made no further inroads into the market and, tied to military contracts, declined. Everywhere the old manufactories and industrial enterprises were in decline.

Russian Iron Production and Sales 1780-1850.

IRON INDUSTRY	1782	1807	1822	1838/43	1851
Output (million puds)	6-6.4	7.7	8.8	9.8	10.9
Exports (million puds)	3.8	1.6	1.4	1.2	0.6
Export / Output %	60-63	20	16	12	6
Retained output (million puds)	2.2-2.6	6.1	7.4	8.6	10.3
-do- per head (pud/cap)	0.08-0.1	0.14	0.16	0.16	0.18

The one exception was the iron industry. As has been shown, as tariffs were imposed against its products abroad, producers from 1788-1807 had reorientated output towards the home market resulting in a massive expansion in domestic metal

fabrication. Now, as tariff discrimination against the Russian product extended from Britain to France and then the USA this trend continued apace.

In spite of a continual search for new foreign outlets for the product, as one after the other foreign governments put up tariffs against Russian iron (which at factory prices was still price competitive with Scottish iron in 1850), exports fell until they were largely confined to markets in the Ottoman Empire. Increasingly the product was sold to domestic fabricators, who over the years 1788-1850 set more and more men (1807 95,113; 1850 125,372) to work creating a major industrial complex. Central to the distributional network of this complex was the Nizhnii Novgorod fair where producers sold some 4.5 - 5.5 million puds (or approximately half of total output) of the ferrous metal a year in the 1850s to the Yaroslavl merchant Pastukhov (0.9 million puds), who distributed it to *kustari* workers in Novgorod, Tver (nail makers) and Yaroslavl (agricultural and other peasant implements); the Nizhnii Novgorod trader Rukavishnikov (0.25-0.29 million puds), for his steel works and distribution within the province, and a host of others distributing iron to the metal workers of the northern industrial provinces. Smaller quantities were sold at Moscow (0.3 million puds), Kiev (0.25 million puds), Karkhov (0.175 million puds) and Riga (0.008 million puds) but of overwhelming importance to producers were the metal workers of the non-black earth industrial provinces of the north who largely obtained supplies of the metal from Nizhnii Novgorod and, converting it into fabricants, sold their wares in growing quantities to an increasingly impoverished peasantry .

Russian textile production, ca. 1800-1850.
(‘000,000 arshin)

Date	Peasantry	Non-peasantry		Total
		Kustari	Manufactory	
1800	128.6 (78%)	16.6 (10%)	19.3 (12%)	163.5 (100%)
1850	1282.0 (76%)	398.0 (24%)	10.0 (1%)	1690 (100%)

Amongst manufacturers and industrialists, however, they were almost alone in being able to dispose of their product on the domestic market. As a whole, manufacturers and industrialists were forced to cede ground here to peasants working up raw materials for self-consumption and to that erstwhile group of impoverished peasant-workers who had first appeared on the industrial scene in the years after 1788 and whose numbers now rapidly increased (from 0.26-5.3 million 1807-1850) as a result of the massive outflow of labour from the peasant farm sector. By far the largest group here, as before, were workers engaged in textile production. Output in this sector rapidly increased, from ca. 163.5 million arshins a year (4 arshin per head)

in the first decade of the nineteenth century to 1,690 million (ca. 30 arshin per head) in 1850, as exports fell domestic sales levels being enhanced. The largest element remained peasant production for self-consumption which, by an intensification of garden production of flax and hemp and the acquisition of supplies of cotton yarn to compensate for dwindling domestic quantities of raw materials, still in 1850 provided most of the textiles (1,035 million arshin linen, 54 million wool and 193 million cotton) required by the peasantry. Between ca.1807-1850, however, the trend towards peasant acquisitions from the non-peasant sector, already discernible from 1788-1807, gathered momentum and again it was NOT from the manufactories that the peasant acquired these wares. As has been suggested, over these years both output and employment in the manufactories steadily fell (output 19.3-10 million arshin; employment 71,600-52,400 between 1807-1850) whilst that erstwhile group of peasant-workers, who had first appeared during the years 1788-1807, and their successors now came to the fore. Numbers employed in this sector of textile production rapidly increased (from 0.26-1.32 million) and with them output (16.6-398 million arshins), cottons in particular enhancing their share of sectoral output (from about a half to two-thirds) and creating in the process a major industrial complex in Vladimir and Moscow provinces. In the former province by 1850 production of cottons had become the mainstay of the economy, in Shui district some 83 million arshins of cottons being fabricated, Suzdal district 50 million and Vladimir district 65 million whilst in Moscow province production was of similar proportions.

Whilst, therefore, the peasantry were able to maintain and even enhance their levels of self consumption of domestically produced industrial goods during the crisis years 1807-1850 there was also a tendency for them to buy increasing quantities of these wares from the non-peasant sector, consumption of bought-in textiles rising from 0.44-7 arshins a head and iron from 5-6.5 lbs a head, thereby supporting an industrial sector which by 1850 employed almost ten per cent of the population (5.3 million persons-1.5 million workers).¹ That this group was able, in conditions of rapidly declining peasant incomes, not only to survive but actually sell more and more of their products to an impoverished peasantry was, to say the least, no small achievement.

It rested on three basic responses to the new situation: a massive reduction in labour costs; an enhancement of labour productivity and (particularly in the case of textiles) a shift to a new low-cost raw material supply. As increasing numbers of peasants departed the agricultural sector and flooded industrial labour markets, real

¹ On this group see the study of E Melton, "Proto-industrialisation, serf agriculture and agrarian social structure", *Past and Present*, No.115 (1987), parts 1-2

wages (where not impeded by labour legislation) fell heavily in line with the decline in average per capita incomes¹.

Real industrial wages 1800-1850. (Index 1800/10 = 100)

Date	Free labour.	Possessional labour	Average per capita NI.(index)
	Cotton weaver	weaver/iron master	
1800-10	100	100	100
1811-20	51	109	47
1821-30	40	212	-
1831-40	31	-	29
1841-50	25	234	-
1851-60	22-37*	-	35

NOTE.* The second figure indicates the wage of a factory rather than a kustari worker

Where raw material costs could also be reduced, particularly by the shift to the use of imported cotton yarn (which fell to a third of its former price over the years 1807-1850) in the textile industry, this cost decrease, moreover, was reinforced. But whether raw material costs were reduced or not (as in the iron industry) falling wage rates coupled with a 2.5-fold increase in productivity (largely achieved by increased labour intensity but also in the 1840s by the introduction of new technology and industrial organization), which paralleled that of the barschina-serf,² were sufficient to reduce unit labour cost far below the fall in incomes and to produce a corresponding increase in sales, creating a large new sector in the Russian economy.

¹ Still the best study on earnings in this sector is the translation of M I Tugan-Baranovsky, *The Russian Factory in the Nineteenth Century*, originally published in 1898

² R L Rudolf, "Agricultural Structures and Proto-industrialization in Russia: Economic Development with Unfree Labour", *Journal of Economic History*, XLV (1985) and the same author's "Family Structure and Proto-Industrialization in Russia", *Journal of Economic History*, XL (1980).

III. Monetary disorder and commercial dislocation. As has been suggested the process of economic decline during the years 1807-1838/42 and beyond was associated with a process of structural change and the growth of regional inter-dependency within the economy. Agricultural production became increasingly concentrated in the lands of the wooded and open steppe where the aristocracy, exploiting the richest soils and their servile populations, attempted to compensate for declining incomes by increasing their grip on resources and output and, directly or indirectly, selling increasing quantities of grain on the market. Year after year, from 1788-1850, the proportion of the harvest entering trade increased, rising from 4.86 million chetverts or 4.5 per cent of the net harvest in 1788 to 10.9 million chetverts or 9.8 percent in 1807 and to 37.8 million chetverts or 28 per cent in 1850.

Grain trade ca. 1800-1850. ('000 chertverts)

Transport System	1800	1837/8	1854
Riverine			
Astrakhan-Nizhnii Novgorod	883.0	3078.6	6569.9
Nizhnii Novgorod-Rybinsk	380.0	767.8	1021.9
Nether Volga	-	1627.1	1136.1
<u>Volga basin: Total</u>	<u>1,263.0</u>	<u>5,473.8</u>	<u>8,726.6</u>
Oka basin: Total	825.3	2936.0	2365.1
Kama basin: Total	-	355.8	496.3
<u>Total of Volga, Oka and Kama</u>	<u>2,088.3</u>	<u>10,247.5</u>	<u>11,588.9</u>
Don	-	358.3	583.9
Dnepr	21.4	168.3	1369.1
Dnestr	3.3	1.6	2.9
Niemen and western Bug	105.1	175.6	149.7
Western Dvina	304.2	452.9	578.6
Neva	304.2	1154.9	2021.0
Narva	-	-	-
Northern Dvina	297.5	332.5	449.8
<u>Total riverine systems</u>	<u>3,124.0</u>	<u>12891.6</u>	<u>16,743.9</u>
<u>Total land systems</u>	<u>2,047.0</u>	<u>NA</u>	<u>13,116.1</u>
<u>Distilling</u>	<u>5,750.0</u>	<u>NA</u>	<u>8,000.0</u>
<u>TOTAL MARKETED GRAIN</u>	<u>10,921</u>	<u>NA</u>	<u>37,860.0</u>

Within a stable organisational framework the volume of marketed grain was steadily enhanced. Increasing quantities passed to urban populations, amongst whom those of the metropoli - Moscow and Petersburg - were the most important (12.2 million

chetverts for 6.1 million persons in 1850); to the populations of the Central Industrial Region, who now became entirely dependent on "imported" grain (5.3 million chetverts for 3.53 million persons in 1850); to industrial populations elsewhere (2.7 million chetverts for 1.8 million persons in 1850) and to the export trade, now increasingly dominated by grain exported through the Black Sea ports (7.7 million chetverts). With the addition of that grain which particularly in White Russia and the western provinces was converted into alcohol before sale (8 million chetverts in 1850) the quantities by 1850 were formidable and their transportation within prevailing communications systems posed major problems. Within the dominant Volga river network, however, thanks to improvements in the canal system in the early nineteenth century (the Ladoga canal extension and Mariinski canal both completed in 1801 and the Tikhvinski canal of 1811) and the introduction of steam navigation on the river from the 1820s, traffic increased and freights fell rapidly, though in the middle and upper Volga regions growing quantities of grain (0.83-2 million chetverts ca.1807-1850) had to be transported to that system by cart. Nor was the situation different in the western riverine system, centred on the Dnepr, where again improvements in the waterways (involving the creation of the Berezina and Oginski systems, completed in 1804, and the Augustus system, finished in 1841) linking that river to the Baltic by way of the Narva, Niemen and Vistula, paved the way for a marked increase in traffic and decline in freights, though again this also necessitated an increase in land transport to bring grain from Kiev to the network. By 1850, moreover, both of these systems were being eclipsed by the Moscow and Black Sea supply networks where carting of grain was increasingly becoming the dominant mode of transportation. Within the former, encompassing the lands of the wooded steppe, traffic along the riverine system (involving the Oka-Mtsensk in the west and Moksha-Tsna in the east) having peaked in 1837/8 was already before 1850 in decline, causing a steadily increasing proportion (40 per cent rising to 74 per cent between 1807-1850) of marketable grain to be carried by cart. In the trade to the Black Sea ports, where river transport never encompassed more than 10 per cent of the traffic, almost all of the massive seven-fold increase in the grain trade was accomplished by carters. Thus whilst the rapid growth of water-borne traffic within the Volga-Dnepr networks served to maintain the position of that mode of transport within the overall system and was associated with a decline in transportation costs to northern markets, sectorally, in the Moscow-Black Sea networks, low-cost water transport was rapidly being displaced by high-cost carting, causing the process of declining transactions costs and increasing market integration, which had characterised the years 1801/10 - 1841/50, to gradually grind to a halt, presaging the reversal of this trend in the next decade.

If in 1850 the days, when increasing quantities of grain had been transported at falling cost to northern consumers, were drawing to a close, so also were they in the trade in raw materials to northern employers. Again, as has been, during the years ca. 1800-1850 the quantities of textile raw materials traded from either the peasant to non-peasant sectors (flax, wool etc) or imported from abroad (cotton yarn and after 1840 raw cotton) steadily increased, as also did the amount of iron transported from the Urals thence. Yet, as the latter case reveals, this expansion in the volume of domestically traded raw materials was already by 1850 creating major problems within the prevailing transport system. At that time most iron, as has been shown, was still disposed of within the the pre-existing transport network, on average as much as two-thirds of total output being sold at Laishev' or the great fair of Nizhnii Novgorod for distribution to metal workers in neighbouring provinces and much of the rest being transported on by river to Moscow and St Petersburg. In this respect the Demidovs, though slightly more prominent than their peers at the fairs and in the export market, were not atypical.

Demidov iron sales ca.1850. ('000 puds)

Market	Amount
Sold at works and distributed locally	300 (=4%)
Siberia	500 (=7%)
Sold at Laishev'	200 (=3%)
Sold at Nizhnii Novgorod	4500 (=60%)
Distributed by commission agents elsewhere	1300 (=17%)
Export	700 (=9%)
TOTAL	7500 (=100%)

Within this system, moreover, by cutting profit margins and, particularly up river beyond the great fair, reducing freights, producers had been able to reduce prices since the eighteenth century by about ten per cent . Within this riverine system freights had been reduced to low levels so that iron sold at Ekaterinburg (Sverdlovsk) in the Urals for 1 ruble a pud could be disposed of at Nizhnii Novgorod for 1.10 rubles, at Moscow for 1.20 and Petersburg for 1.25. Yet beyond its bounds, where carts had to be used to transport the metal to new markets in southern and western Russia, iron could not be sold at less than 1.50 rubles and at Kamenets-Podol'sk or Khotin fetched 2 rubles a pud. Once again, therefore, as the tentacles of the domestic supply network extended ever outwards necessitating the use of land transport systems costs were beginning to rise and previously integrated market networks were

beginning to disintegrate. As yet sales in such markets were small but the signs for the future were clear.

In the reciprocal trade in industrial wares from the Central Industrial Region to the the agricultural lands of the south and west the situation was somewhat different. Here once again between ca 1800-1850 sales of such products increased as producers disposed of increasing quantities of their wares to the peasantry, breaching the previous pattern of self consumption in that group, but in this instance the relatively high-value to bulk characteristics of these goods ensured that transport costs constituted a relatively small element in final sales prices-in 1850 amounting to no more than 10 per cent in comparison with 30 per cent in the case of raw materials and basic foodstuffs.

Overall, therefore, the years ca.1800-1838/42 and beyond saw dramatic changes in the Russian economy as against a background of economic decline, which reduced average per capita incomes to between 30 and 35 per cent of their former level, there was a process of structural change resulting in an increased regional inter-dependency within the economy. Agricultural production became increasingly concentrated in the lands of the wooded and open steppe where the aristocracy, exploiting the richest lands and their peasants, attempted to compensate for declining incomes by increasing their grip over available resources and output and increasing the quantities of grain which they placed on the market. From the steppes and the Urals increasing quantities of grain and raw materials now passed north to the Muscovite heartland of the Empire where agriculture ceased to expand on the estates and the peasantry, secure in obtaining supplies of grain, went to work in industry securing their sustenance in the market and instead of performing labour services paid cash, from their work fabricating "imported" raw materials, to their lords in the form of obrok at a level which equilibrated with that of the barshchina extracted further south. As a result of these changes the volume of commercial activity servicing the requirements of the domestic economy steadily increased at the expense of the export sector, maintaining the share of commercial activity in national product, a trend already apparent between 1788-1807 and thereafter becoming even more pronounced.

During the eighteenth-century growth phase of the long-cycle commercial-industrial activity certainly increased as the marketed share of a growing national product expanded from about 6-7 per cent in 1700-1718/22 to 10 per cent in 1762-1788. Improved transport facilities allowed an extension of the margin of cereal cultivation into the rich central black-earth lands and a growing grain trade to the metropolitan centres and abroad. Via the foreign-trade sector of the economy there was also a countervailing investment inflow into the Russian economy as English merchants,

whose capital turnover had been accelerated by organizational and infra-structural improvements, showed themselves willing to roll-over short-term bill finance to provide long-term investment in foreign agriculture and industry.

Russian domestic trade, 1788-1850.

(million 1762 silver rubles at current prices)

Date	Domestic Trade		National Income	%
	in assignat roubles at current prices	in silver roubles at current prices	in silver roubles at current prices	
1788	300	300	3000	10
1792/3	300	258	2586 a	10
1802/3	500	400	4465	10
1836/8	900	257	2459	10
1850	900	266	2787	10

NOTE. a. Muscovy only

Initially observable in the Americas trades, with the removal of bi-metallic impediments to the operation of foreign exchanges in the 1730s, such investments became characteristic of many branches of European commerce and bill rates on such foreign bourses as St Petersburg increasingly moved to the rhythm of English base interest rates.¹ The second third of the eighteenth century thus saw England become a major capital exporter, alleviating capital shortages abroad and providing necessary funding for the expansion of foreign industrial and commercial enterprises. By the end of the century, in countries like Russia, it had become an axiom of economic policy making that,

“... the greatest part of our domestic industry was put into movement by the advances that the English make to us and which allow our peasants to be put

¹ Ian Blanchard, “International Capital Markets and their Users” and Jennifer Newman, ““A very delicate experiment’: British mercantile strategies for financing trade in Russia, 1680-1780” in *Industry and Finance in Early Modern History. Essays Presented to George Hammersley on the Occasion of his 74th Birthday*. Eds. Ian Blanchard, Antony Goodman and Jennifer Newman (Stuttgart, Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte-Beihefte, no. 98., 1992), pp. 24-5, 116-142.

to work ...”

Secure in the availability of a cheap raw material supply and with abundant and inexpensive investment funding, manufactories embedded in the foreign-trade sector of the non-peasant Russian economy thus, in the course of the eighteenth century underwent a major expansion contributing to a major industrial-commercial boom and the growth of an infra-structural framework to service its needs.

Also during the years 1788-1803/ 1807-1838/42, when economic growth gave way to decline, this major industrial-commercial sector was able to maintain its 10 per cent marketable share of national product and, as the agricultural-industrial terms of trade turned against it, the industrial element within the sector underwent a massive ten-fold increase in output. The depletion of the resource base of the economy and resultant break-down of peasant autarky forced the peasantry to make increasing use of the market and, in causing some 12 million persons (or ca. 20 per cent of the population) to be displaced by 1850 to the non-peasant sector, provided the labour force to provide the goods and services required. Growth within the industrial-commercial sector of the Russian economy thus continued during the years 1788-1802/1807-1838/42 but in accord with a domestic rather than foreign dynamic.

11. The Imperial Russian economy in ca. 1850

The protracted agrarian-monetary crisis of 1833-1838/40 marked the end of the century-long cycle which had seen the Russia undergo a phase of rapid economic growth which carried that nation in 1807 to the very top of the international national income league table. Yet already between 1787/92-1802 it had become clear that this phase of growth was coming to an end and it was not long before a slackening growth-rate gave way to absolute decline. From 1807-1838/42 decline was relentless so that by the latter date the nation had not only descended in the international national income league table but its inhabitants now ranked amongst the poorest in Europe.

The Russian economy had moved full cycle along what was essentially a resource-determined path. In the eighteenth century growth without structural change, had been achieved by the peasant reorganizing the time-allocatory patterns of family members who were deployed within a spatially extended network in order to exploit the increasing abundance of resources available to them. Peasant patriarches at that time had thus created new work opportunities for family members, thereby enhancing not only their individual incomes but also that of the household - and society as a whole. Growth had been a product of both better organization and greater resource availability. When, after ca. 1790 the supply of new resources ceased to increase, however, so did growth and with the introduction of what were essentially resource-destructive techniques to the agrarian sector growth finally from 1807-1838/42 gave way to decline. These techniques, particularly in the unfavourable climatic conditions of the years 1800-55, were inherently unstable exhausting the soil within which they were implanted and resulted in a complete turnover in the existing stock of land, as long-cultivated land in the central black earth region and the north during this period had to be abandoned to the waste and replaced by new land obtained from the reserves of permanent pasture and forest. In venturing, in unfavourable climatic conditions, to create an agricultural regime the Russians had created a waste land. Agricultural expansion of modest proportions had been achieved but only at the expense of the ecological destruction of the land and the undermining of the non-agricultural agrarian regime which had been the main source, directly or indirectly, of the average Russian's high income levels in 1807. By 1850 the average Russian had less and more unproductive resources available to him than in 1807 and the balance between those resources had been considerably altered. Whilst per capita cropland had been increased by some 20 per cent since the beginning of the century this had only been achieved by the decimation of woodland

and pasture which had been reduced to approximately two thirds and one third respectively of their previous amounts, resulting in a corresponding fall in incomes. By mid-century the average Russian enjoyed an income which was no more than a third (24 rubles a head) of what it had been in 1807 and was less than a quarter of that of his contemporary British counterpart (107 rubles a head).

Estimated European Russian National Income in 1850
(millions of silver rubles, at constant 1762 prices)

PRODUCT	MARKETED	TOTAL
<u>Foodstuffs</u>		
Grain	<u>75</u>	<u>342</u>
<u>Raw materials</u>		
Grain, alcohol	20	23
Flax, hemp etc.	60	178
Cattle etc.	143	538
Fish, timber, furs etc.	108	407
Minerals and metals	13	13
<u>Total raw materials</u>	<u>344</u>	<u>1159</u>
<u>Manufactory</u>	<u>35</u>	<u>52</u>
TOTAL	<u>454</u>	<u>1553</u>
EXPORTS		43.8
IMPORTS		39.8
NI		<u>1557</u>
P. CAPITA N.I.		<u>24</u>

Unlike during the previous period of growth which had been achieved without structural change, moreover, decline, during the years 1807-1850, was associated with a growing regional specialization and inter-dependency within the economy as some 12 million persons (or ca. 20 per cent of the population) were displaced from the agrarian sector to settle in 1850 beyond its bounds. For those who remained within the agrarian sector average per capita incomes fell (to 26.8 silver rubles per head) but the composition of that income also changed dramatically under the dual pressures of resource depletion and market orientation. The peasantry now, directly or indirectly, disposed of 10 per cent of the produce of their labour on the market, yielding them an income (net 2.7 roubles per head) from which they made deliveries, in the form of barshchina, to their lords (2 roubles per head) and bought consumer goods (72 copecks per head). Amongst retained income (24 rubles per head), moreover, cereals were now much more prominent than before, in ca. 1850

comprising half (by value and protein content) of total food consumption and about a quarter of total retained product, although it should be noted that the average Russian peasant, in spite of a marked reduction in the amounts of meat and dairy produce available to him, still consumed 3-4 times more of these products than his western European counterpart.

An appraisal of the situation in the INDUSTRIAL sector of the economy encompassing, ca.5.3 million persons in 1850, is much more difficult. Here the individual's well-being largely depended upon his judicial status. Possessional and assigned peasants concentrated in the metallurgical industry and manufactories, upon whom most attention has been concentrated, were, as has been shown (in lecture 18), a privileged group who, thanks to government wage legislation, avoided the dramatic fall in wages of the early nineteenth century. Incomes here were both relatively and absolutely enhanced, rising in nominal monetary terms 2.3-fold and composite natural-monetary terms 3-fold between 1801/10-1841/50. Whilst the possessional worker thus had earned about half that of his "free" counterpart (and a twelfth of the peasant) in the 1800s, by the 1840s he had moved to a position of parity with the peasant and enjoyed broadly the same consumption pattern: grain (50kg a head a year) comprised 40 per cent of food consumption and 20 per cent of total expenditures, dairy produce (60 litres) and flesh (57kg) 60 per cent of food consumption, the latter elements again being more than double that of his western European counterpart.¹ Yet this group, in part due to the law of 1840 which permitted the conversion of certain categories of possessional serfs into wage labourers, was of dwindling significance in the labour force, their numbers falling from about half (0.48 million or 51 per cent) of the whole in 1804 to about a twentieth (0.073 million or 4.6 per cent) half a century later. Far more representative of the industrial labour force in 1850 were the successors to that group of peasant-workers (0.26 million) who had first emerged upon the industrial scene during the years 1788-1807 and whose numbers had rapidly increased thereafter to almost a million and a half (1.43 million) in 1850. Unprotected by labour legislation this group, whose monetary earnings in the 1800s had been approximately double those of the possessional worker, in the early nineteenth century experienced a dramatic reduction in their real earnings which by the 1840s were but a quarter their former level (5.2 rubles per head, 18.4 per family) allowing the family only to exist on an almost completely

¹ On one element in this group - the iron workers of the Urals - see the studies of T Esper: "The condition of the serf workers in Russia's metallurgical industry, 1800-1861", *Journal of Modern History*, L (1978); "Hired labour in the metallurgical industry of the Urals during the late serf period", *Jahrbücher für Geschichte Osteuropas*, XXVIII (1980) and "The income of Russian serf ironworkers in the nineteenth century", *Past and Present*, No. 93 (1981)

farinaceous diet. Taken as a whole, therefore, the denizens of the industrial sector experienced in the 1840s, with an average per capita and family income of 6.6 and 23 rubles respectively or about a quarter that of the peasant, a miserable existence.

Legal status of the Russian urban population 1811-1858.
(millions of persons)

CITY POPULATION	1811		1858	
	millions	%	millions	%
<i>Dvorianstvo</i>	0.11	4.0	0.28	5.2
Eccles. & civil admin.	0.25	9.2	0.81	1.9
Military	0.18	6.5	0.78	14.1
<i>Kruptsi</i> *	0.20	7.4		
<i>Meshchanie</i>	0.95	35.1	3.05	54.7
<i>Raznochintsi</i>	1.02	37.6	0.19	3.5
Peasants*			1.13	20.2
TOTAL	2.70	100.0	5.58	100

NOTE.* In 1811 *raznochintsi* and peasants included in former total.
In 1858 *kruptsi* and *meshchanie* included in latter total.

Somewhat better placed were the inhabitants of the URBAN-COMMERCIAL sector who in the 1850s numbered ca. 5.5 million. The two elements in this complex, urban and commercial, were not, however, entirely co-terminous. Of the members of the aristocracy (*dvorianstvo*), clergy and administration some 15 per cent (0.36 million) were resident in the towns which also accommodated in peace-time most of the military (0.79 million). The strictly commercial element (*kruptsi*, *meshchanie*, *raznochintsi* and associated peasantry) together with the "trading peasants" of the countryside probably amounted to no more than 4.4 million of whom 0.9 million (20 per cent) were located in Moscow and St. Petersburg. Sharing in a foreign and domestic commerce valued at some 494 million rubles from which they derived about 108.6 million rubles a year or an average per capita income amounting to ca.25 rubles a head they thus were in a position strictly comparable with the contemporary peasantry.

By 1838/42 and even beyond, therefore, the fortunes of the Russian populace had been reduced to a very low ebb, average incomes being only some 20-24 rubles a head or slightly more than a third of their level in 1807 and about a fifth of that of their contemporary British counterparts. For some groups in society, notably the non-possessional industrial labour force who only survived in depressed market

conditions by an enforced increase in their labour intensity and massive reduction in earnings, moreover, even in comparison with their peers their lot was an unenviable one, approximating very closely to a true subsistence level. By 1838/42-1850, measured by any such abstract criteria the Russian economy was in a very sorry state. Yet before the subsequent recovery of the economy is considered these criteria should perhaps be re-considered. Measured in terms of the 1788 or even 1807 product-mix the average Russian was certainly in 1850 poorer than his predecessors but, as has been suggested, in terms of that mix, which figured foodstuffs very heavily in its composition, by the latter date it is impossible to disagree with contemporary observers when they declared that "the people [of Russia] are by no means so ill-fed as is commonly supposed, but rather better than in many countries." Indeed, as has been suggested, the average Russian (apart from the "free" industrial worker) was far better fed than his continental European or even British counterpart. To consider the nature of his "poverty" it would be necessary to re-cast his income in terms of the BRITISH product-mix of 1788/1807, a process which would reveal that what he lacked in 1850 in comparison with his contemporary British counterpart was that mass of manufactures which the productivity gains of the British "Industrial Revolution" had made available to the latter. Poverty is a very relative and value-loaded term.

