



Imperial Russia, 1700-1917

Lectures 12-17

**Renewed Growth Aborted in the Late
Nineteenth and Early Twentieth
Centuries**

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IMPERIAL RUSSIA¹
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Lectures 12-17

Renewed Growth Aborted in the Late Nineteenth
and Early Twentieth Centuries

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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

Renewed Growth Aborted in the Late Nineteenth and Early Twentieth Centuries¹

Having in 1838/42 attained its cyclical nadir, the Russian economy commenced thereafter on a path of recovery as a new long-cycle ran its course to a peak in about 1914. It is the story of this recovery and the reasons why it failed to re-attain previous peak levels, leaving the Russian economy at a LOWER per capita level of activity in 1914 than it had been in 1788/1807, that will concern us now, although it is necessary first to consider the process of transition from decline to recovery, a process which set the future pattern for the economy's development. Transition over the years 1840-1880 was a complex and obscure process as both old and new forces combined in the context of major institutional changes (most notably the Emancipation Act of 1861) to completely restructure the economy.

For many years, particularly in the agrarian sector, the old ways continued. 1840 marked no break in that trend towards an extensive agriculture involving the resource-destructive exploitation of the land although climatic amelioration between ca. 1855-1875 went some way to tempering the destructive activities of men. Year after year new land was broken to the plough, mainly between 1850-1875 at the expense of the forest, but only slightly more than half of the new land was added to the stock of land in tillage, the remainder served only to replace existing worn-out land which was abandoned to the waste. At this time the pace of destruction was slowing - only a sixth of the existing land stock (including the new lands added in the centre and south between ca.1800-1850) was abandoned and replaced - but all other things being equal the Russian economy was still set on that path of decline which had commenced at the beginning of the century. By 1880 the average Russian commanded 20 per cent less resources than thirty years earlier and although he had largely maintained the amount of per capita cropland this had only been achieved by

¹ There are no satisfactory text books covering the late nineteenth century economic development of Russia, but the following works provide some insights into current historiographical approaches to the subject: P Gatrell, *The Tsarist Economy, 1850-1917* (1986) which, whilst providing a useful synopsis of the latest Soviet literature set within a framework highly sympathetic to its integration into a coherent structure, assimilates in his study the then most recent work of P R Gregory *Russian National Income, 1885-1913* (1984), a study which has itself subsequently been elaborated in *Before Command. An Economic History of Russia from Emancipation to the First Five-Year Plan* (1994), chapters 2-4. The older works by L Volin, *A Century of Russian Agriculture: Alexander II to Krushev* (1971) and W L Blackwell, *The Industrialization of Russia*, vol. 2 1860-1960 (1970) are basically Gerschenkron-ian in character.

the wholesale destruction of pasture and forest which had been reduced to about two-thirds their 1850 levels and conceived in a long-term perspective were now of pitiful dimensions, being a quarter and a third respectively of the amounts available per head in ca.1800. In terms of the pre-existing economic structure the economy in the years after 1840 was still set on the path of decline.

That structure was, however, now changing, largely as a result of new influences arising directly from responses to the monetary crisis of 1833-1838/40. That crisis had largely been bi-metallic in character arising from the Russian gold industry's rise to a position of world dominance in the 1840s. Particularly in the 1830s vast quantities of gold had entered into circulation in an economy where a dwindling stock of silver provided (with a paper currency - the assignat) the monetary standard and where the government, afraid of destabilizing the dual silver-paper system, refused to acknowledge the new situation. Yet where it would not take the lead, the market would. From ca.1830 Russian silver coins of good weight were gradually replaced in circulation by foreign coins of lower intrinsic value which exchanged at par. De facto, silver stocks were being depleted and the value of the metal enhanced as market forces sought to create a new, though unofficial, bi-metallic equilibrium. Nor in this situation could the assignat-silver exchange remain unaffected and from 1833 the exchange at Moscow and the fair towns, the commercial hub of the Empire, went crazy, the worst monetary disorders coinciding with the harvest failures of 1832-3 and 1838-9. At prevailing official exchanges assignats either ran at an increasingly heavy and highly variable discount or disappeared entirely from circulation, reducing markets to chaos. In this situation the government had been forced to intervene and whilst the the protracted reform negotiations of 1838-42 need not concern us here their outcome must, for it changed the whole external and internal commercial position of Russia for as long as that country's gold boom continued. The critical decision, arising largely from the Tsar's personal intervention in the negotiations, was to render both gold and silver acceptable on the internal exchange. Henceforth, cheap and plentiful gold became the normal coin used in internal transactions, prices being quoted in gold kopecks. The foreign exchange, however, remained tied to silver and as the price of that metal rose so the foreign exchange value of the ruble fell - heavily. Obviously, this favoured exporters but because of the divergence between the internal and external value of the currency it also opened up the way for foreigners to buy up the country.

From ca. 1840-1880 foreign money flowed into the country as foreign entrepreneurs, taking advantage of the cheapness of Russian assets, bought into the economy and in the process effected its transformation. Most immediately affected was the industrial sector as French, English and German businessmen either acquired, at knock-down prices, existing works which they transformed or bought up

the resources to create new ones. But even agriculture was affected. The creation by foreigners of a complete new railway system between 1842-1878 transformed its market situation whilst in the aftermath of the Emancipation Act foreign money channelled through the mutual credit land banks went a long way to resolving the labour problems which contemporaneously afflicted that sector and paved the way for the mechanization of agriculture.

Old and new thus combined in the context of institutional change to transform the economy and set it once more on the path of recovery. In the following lectures, accordingly, we shall examine this process in relation to agriculture and industry in the years to 1880 and thereafter - when, in industry at least, the promise of the previous years turned sour.

Lectures 12-13

AGRICULTURAL CHANGE: FROM FEUDALISM TO CAPITALISM 1844-1914.

The years 1844-1914 witnessed a major transformation of the rural economy as output of agricultural produce initially grew apace with population and after 1880, for the first time in the nineteenth century, increased at a rate in excess of population growth. For some seventy years old and new intermingled, creating a new agrarian regime.

The phase of extensive low-yield agricultural growth, which had characterised the early nineteenth century continued into the new age but from the late 1870s the availability of new land supplies to sustain its forward impetus gradually diminished. In 1800 Russia had possessed large reserves of arable land which were under-utilised. Yet the subsequent "bonanza" of wasteful cultivation had meant that in areas of initial settlement and in the infertile North and Lake region in 1878 even the worst sub-marginal land had been brought under the plough and in spite of the abandonment of low-yield land between 1878-1894 there were little or no reserves in these areas and only slight ones in the Ukraine, the South-west and Belorossiya which were exhausted by 1900, leaving only the steppes of the South and South-east which were taken up 1900-1913. From 1878-1913 the areas of European Russia brought into cultivation, therefore, grew very slowly when compared with previous years and it was only during the decade before the Great War that the frontier was again thrown open and then only by a wholesale displacement of the peasant population to Asiatic Russia.

As the frontier closed and supplies of new land for cultivation in European Russia gradually dwindled after 1878/81 the balance between population and resources

accordingly was disturbed. Labour supply which had grown much more slowly than the area under tillage to 1878 thereafter increased phenomenally and with the intensity of labour also increasing the result was an increasing labour supply and falling marginal labour costs, though market imperfections prevented the effects being felt in the South. Further, at this time, land costs were rising and a differential was emerging in the market between grain prices and those of industrial crops. Accordingly, from 1878/81 there was a widespread adoption of "western" rotations which were highly labour intensive but which lowered unit land costs. Farmers thus at this time changed their methods of production in accord with the prevailing factor market situation and in the process also achieved considerable productivity increases in contrast to their predecessors who had achieved growth by simply adding more land, more labour and more capital. Between 1871/1880 - 1891/1900 over two-thirds of the expansion in output can be accounted for by more effective use of resources whilst between 1891/1900-1911/13 over three quarters of growth can be accounted for by productivity gains.

The years 1844-1914 thus witnessed a marked increase in both per capita and aggregate agricultural production, resulting from:

1. The redeployment of rural population to new land supplies, mainly in the twentieth century.
2. Technological improvements and crop diversification, particularly, after 1880

Whilst production increased markedly however between 1844 and 1914 the trend was not a linear one and the period under consideration may be divided into three distinct sub-periods.

1. Between 1844-1878 there was a phase of relatively slow extensive growth predominantly in cereal output (0.33% p.a), which was seriously interrupted between 1861-4.
2. This subsequently gave way to phase of rapid growth in cereal output between 1878-1898 (1.8% p.a.). Overall during the 1880s and 1890s grain production expanded by some 40 per cent but of this 8% only came from the acreage expansion. 32% came from improved yields. Cereal output growth was moreover now only one element in agricultural expansion. Crop diversification also served to push up overall growth rates to 3% p.a.

3. In the period 1897-1914 cereal production grew even more rapidly than before (2% p.a.) but growth was associated with structural change as intensification in European Russia (which accounted for slightly more than half of the incremental growth in cereal output) and further crop diversification (which pushed up the increase in total output to 2.4% p.a) was associated with an extension of cultivation in the Lower Volga, the regions contiguous with the Caspian and Asiatic Russia.

AGRICULTURAL GROWTH, 1844-1914: APPENDIX

Annual average harvest in European Russia 1844-1914.
(million chetverts)

Date	Harvest	Date	Harvest
1841-50	192.4	1878	236.0
1851-60	198.6	1898	330.0
1866	135.0	1913	389.0

Employment (millions)

	1860	1880	1913
1. Agricultural labourers	0.7	1.0	4.5+6*
2. Factories	0.4	0.4	2.3
3. Kustari	3.7	7.5	3.2

* Temporary

Productivity Change in Russian Agriculture

Output (% per annum)

Date	"Traditional"			"New Crops"		Total	Pop.
	Cereals	Flax	Total	Potatoes	Beet	Field	
		Hemp				Crops	
Av. 1801-1913	1.0	1.4	1.1	2.5	8.5	1.4	1.2
1801/10-1851/60	0.3	0.1	0.3	1.8	3.4	0.5	0.9
1851/60-1891/1900	1.5	3.5	1.7	7.6	20.0	2.0	1.5
1891/1900-1911/3	2.0	0.4	1.7	5.0	5.0	2.4	1.6

Inputs (% per annum)

Date	Land	Labour	Capital	Total	Production
Av. 1801-1913	0.6	0.8	0.3	0.5	1.4
1801/10-1851/60	1.0	0.7	0.3	0.5	0.5
1851/60-1891/1900	0.3	1.0	0.2	0.5	2.0
1891/1900-1911/3	0.4	0.5	0.8	0.5	2.4

I. Lord and Peasant: Extensive Growth on the Agricultural Frontier, 1878-1905

In the Russian countryside the years 1838/42 marked no break in that trend towards an extensive agriculture involving the resource-destructive exploitation of the land, although climatic amelioration between ca. 1855-1875 went some way to tempering the destructive activities of men. Year after year new land was broken to the plough, mainly between 1850-1875 at the expense of the forest, but only slightly more than half of the new land was added to the stock of land in tillage, the remainder served only to replace existing worn-out land which was abandoned to the waste. At this time the pace of destruction was slowing - only a sixth of the existing land stock (including the new lands added in the Centre and South between ca.1800-1850) was abandoned - but all other things being equal the Russian agrarian regime was still set on that self-destructive path which had commenced at the beginning of the century.

Yet the Russian aristocratic farmer pressed on regardless, his main concern was not with land use but with labour management. Having by 1844 established an equilibrium between the amounts of peasant and demesne land which was sufficient to allow the members of the peasant family to just sustain a level of grain

consumption of some 1.52 chetverts per head, further expropriation of land at the peasantry's expense by the lord was impossible and accordingly henceforth until 1861 only by an intensification of labour was the extension of the demesne possible. Agricultural output per man, already at a high level increased markedly and out of this the lord expropriated an increasing share. In the southern and western agricultural regions this was largely achieved by the appropriation of the best land and by the securing of extra work from the peasantry in barshchina. On the eve of the Emancipation Act of 1861, therefore, under the pressure of coercive aristocratic regimes the peasantry, who possessed some 48 million desyatini of land or some 4.54 desyatin per family, had sustained a high level of per capita agricultural output for both themselves and their lords, even though this meant a wholesale destruction of the environment.

Nor was the peasants' landholding significantly reduced in the subsequent land settlement, falling to some 46.3 million desyatini or by about 4 per cent. The peasant thus entered the new post-Emancipation age with his holding largely intact and still containing plentiful reserves of fallow. He also had, apart from his taxes, to find cash for redemption payments of about 10 rubles a year. The arbitrary power of the lord was broken and he now faced only the state in a situation where his burden was reduced (from 15 silver rubles per obrok or ca. 3 days per week barshchina to 10 rubles redemption). He thus had the choice of either producing as much as before and enjoying a higher standard of living or substituting leisure. He chose the latter and merely worked less hard. The supply of labour contracted and wages rose. By the 'seventies they had increased by fifty per cent. Accordingly whereas to earn 15 rubles (at current prices) in the 1850s he worked three days for his lord in the 1860s he only had to work one and a half days to earn the same and only required two-thirds of that sum. Post emancipation, therefore, he only had to work one day, instead of three, being able to indulge an increasing number of self-appointed holidays. Yet he was still better off as competition from abroad forced industrial good prices down. For the peasant after 1861 a "Golden Age" had dawned

The effect of these changes on agriculture and the aristocratic farmer, however, was disastrous. The amount of land per head in tillage fell (from 1.79-1.4 desyatin), the full brunt falling upon the lord who with an enlarged demesne found it impossible to obtain a labour force. Men who had once worked for three days a week, now barely worked for one. In 1872 the report of the agricultural commission indicated general shortages of labour throughout agriculture. Nor were they able to substitute capital. They had received payment for the peasant land but most was mortgaged to the State Bank. Moreover, the residual was handed over in redemption bonds which when disposed of sold at discounts of up to 30%. Thus they were still in need of cash and credit facilities. The old credit system centred on the State Bank and the

State Loan Bank either closed down or no longer engaged in agricultural credit and new institutions, in the depressed conditions of the international capital market of the early 'sixties, were slow to emerge. The years 1861-4 were thus a period of great difficulties for the aristocratic farmer, and many gave up production with the resultant fall in marketable surplus and exports. The years immediately following the Emancipation Act thus witnessed the virtual total withdrawal of Russia from the international grain market. Her position in the rye and oat trade was replaced by Germany and Sweden, in the wheat trade she was displaced by France and America.

Whilst the immediate post-Emancipation crisis of 1861-4 thus wrought havoc in the fabric of Russian aristocratic agriculture, leading to an acute short-term collapse in production, it also, however, paved the way for a long term expansion in output. During the initial phase of this recovery and growth from 1864-78 the main impetus was again provided by the traditional grain economy. Output increased by some 70%, an increase almost totally accountable for by the re-utilisation of land abandoned after the Emancipation Act and an extension of the margin of cultivation on the estates of New Russia which carried production levels to a point 22 per cent higher than had been achieved under feudalism. Such expansion was achieved, moreover, with little increase in labour supply beyond the much reduced levels of 1864. Output per man had accordingly risen markedly due to an increased capitalisation of each worker. Machinery imports grew rapidly during the years 1864-78 financed by foreign investors who extended commercial credits or channelled their funds to meet the needs of the Russian aristocratic farmer through the intermediary of a steadily proliferating number of land banks. The new era was heralded in 1864 with the establishment of the first mutual credit land bank - the Bank of Kherson - which was followed during the next fourteen years by some twelve others as well as the State Land Bank of the Nobility.

By the late 1870s the aristocracy had proven themselves able to hold the line. Production and the amount of their land in tillage had been restored to pre-Emancipation levels and beyond. This had been achieved, moreover, in spite of a marked reduction in labour supply as the peasant withdrew from the labour market. Foreign money, extended on commercial credit or channelled through a proliferating number of land banks, allowed them to substitute capital for labour and mechanize their estates. The aristocracy thus for the moment continued in the old methods of land use but by entirely new methods involving the capitalization of labour - but this was now about to change.

The years 1878-1881 witnessed a complete transformation in the position of both aristocratic and peasant farmer. The former now found his position completely undermined. 1879 saw famine, which had been absent during the years of climatic amelioration, once more sweep the lands of the Middle Volga and Central Ukraine

setting a recurrent pattern of natural disaster which seriously affected an ever-widening group of southern Russian farmers in 1885, 1891, 1898, 1901, 1905-6 and 1911. Two years later they were drawn into the acute international financial crisis of 1881 which, in the context of the contemporary general european-wide return to protection, destroyed the export boom upon which their capitalization programmes had been built and ushered in a decade of acute capital shortages. Add to this the general fall in grain prices from 1878 induced by American competition and it is not hard to understand why in the years 1878-1882 one after the other noble landowners sold up their estates, such sales reaching a level which was not to be surpassed again until the eventful years of 1905-6.

Yet the aristocracy were not alone in facing financial disaster during these years. For the peasantry the favourable environment which had prevailed in the aftermath of the Emancipation Act during the years from 1861-4, was a precarious and ephemeral phenomenon which was soon under attack from within as population increased. Initially, in the land plenty situation prevailing before the frontier was closed in 1878, this was accommodatable on the extensive land reserves of the post-emancipation settlement with only minimal transfers from other groups. But already by 1868 the first signs of the emergent problem were revealed for with a temporary lifting of the 1861 restrictions on peasant migration there were 30,000 applications from peasants wishing to depart for new lands in Asiatic Russia - sufficient to indicate the seriousness of the emergent problem but equally serious enough to frighten the Ministry of the Interior into rescinding the order. Henceforth a dualism developed between the developmental policies of Ministers of Finance who proposed liberalisation schemes allowing the redeployment of labour and successive Ministers of the Interior who wished to preserve the powers of the *obshchina* and restrict migration which was finally resolved in the latter's favour in 1881. From 1868 therefore the Russian peasant, in spite of an increasing land shortage, was denied the right to emigrate to the rich lands of Siberia and Kazakhstan. Yet merely ignoring the peasants' problems did not resolve them and the decade 1868-1878 saw a frightening build up of tax and redemption payment arrears which attained crisis proportions at the time of the outbreak of the Russo-Turkish War in 1878.

Even as the frontier finally closed in ca. 1878 therefore both lord and peasant were confronted by an acute economic crisis. Yet each held the key to the resolution of the other's problems. The northern peasant required land in order to maintain the size of his holding and to allow him to continue with his resource-destructive methods of husbandry. The southern lord had such land and was only too willing to dispose of it - at a price. Subsequent years accordingly saw heavy sales (well above the national average) of aristocratic properties in the rich lands of the Lower Volga and Black Sea steppe. These years, from 1878-1897, also saw a wholesale migration of peasants

into these provinces which experienced the greatest increases in population in the entire Empire. With the withdrawal of the aristocracy during the crises of 1878-1881 therefore nothing changed and the Russian agrarian regime remained set on that self-destructive path which had commenced at the beginning of the century, only now in the vanguard of perpetuating traditional husbandry techniques was the peasant. From evidence available from Samara and Saratov (Eastern steppe) and Voronezh (southern Black Earth region)¹ it is clear that the in-migrant was able, by the acquisition of aristocratic lands, not only to increase the size of his holding but also to accommodate by an extension of cultivation within its bounds the requirements of a rapidly growing family. Yet as before this was only achieved by ploughing up pastoral reserves, the destruction of the ecological balance of the region and the perpetuation of the pre-existing pattern of agricultural land turnover. Accordingly from 1878 the peasantry of these southern lands had an insatiable appetite for new land and unable to extend total supplies their only hope was to acquire what they needed from the aristocracy of the region. Nor until 1897 were they disappointed for whilst certain aristocratic farmers, subject to falling prices and high interest rates, struggled on extending the amortisation period of their equipment and substituting cheap, transient labour for capital at the harvest, many others were prepared to sell. With the recovery of prices and fall in interest rates after 1897, however, aristocratic farmers once more resumed the extensive agricultural practices of an earlier age and their willingness to alienate land waned, precipitating acute tensions in rural society which erupted in the aftermath of famines in 1901-2 and 1905-6, providing the background to the land reform movement of the immediate pre-war years.

Ila. Lord and Peasant: Intensive Growth and Productivity Change, 1878-1905

If the first phase of slow agricultural growth from 1844-1878 had thus been achieved through the extension of a low-yield grain production, the next twenty years witnessed a complete volte-face in this situation as southern agricultural producers, lord and peasant alike, were eclipsed. Indeed even as the peasantry, denied access to the lands of Asiatic Russia, began their long migration southward taking up lands alienated by aristocratic farmers during the 1880s and 1890s, grain production expanded by some 40 per cent but of this 8% only came from the acreage expansion. 32% came from improved yields predominantly in the lands of the Agricultural Centre, the Ukraine, Belorossiya and the Baltic provinces, yields which were

¹ E M Wilbur, "Was Russian Peasant Agriculture Really That Impoverished? New Evidence From a Case Study From the 'Impoverished Centre' at the End of the Nineteenth Century", *Journal Economic History*, XLIII (1983) and T Shanin, *The Awkward Class: Political Sociology of Peasantry in a Developing Society, Russia 1910-1925* (Oxford, 1972)

obtained from modern western European rotations (wheat, oats, roots, grasses) which contrasted with the peasant three-course patterns (rye, oats, fallow or wheat, barley, fallow) and resulted in improved yields. The great estate of the Centre and West with yields of 79 puds/desyatin, thus stood in marked contrast with the extensive southern estate (64) or the nobility (59) and peasant elsewhere (49) and even this average, good as it is, disguises best practice, which achieved levels of 88-103 puds/desyatin. Moreover, the gains from the new rotations were not confined to grain production. The introduction of new crops resulted in the increase in root crop production, increasing total output by about 20 per cent and providing the basis for estate industries - distilleries and sugar beet plant - significant sections of an industry which ranked second only to textiles in Russian manufactory in 1897.¹ Similarly the rotations provided the basis for an improved animal husbandry. From the 1880s the European Russian livestock industry underwent a "crisis" - the demand for arable caused meadow and pasture to be ploughed up, the total amount of natural pasture thus declined and with it the number of livestock. Further there was a deterioration of breeds and a decline in the average weight of slaughtered animals. Yet in the midst of this general "crisis" the new rotations provided the basis for an expansion of animal husbandry on the estates of the south-west. Through the 1880s and 1890s, therefore, agricultural expansion followed along entirely new paths on the basis of western European intensive practices.

Average Annual Yield of Cereals(puds per desyatin)

Date	Peasant holdings	Other lands
1861-1870	29 (=100)	33 (=100)
1871-1880	31 (=107)	37 (=112)
1881-1890	34 (=117)	42 (=127)
1891-1900	39 (=134)	47 (=142)
1901-1910	43 (=148)	54 (=164)
1911-1913	57 (=196)	64 (=194)

These changes were associated, moreover, with a complete re-structuring of rural society. In the western provinces (the Ukraine, Belorossiya and the Baltic provinces) lords, far from abandoning their estates during the crisis years 1878-1881, responded to the difficult situation by a complete rationalization of their estate structures. As elsewhere these years saw massive land sales by the aristocracy but

¹ R Munting, "The Russian Sugar Beet Industry in the Nineteenth Century", *Journal of European Economic History*, XIII (1984)

then and later the major purchaser of these lands was - the aristocracy. In 1892-6 for instance the ratio of purchases to sales for nobles was 61 per cent in the six Lithuanian and Belorussian gubernii and 70 per cent in the three south-western gubernii. The aristocracy here were certainly not loosening their grip on land but rather were rationalizing the structure of their estates, creating large enterprises (of more than 100 desyatini) which as late as 1905 controlled seventy-five per cent and more of private acreage in these provinces. The corollary was that little land was released to meet the requirements of a rapidly growing population whose holdings diminished in size causing increasing numbers to place their labour on the market and wages to fall. By a careful management of their resources the western aristocracy were thus able to create a new agrarian order during the years 1878-1897. By restricting sales they not only maximized land prices, thereby providing the necessary funding through sales or mortgages to capitalize their estates, but also provided a pool of cheap labour which when applied to new labour-intensive technologies yielded massive productivity increases.

In the agricultural lands of the Central Region the aristocracy similarly played a major role in promoting productivity changes within the agrarian regime but by totally different means. Here once again net alienation of land by the aristocracy was small and even as late as 1905 large estates continued to dominate the agrarian regime but direct exploitation was rare. Here close to three quarters of the noble acreage, and an even larger share of the nobles' arable and meadows, was leased to the peasants. Leasing arrangements took various forms - money rental, share-cropping (*ispolu*), and the working of the landlord's farm by peasants using their own tools and livestock in exchange for the use of some other part of the landlord's estate (*otrabotki*) - but during the 'eighties in the context of the introduction of "improving leases" and with the assistance of zemstvo agricultural officers the peasant began to pass along the path of agricultural improvement introducing the new "western" technologies which were so apposite to the new economic environment. Once again under aristocratic guidance agriculture had been set on the path of productivity increase and as support mechanisms were extended first by zemstvo technicians and then from 1905 by government agronomists so the process of land reorganization and technological change continued apace.

Yet as in the West change was not without its social consequences. The new technologies demanded year-round labour inputs and thus precluded the peasant from the involvement in those craft activities which had provided him with support during the difficult years from 1868-1880. Agrarian reform went hand in hand with the de-industrialization of the countryside. The peasant was becoming a true agriculturalist and as population pressure reduced his command over landed resources he compensated by raising land productivity through the introduction of new rotations,

crop diversification and an associated increase in his labour intensity. Nor were these efforts unrewarded for from the 1880s levels of retained grain supplies held by the peasantry steadily increased¹ creating a prosperous and self-assured social class who as the twentieth century dawned were increasingly impatient to free themselves from aristocratic tutelage and accordingly found in the land reform movement of the Liberals and Trudoviki an ideal platform for their ambitions.

For a quarter of a century from 1878/81 lord and peasant alike had contributed to revolutionary changes in the Russian countryside which had heralded the establishment of a new agrarian regime and massive changes in agricultural output. In the South and South-east growth was extensive and intermittent in character, the long-term increase in output being periodically interrupted as famine (in 1885, 1891, 1898, 1901, 1905-6) swept the region. The impact of these disruptions on the total supply of agricultural produce, however, steadily diminished as in the Centre and West lord and peasant, by the introduction of new rotations, set these regions' agriculture on a more stable growth path associated with a steady yet relentless increase in yields. Yet change had brought with it acute tensions which as the twentieth century dawned were beginning to crystalize into demands for land reform, demands which in 1901-2 and 1905-6 were manifested in the most violent of forms.

Iib. The Stolypin Land Reforms, 1906-1917

1905 saw revolt spread throughout the countryside and high-light tensions which had previously remained hidden.² In the Central and Middle Volga regions a prosperous peasantry now showed themselves unwilling to continue under aristocratic tutelage and hastened the departure of their landlords by a wholesale programme of arson. In the West where peasant farmers had long before been reduced to the position of agricultural labourers the workers now came out on strike whilst in the South and South-East rent-strikes and wholesale land seizures were the order of the day. For a moment lord and peasant faced each other over a great divide, a divide which moreover was carried over into the post-revolutionary Duma where land reform became the main subject of debate and where in order to diffuse a potentially explosive situation and head off wholesale expropriation the Stolypin Reforms of 1906 were introduced.³

¹P R Gregory, "Grain marketings and peasant consumption in Russia, 1885-1913", *Explorations in Economic History*, XVII (1980)

² M Perrie, "The Russian Peasant Movement of 1905-7", *Past and Present*, No. 57 (1972)

³ D A J Macey, *Government and Peasant in Russia, 1861-1906. The Pre-History of the Stolypin Reforms* (DeKalb, 1987); G Yaney, *The Urge to Mobilize. Agrarian Reform in Russia, 1860-1930* (1982) and his "The Concept of the Stolypin Land Reforms", *Slavic Review*, XXIII (1964); "Agricultural Administration in Russia from

The object of these reforms was to steal the thunder of the revolutionary coalition (Liberals, Trudoviki and Social Revolutionaries) by providing land for those with inadequate supplies in the South and West and by supporting the agro-technological efforts of peasantry in the Central Region following the withdrawal of the landlords in the aftermath of the maelstrom of 1905-6, so that the aristocratic farmers of the South and West (now organised from 1907 into Nationalist Party) could continue undisturbed in the direct exploitation of their lands. To this end both land settlement and migration policies were set in motion and in the years before 1917 a new dimension was added to both the politics and economics of the Russian countryside.

In terms of the Stolypin migration policies¹ 1905 marked a turning point as the abolition of the *obshchina* ushered in a new era during which the basic policy was dominated by direct sales on credit of lands in Siberia and Kazakhstan to would-be colonists. Migration was also made easier by a fall in transit costs. In the 1880s and 1890s the route east had been long, laborious and expensive. Mortality was high (10% amongst adults and 30% amongst children) and the cost of transport formidable, amounting to 57 rubles, or half a family's savings to transport it to Tomsk. This was totally transformed by the building of the Trans-Siberian railway. Mortality fell to below 1% and fares to 14 rubles. From 1900, therefore, cheap transport existed and from 1905 favourable legislation. The result was a massive emigration: Kazakhstan 1.06 million; Siberia 5.7 million, as the impoverished peasant, from the Central region (65%), White Russia (12%), the middle Volga (14%) and in the twentieth century New Russia (9%), sought new opportunities. From the poorest areas men migrated but migration provided no easy solution for the poor. Those who departed whilst certainly poorer than the national average were considerably richer than the average tenant in their place of origin (desyatina): national average 10.2; average of migrant areas 1.7; average of migrant 3.0. They were in relation to their peers "peasants of medium means" who in Asiatic Russia obtained seven times more land than in their place of origin, cultivated on enclosed farms twice as much land in tillage and owned much more capital equipment. Each man who departed from European Russia in the years after 1905 thus contributed to the growth of Russian agricultural output, his per capita product being markedly enhanced in the new environment.

They also contributed to the problems of their lesser brethren by releasing land in European Russia which was taken up by the Peasant Land Bank but never in sufficient quantities to stay the decline in per-capita land holding. Thus of equal

the Stolypin Land Reforms to Forced Collectivization: An Interpretive Study" in J Millar(ed.), *The Soviet Rural Community* (Urbana, Ill., 1971)

¹ D W Treadgold, *The Great Siberian Migration* (1958) and G J Demko, *The Russian Colonization of Kazakhstan, 1896-1916* (1969)

importance was the land settlement programme which aimed at displacing the influence of the zemstvo agronomists amongst the peasantry by flooding the countryside with state-sponsored agricultural support groups, encouraging the propagation of techniques for raising land productivity through crop diversification and an associated increase in labour intensity and thereby allowing levels of retained grain supplies held by the peasantry to continue to steadily increase to 1914.

By dissipating, at least temporarily, the political tensions revealed by the events of 1905-6 the Stolypin reforms thus allowed Russian agricultural expansion to continue, old and new policies combining to create a new agrarian order. In the Central Agricultural and Middle Volga regions of European Russia the land settlement policies served to reinforce development along that growth path first established in the crisis years of 1878/81 which now received a new impetus as a flood of state-sponsored agricultural support groups encouraged the propagation of techniques for raising land productivity through crop diversification and an associated increase in labour intensity among the peasantry thereby allowing levels of retained grain supplies held by them to continue to steadily increase to 1914 and beyond. No less significant, however, were the migration policies initiated in 1906 as part of the Reforms. Directly, by the displacement of surplus population to new lands in Asiatic Russia, they allowed the migrants to make their own contribution to agrarian growth, for the first time allowing them to fully deploy their labour in an environment of plentiful capital and land. Indirectly, as migration caused wage rates in European Russia to increase, they also alleviated the lot of those who remained - and effected a transformation in aristocratic agriculture. Lords in the lands of the southern and south-eastern steppe were encouraged to continue along that path first commenced upon in ca. 1897 substituting cheap and readily available capital for labour and imposing a mechanized, extensive, low-yield agriculture on the region thereby making it and Siberia the granary of the Empire. Less fortunate were the aristocratic producers of the western provinces for, wedded to labour-intensive production techniques, they now found their costs enhanced as wages rose and only government intervention, in the form of a judicious use of export subsidies and discriminatory rail tariffs (embodied in the Chalyabinsk break which enhanced European Russian grain prices) allowed them to survive - if at a cost of reducing growth rates. Yet if in the aftermath of Reform growth was not optimised it was still impressive as a new agrarian order was born characterised by an intensive mixed husbandry in the Centre and West and an extensive cereal production in the South and East.

Lectures 14-16

ECONOMIC POLICY AND INDUSTRIAL DEVELOPMENT, 1844-1914.

Ia.Industrial development under protection and free trade.

If agriculture was slow to feel the effects of foreign penetration into the economy during the years 1844-1878 such was not the case with regard to the industrial and transportation sectors of the economy. About the time of the lifting of the British governments ban on the export of machinery in 1842, a number of British business men saw in Russian cotton mills a fertile field for the cheap acquisition of assets and the profitable application of British mechanical skills and the newest spinning machinery. Several large firms were, accordingly, established and, with efficient, imported managerial staffs and new techniques, these new English firms, like the Hubbard concern which had been founded in 1844 and took over the Petrovskii spinnery in 1852 or the Shaw integrated works, soon established themselves as major growth elements in the economy of St.Petersburg and the neighbouring Baltic provinces. Nor was the cotton industry the only sector which attracted the attention of the British. In St Petersburg, again, all of the big machine-production concerns or iron foundries had English or Scottish names above the factory gates - Carr & McPherson, Baird, Wilkins, Ellis and Butts and Isherwood - whilst in Moscow the mechanical works of Smith, Bromley and Bukteev & Williams numbered amongst the largest plants in the city. The German entrepreneur's path to buying up Russian assets was somewhat different, bringing financial and banking expertise to the Russian economy. Indeed about 1850 a French visitor would observe that the biggest bankers in Russia were Germans or Englishmen whilst his own countrymen shared with the English the distinction of owning the finest stores for luxury items and costume jewelry. In industry and distribution the foreigner from 1840 steadily extended his grip over the economy.

In the provision of transport facilities and the associated industrial complex his role was even more important. During the 1840s such activity was dominated by the construction of the Moscow-Petersburg railway, started in 1842 and completed ten years later, which attracted some five foreign loans (70.2 million rubles for the most part subscribed by Englishmen in cooperation with the Russian House of Steiglitz) as well as 22 million rubles' worth of domestic money. Yet this paled to insignificance when in 1851 the tariff on imported railway equipment was removed and in 1852 plans for a national railway network were laid. It was not, however until the conclusion of the Crimean War (1853-1856) that these plans got off the ground with the formation of the *Grande Société des Chemins de fer Russe* under whose aegises the system was extended to some 2232 miles of railway in 1861, one fifth of France and one sixth of Germany :Warsaw to St Petersburg (via Grodno, Vilna Pskov with a branch to Riga) and St Peterburg to Moscow (via Tver) extended to Nizhni Novgorod and Kolomna.

Yet this was only the beginning, within fourteen years (1864-78) a basic framework was provided by foreign enterprises. Five times as much track (11,280 miles) was laid and the main grain producing areas of the great estates - the central agricultural region, Ukraine and the north-west - which, as has been shown, had been in the 1840s and 1850s subject to rising land transport costs, were linked to the metropoli and the ports. The effect was dramatic. Market integration proceeded apace and trade and particularly exports rocketed upwards. During the decade 1871-80 exports were over sixty per cent higher than during the previous decade. For almost a quarter of a century (1851-1873) foreigners, importing railway equipment, had built a transport network transforming the market situation. They had also provided that network with workshops which formed the principle element in, and primary focus of the contemporary Russian engineering industry. Now in 1874, by a careful manipulation of tariffs enhancing rates on equipment whilst maintaining a low level on rails and metal, the minister of Finance, Reiter (1864-1878), ensured that the equipment would be built in Russia (though still from imported metal). The final years of the railway boom accordingly saw a host of new engineering works built by foreigners - Briansk, the Warsaw Steel Company (the steel branch of Lil'pop, Rau and Levenstein), Putilov and the Huta-Bankova Steel Company - which by 1878 had made Russia almost self sufficient in the production of railway equipment.

Foreigners, attracted by the low cost of acquiring Russian assets, had thus commenced on a wholesale penetration of that economy during the years 1844-1878, creating an entirely new industrial, commercial and transport complex and in the process altering the whole geographical balance of such activity within the Empire as the western and Baltic provinces for the first time came to the fore.

Yet this should not imply that the traditional industrial sector, though still operating within its pre-existing market structure, was entirely stagnant. The Urals iron industry, subject to foreign competition from 1851, underwent a process of financial reorganisation and a complete technical modernisation in the 1850s, output increasing by almost a quarter during that decade and then, after a short-term crisis arising from labour shortages in the aftermath of the Emancipation Act, increasing again by some 75 percent to 1878 to a level twice as high as in 1844. Nor were the Moscow textile industries entirely unaffected by the changes of these years and, though losing ground to the industry of Petersburg and the Baltics, numerous plants were modernized contributing to that boom which saw cotton production more than double, growing at a faster rate than it was ever to achieve again. Russian primary producers by modernization thus survived into the new age and, in providing a plentiful supply of cheap raw materials, they, like their foreign counterparts, provided an environment which resulted in an expansion of employment in *kustari* activity: 1850 1.4 million; 1860 3.7 million; 1880 7.5 million.

The industrial-commercial/transport sector of the economy, employing in 1850 some 20 per cent of the population and contributing almost 10 per cent of gross national product, had, in the short space of thirty years, vastly increased in importance so that in 1880 it involved almost a third of the population and contributed a third of gross national product. Whilst the agrarian sector stagnated, it was this sector which produced that increase in national product which served to raise the average Russian's income from the abysmally low level of 24 rubles in ca 1850 to 48 rubles in 1880. The deficiencies which the Russian had felt by comparison with his British counterpart at mid-century were being made good with a vengeance!

II. Government intervention and industrial retardation.

Then from 1878 both industrial and overall economic growth received, thanks to government intervention, a major set-back. Involvement in the Russo-Turkish war threw new pressures on State finances which might in themselves have been offset by increased foreign borrowing but in the event this did not occur, for that year witnessed a collapse of the ruble. The general European-wide return to protection basically destroyed the export boom upon which appreciation had been built. The inter-deccennial rate of increase in exports steadily slackened: 1881-90 37% 1891-1900 19%, and the ruble fell. Nor could the government shift from external borrowing to raising internal taxes. The shift to indirect taxes, completed in 1878/81, had been based upon a strategy of continually rising peasant incomes but famine-induced crises in the years 1878/81, 1885 and 1891 impeded the technological transformation of peasant agriculture, reduced rates of increase in peasant consumption (to 0.4% p.a. 1885/9-1889/93) and doomed the Exchequer to a period of slow increase in tax revenues. Its financial base threatened for the first time since the Emancipation Act the events of 1878 thus witnessed a volte face from the "free trade" policies of the last decade and ushered in a new interventionist era.

Ila State Finance, Monetary Systems, the Gold Standard and the Evolution of Capital Markets.¹ Symbolic of changing circumstances was the fall of Reiter who was

¹ The only study of the management of the economy during M Kh Reiter's regime at the ministry of Finance (1862-1878) has yet to be published, though some insights into the latter part of this period are provided in B V Ananich, "The economic policy of the tsarist government" in G Guroff and F V Carstenson (eds.) *Entrepreneurship in Russia and the Soviet Union* (1983) who surveys the transition from the Free Trade era after the Emancipation Act to the directly interventionist policies of Bunge, Vyzhnegradskii and Witte. On Witte and his policies see T H von Laue, *Sergei Witte and the Industrialization of Russia* (1963) and the same author's "A secret memoranda of Sergei Witte's on the industrialization of Imperial Russia",

succeeded by a whole series of ministers of finance - Greig, Abaza, Bunge, Vizhnegradskii - whose only concern was to restore Russian government finance by attempting to balance by a reform of tax-collection administrations whilst raising the value of the ruble on the foreign exchanges and ensuring its stability by linking it after 1878 to gold. To this latter end every attempt was made to push exports, by lowering transit costs through subsidised freights whilst at the same time providing the necessary funding for the acquisition of gold certificates through the enforced collection of tax arrears. But in the protectionist atmosphere of the 1880s this had little effect. The corollary, therefore, was the restriction of imports by increased tariffs culminating in the unified tariff of 1891 and the reduction of "invisibles" by a series of conversion operations on the French and German bourses. By such means, particularly between 1885-1891 the ruble was enhanced. To tie it to gold, reserves were built up by gold purchases financed by the sale of crown assets and the creation of budgetary surpluses through the improved collection of taxes and expenditure cuts. The operation, however, was a precarious one. Taxation policies raised the spectre of peasant revolt. Public expenditure cuts created fears of whether such revolts could be suppressed, particularly as the enhancement of the ruble, upon which the availability of finance depended, was most erratic. Each harvest failure resulted in a retreat of the ruble on the exchange and - the retreat of a minister of finance from office. The departure of Vishnegradskii in 1892 accordingly led to the abandonment of such policies and the institution of a new strategy under Sergei Witte. The objectives of Witte's policy was exactly the same as before - the restoration of government finances by raising the value of the ruble and linking it to gold - his methods, however, were different. Pressure on direct taxation was steadily relaxed and the rate of export growth slackened still further. Nor was government expenditure constrained as an industrial complex catering for the military needs of state was created leading to a massive growth of imports. Accordingly the positive balances of Vishnegradskii were turned into deficits, amounting, accordingly to the calculations of '01, during the 'nineties to 96 million rubles. Yet in spite of these moves the ruble was enhanced and in 1897/9, having accumulated some 1,548

Journal of Modern History (1954); "The high cost and gamble of the Witte System", *Journal of Economic History* (1954). Specifically on financial policy see O Crisp, "Russian financial policy and the Gold Standard at the end of the nineteenth century" *Econ. Hist. Rev.* (1958) and the same author's "Russia, 1860-1914", in R Cameron (ed.), *Banking in the Early Stages of Industrialization* (1967); H Barkai, "The macro-economics of tsarist Russia" *Journal of Economic History*, XXXII-2 (1972); P Gregory and J Sailors, "Russian monetary policy and industrialization, 1861-1913", *ibidem*, XXXVI-4 (1976) and the same authors' "The Russian balance of payments, the Gold Standard and Monetary Policy: a historical example of foreign capital movements", *ibidem*, XXXIX-2 (1979)

million ruble gold reserves, he instituted a gold standard with abnormally high backing - the state bank having the right to issue only 600 million rubles of paper against a 50 per cent backing, the remainder being fully covered - to protect the over-valued currency. The key to the operation lay in persuading foreign investors to take up a massively increased debt at steadily falling interest. The 1890s thus witnessed a massive public relations operation to establish the credit worthiness of the Russian State - with enormous success credit operations yielded some 1,100 million rubles which were used to strengthen gold reserves and finance Russian government expenditures not covered by the budgetary funding, but the service costs of this debt were reduced as nominal interest rates fell from 4.2% in 1891 to 3.8% in 1902. The Russian government's financial viability thus rested on the willingness of foreigners to accept a continually falling interest rate. The system was, accordingly, inherently unstable. No foreign currency earning assets were created by State expenditures so existing debts could only be serviced by re-borrowing at lower interest rates. When interest rates rose, accordingly, during the international financial crisis of 1901 the whole edifice collapsed - state expenditures were cut, inflationary pressures relieved and as a new international equilibrium was established the worst effects of the Witte era were relieved at least until 1905. As the rest of the international economy continued on the path of economic recovery the outbreak of the Russo-Japanese War coupled with the Revolution precipitated a crisis more serious even than that of 1901. Government expenditure could not be constrained yet Kokovtsev, following as a true disciple to Witte, resolved to maintain Russia's commitment to gold. The war, accordingly, was financed on Treasury Bill issues and interest rates were raised dramatically - the ruble was defended and company after company passed into the receiver's hands. The economy lay in ruins.

For a quarter of a century the needs of government finance had been placed before those of the economy and Russia was now to pay the price. Under the shadow of the spreading wings of the imperial eagle the years 1878-1905 witnessed the industrial promise of the Reiter years turn sour. The burgeoning consumer good industries stagnated and were rendered obsolete. With the closure of the frontier in 1881 and recurrent famines in 1878/81, 1885 and 1891, which impeded the transformation of peasant agriculture and restricted the growth of rural consumption, markets stagnated so that only massive increases in productivity and rapidly falling prices would allow manufacturers to increase the vent of their wares. Yet governmental policies prevented them making adjustments to such an end and moreover encouraged them to follow the opposite course of action. With the collapse of exports, funding became increasingly difficult to acquire on international markets and manufacturers had to compete with the State for what money there was. The net result was that out of a

much diminished total investment by foreigners in Russia the share of industry declined to 56 per cent in 1889. The effects on industry were disastrous.

The Reiter era had seen a massive recapitalisation of the economy. Agricultural mechanisation, the railway building programme and the equipment of factories came largely from imports financed by foreign loans, particularly Belgian, French, German but also English. John Hughes, for instance, imported nearly all the equipment for his works from England via the Sea of Azov port of Taganrog and financed these imports by floating the "New Russia Coal, Iron and Railmaking Company" with a capital of £300,000. Now, foreign finance became increasingly difficult to obtain and the 1880s and early 1890s witnessed a massive falling off in capital imports without any corresponding rise in internal production. Only in the late 1890s were there any significant signs of recovery to earlier levels.

Machinery imports 1861-1898 (millions of rubles)

1861-65	7.4
1871-65	29.4
1876-80	49.9
1886-90	18.5
1891-95	33.7
1896-98	66.7

Overall investment levels rose from some 1,484 million rubles (56% industrial in 1890) to 2,316 million (75% industrial in 1899), the share of foreign investors rising from a quarter to approximately half. Traditional suppliers of finance were displaced and French and Belgian investors assumed a dominant position, concentrating particularly in the heavy industrial sector of the economy. Initially they had concentrated on the Donbrow region of Russian Poland and then in the Krivroi Rog complex where by 1898 there were seventeen large works for smelting pig iron with 29 blast furnaces and a further twelve were in construction. By 1913 this was even more important and French capital participation existed in companies controlling 78% of output. Thus foreign investment played a significant role in the creation of Russian industrial capacity in the late 1890s, but it was highly concentrated and had little impact on the traditional industrial structure which in 1900 continued to dominate total output. The reasons were only too obvious for demand-wise everything was set for a profitable business for heavy industry. It was protected from competition by high protective tariffs, especially after the tariff reform of 1891. It had a rising market with the steady growth from the 1890s from railway construction which equally looked unlikely to falter as it had government support and thanks to

the efforts of Witte the government of Russia now looked a pretty safe bet, likely to be able to continue its support. This image, moreover, became particularly strong during the 1890s as surplus upon surplus was built up on ordinary budget support. It was, however, an illusion and the crisis of 1900/1 saw the whole elaborately constructed edifice fall apart. Forced to cut expenditure the government now found it had created an iron industry which was entirely dependent upon subsidised orders from the railway companies and casting around for other customers found them singularly absent. Similarly, the railway companies created during the 'nineties were found to have little *raison d'être*. 1900/1 revealed the myth of the Wittian programme which had led during the previous decade to a grotesque misallocation of resources, starving the non-state subsidised sectors of much-needed funding. The late 1890s' industrial investment boom far from promoting industrialisation had in fact exacerbated the already deteriorating situation for Russian industrialists who starved of capital, accordingly, turned to other factors to reduce costs, and, in the conditions of the 1880s and 1890s this meant labour.

Iib Labour.¹ The closing of the "frontier" in 1881 and the subsequent transformation of European Russian agriculture exerted a profound influence on contemporary labour markets. In the Central Agricultural Region, as population increased and the peasants' command over landed resources was reduced, migration to the lands of the southern steppe and the diffusion of new technologies, which raised land productivity through crop diversification and an associated increase in the peasants' labour intensity, served to maintain a population-resource equilibrium. The new technologies' demands for year-round labour inputs moreover eliminated intra-annual labour surpluses and accordingly precluded the peasants' involvement in those craft activities which had provided them with support during the difficult years from 1868-1880. In the Central Agricultural Region and the lands of the Southern Steppe, accordingly, during the years 1878-1897 agrarian reform not only absorbed all available labour supplies leaving no surplus to meet the requirements of industrialists elsewhere but also by the imposition of a year-round labour regime it resulted in a de-industrialization of the immediate countryside.

¹ The literature on the industrial labour force is extensive but most is concerned with its organizational forms and political identity, and as yet there is no study of labour markets, their structures and wage trends. The best introduction is O Crisp, "Labour and Industrialization in Russia" *Cambridge Economic History of Europe*, VII-2 (1978) which may be supplemented by G V Rimlinger, "The extension of the labour market in capitalist Russia, 1861-1917", *Journal of Economic History*, XXII (1962)

In the West the situation was very different. Here, as has been shown, lords by restricting land sales in conditions of rapid population growth not only pushed up real estate values, thereby providing the necessary funding through sales or mortgages to capitalize their estates, but also provided themselves with a vast pool of cheap labour.

During the years 1878-1897 therefore within the main regions of agricultural change industrialists were forced to engage labour in markets where conditions were directly influenced by the competing requirements of rustic producers. Yet it was outside of such regions, in the northern lands beyond the Oka, that the forces of agricultural change wrought their most profound effects on industrial labour markets for as agricultural output rapidly increased, providing the peasantry with high and increasing amounts of grain for self-consumption, marketings of grain also increased and, as export markets diminished in relative importance, more and more grain passed north allowing an increasing population in a widening number of provinces in the Central Non-Black Soil and Lake regions to abandon tillage (the area under cereals falling by 10.8% and 3.3% 1881/90-1891/1900 respectively) and become dependent on imported grain supplies. Here therefore a rapidly growing population was able to free itself from the agricultural round and, secure in the availability of plentiful and cheap grain supplies, set out in search of alternative employment.

The closing of the "frontier" in 1881 and the subsequent transformation of European Russian agriculture thus exerted a profound influence on contemporary labour markets setting in motion a series of major migratory flows of population as labour was reallocated within the economy. Nor was the passage of these migrants impeded by the prevailing social and legal structure. The census of 1897 indeed reveals the movements of a significant proportion of the Russian population organized into two main streams: a rural stream to the sparsely populated frontier regions of the South and South-east and a specifically urban one, which in aggregate amounted to some 18 million or 15% of the population, most of whom had migrated over the preceding fifteen years, some 3.5 million passports having been issued in the 1880s and another 7 million in the 1890s. A large and increasing proportion of the population were entering the industrial labour market and by far the largest group amongst these migrants - comprising nine per cent or eleven million people - were migrants who, as southern grain passed north, abandoned their farms in the Central Non-Black Earth and Lake regions and either headed for the two great metropolises of Moscow and St Petersburg (where they comprised 15 and 33 per cent of the population respectively) or for such low industrial intensity centres as the sprawling agro-cotton manufacturing town of Ivanovo. By comparison other movements, like that of some 6 million persons from the Baltic provinces and adjacent Polish territories who merely moved within their own province to centres like Lodz or the

towns of the Baltic littoral, was of far lesser importance and was largely comprehensible in terms of regional market structures where estate owners through their manipulation of the land market had created a landless rural labour force.

Whether of national or regional significance, however, these migrations had a profound effect on industrial labour markets leaving their mark on the emergent structure of national wage rates. In the Moscow region, where during the years 1878-1897 a rapidly growing population released from involvement in agricultural pursuits set out in search of alternative employments, labour was abundant. A male worker on average during the 1890s in Vladimir and Moscow province earned about 168-180 rubles a year whilst in the cotton industry it was near 150 rubles. Nor was the situation markedly different as one moved west or south-west where aristocratic estate owners, through their manipulation of the land market, had created a vast pool of cheap labour. In St. Petersburg, the Baltic provinces and in Lodz and the region of the Vistula, where industry provided an alternative to estate employment, the figure was 225/245 rubles whilst in the sugar industry of the south-west wages workers, subject to monopsonistic control of the labour market, accepted 144 rubles in the east-bank Ukraine and 168 in Kiev. Everywhere to the north and west of a line running from Kazan to Kiev wages were low. How low, however, only becomes apparent when they are compared with those paid in the lands south and south-east of this line. Here the introduction of labour intensive techniques in the Central Agricultural Region and the availability of land on the southern and south-eastern steppe ensured that local agriculture absorbed all available labour supplies leaving no surplus to meet the requirements of industrialists. Here accordingly scarcities of suitable labour ensured in Ekaterinoslav province that wages reached 323 rubles and in the metal industry of the Donbas 342 rubles. A similar pattern, moreover, prevailed in the oil wells of Baku where unskilled workers earned 360 rubles a year - and then only Persian migrants could be attracted. Northern and western Russia thus contrasted with the lands of the South and East in the level of wages during the 1890s but the differential was also widening. In the Moscow region and the cotton industry in particular not only were wages relatively low but also they stagnated in the 1890s whilst in the Baltic provinces they showed a tendency to fall. In the South on the other hand, labour was scarce and wages twice as high as in Moscow and rising by some 10-15 per cent in the 1890s.

Further these differences in the two parts of the market were also reflected in the solutions evolved to solve the sociological problems of creating a proletariat. It should be remembered that the Russian worker of the 1890s was only one removed from the village and more than a half of the workers who still held some land in the village regularly remitted money there. Thus new ways of life had to be instilled. Industry required disciplined workmen willing to work for long hours to the rhythm

of the machine. In the North the solutions to these problems posed few difficulties. A rapidly growing population released from involvement in agricultural pursuits who had flocked to the towns in search of alternative employment, pushing down wage rates had little need for an incentive in the form of a provision of social overhead capital to meet their requirements. In the working-class districts of St. Petersburg cholera was rampant each spring and a survey carried out in 1896 found 5-9 persons in a room sleeping 4-6 in a bed. In some rooms air-space per person was no more than 1.75 m^3 . Similarly when breaking the peasant to the discipline of the factory the stick was more apparent than the carrot. Discipline was imposed by the foreman often with great brutality and many of the larger factories had their own police forces. In contrast in the South, to attract labour incentives had to be provided. Wages were high and increasing. Amenities were made available and good quality housing.

The new industries of the south thus remained during the 1890s isolated from the general fall in basic labour costs which pervaded the rest of the economy, a factor which was reinforced also in the case of skilled labour. This serious bottle-neck had initially been broken in large part by the large scale importation of foreign steel workers and foremen, yet this was not cheap. In the 1890s a foreign foreman earned more in a month than an ordinary workman did in a year and some fifty per cent more than his Russian equivalent. Yet this differential was closing. The key lay in the prior availability of Russian foremen in the north where on-the-job training was provided in those areas with long established capital stock and an environment of literacy. Thus the years 1878-1905 saw the emergence of a complex structure in Russian labour markets. In the North, a constant inflow of migrant labour ensured a constant supply of ever cheapening labour, but differentiated in terms of quality.

- (a) In the Baltic provinces and St. Petersburg the workforce was literate and relatively skilled and had available an element of on-the-job trained foremen supplement with German Lets.
- (b) In the Moscow region it comprised muzhik labour and not significantly differentiated foremen.

In contrast in the South, both skilled and unskilled labour was scarce and high-cost foreign workmen had to be imported. In terms of labour supply, as in respect of capital availability, North and South were markedly differentiated during the years 1878-1905 and industrialists responded accordingly.

IIC. Industrial Retardation, 1878-1905. Between 1878-1905 the industrial promise of the Reiter years turned sour as the capital and western provinces, which had played the leading role in industrialization before 1878, were eclipsed by Moscow and its

hinterland and in the 'nineties by the new industrial centres of the South. Within the prevailing industrial structure of 1880 the story is one of relentless displacement of activity as the region lost its former pre-eminence in textiles and metallurgy. Declining capital availability made industrialists incapable of updating their plant. In the cotton industry the great capitalisation phase of the "free trade" era came to an end and as tariffs rose, enhancing raw material costs, the modernisation programme of conversion to ring-spinning, based on the free importation of American cotton faltered. The number of spindles in the cotton-spinning mills of the capital and neighbouring Krengholm increased only slightly during subsequent years (1890 1.2 million and 1900 1.46 million) and by the latter date instead of encompassing a third of industrial capacity the region's works barely encompassed a fifth.. As for power-looms the decline was even more dramatic. The region's share in overall capacity fell from 12.7 per cent in 1890 to 8.1 in 1900 well below Vladimir's 27.4%. Nor were the engineering industries immune from the same forces at work in the economy. With their prosperity during the years 1864-1878 based on supplying railway equipment produced from imported iron, the works suffered heavily from the fall-off in orders as the railway companies, short of capital, cut back on construction during the years 1881-1894. Their difficulties moreover were compounded by the enhancement of raw material costs caused by the massive rise in the iron tariff during the 'eighties which induced producers elsewhere in the West - Briansk, the Warsaw Steel Company (the steel branch of Lil'pop,Rau and Levenstein), and the Huta-Bankova Steel Company - to create new smelting capacity in the Ukraine, leaving the great producers of the Baltic region (notably Putilov in St Petersburg and the Russo-Baltic Wagon Construction Company in Riga) outside the charmed circle. In such circumstances the region lost its former pre-eminence in supplying railway equipment. Already by 1885 St Petersburg was supplying less than half of Russian locomotives and during the 'nineties this was reduced to a quarter: in 1902, out of 1162 locomotives built in Russia, only 283 came from the Neva undertakings and the Putilov factory.

Government intervention during the years after 1878/81 thus posed major problems for the industrialists of St Petersburg and the Baltic provinces and undermined the position of those industries which had placed the region in the vanguard of Russian industrialization during the free-trade era of 1864-78. Yet whilst impeding it did not stay the region's development as manufacturers responded by restructuring existing enterprises and introducing new ones. Within the prevailing industrial structure they reduced raw material costs by the addition of value-added to their products. Thus in the textile industry yarn was increasingly utilised as an input in the manufacture of sewing thread, a product produced by the great Coates concern in its St Petersburg subsidiary, which found a rapidly growing market as the sewing

machine was rapidly adopted in the garment trades. Nor were the integrated spinning-weaving enterprises slow to seize similar initiatives, cotton cloth manufacturers selling their product on to the rubber industry for the production of water-proof fabrics. Similarly in those engineering works whose main market had been the railway companies there was a process of diversification and product enhancement causing manufacturers to eschew the low-grade raw materials of the Ukraine and forge new links with Urals producers for the supply of quality iron and steel from which they could make high-value precision products. Thus following its bankruptcy and financial restructuring with French capital the Putilov works moved away from the production of railway equipment in favour of the manufacture of steamship parts and industrial machinery (particularly for the oil industry) whilst these years saw the establishment of the "Motor" and "Phoenix" factories grafted onto the great RBVZ works in Riga. Existing factories thus turned to the production of new high value-added products but in the process they were only treading a path already well frequented by others for these years also witnessed the introduction of new industries to the region producing products of a similar high value-added character in the fields of industrial chemistry ("Treugolnik"-rubber fabricants) and electricity (Siemens-Halske established several factories for electrical equipment). In spite of the impediments put in their way after 1878 by interventionist governments the industries of the Baltic region thus continued along the path established in the free-trade era, compensating for enhanced raw material costs by product enhancement and overcoming limitations on its direct access to foreign capital by attracting the attention of foreign (particularly German) firms intent on tariff-jumping so that by 1900 it had secured for itself a secure niche within the industrial structure of the Empire, in the field of machine-making encompassing 41% of industrial capacity (26.2% in St Petersburg and 14.8% in Riga).

Yet by 1900, in spite of these changes, the Baltic provinces had been eclipsed by developments in the Central Non-Black Soil region of the Empire. Here the cotton industry, which during the free-trade era had been overshadowed by that of the Baltic region and Poland, found its position transformed as the raw material costs of its competitors were enhanced, by the imposition of tariffs, (levied from 1887-1894 at a discriminatory rate on overland imports from Bremen to Poland) to a level which converged on that of Moscow manufacturers using Central Asian supplies. As a whole the industry was thus subjected to an increase in the price of its raw materials but the Moscow region was no longer disadvantaged in this respect and its obsolete mule-technology now even came to the fore as the move to protection brought forth the need to economise on the high-cost, short-staple domestic cotton which increasingly became the staple input of the industry. To benefit of this situation, however, manufacturers had to resolve the problem of declining capital availability

which rendered them incapable of extending their plant. As the capital stock of the industry stabilised and amortisation periods lengthened to compensate for the decline in machinery imports therefore manufacturers were forced into capital-saving techniques and, henceforth, capital productivity and output was increased by simply adding more man-power to existing plant, thereby accounting for the comments of the German economist Schultz-Gavernits who, after studying the English industry visited Russian textile mills in the 1890s and remarked on the low labour-productivity levels prevailing in the industry. By such means Moscow manufacturers held the line but only by gaining at the expense of those in the Baltic provinces and Poland as the industry equilibrated in the aftermath of the 1881 crisis to a new low level: total output (in value terms) between 1881-1885 fell by 26%. In Russia's largest industry a new order had been born apposite to the new factor market situation as cheap labour was utilised to off-set an enhancement in raw material costs (caused by government tariff policy) and capital costs (caused by government intervention in the market) but by not increasing total factor productivity manufactures failed to limit price increases and thus saw sales fall as consumers suffered a loss of welfare. The pattern for the future was now set. Henceforth sales were dependent on changes in consumer incomes and as these increased so did production in a series of fitful booms (1889/93-1893/7 and 1897/1901-1901/5) which carried output by 1900 to a level twice as high as in 1890. Yet this expansion was achieved essentially by the methods of the 1880s, by simply taking on more manpower, meeting increased outlays on raw materials and labour by increased short-term borrowing on commercial paper and by financing plant extension from retained profits.

Such methods also prevailed in those other industries which emerged in the Central Region during the 'eighties as kustari activity, which with textile production had dominated the industrial structure of the region, underwent a severe crisis and commenced on a path of relentless decline. The crisis in kustari production was rooted essentially in the processes of agrarian change (described in lecture 6, term 2). By the introduction in the Central Agricultural Region of new agricultural technologies which enhanced land productivity but demanded year-round labour inputs the peasant was precluded from the involvement in craft activities. Deforestation enhanced fuel, and in the case of the wood-working crafts raw material costs. Agrarian reform thus went hand in hand with the de-industrialization of the Central Agricultural Region and the 1880s and 1890s saw, one after the other, existing kustari enterprises there wound up. Their owners now establish factories elsewhere and particularly in the Central Non-Black Soil Region where increasingly available and cheap labour allowed them to emulate their counterparts in the textile industry, expanding output by simply taking on more manpower, meeting increased

outlays on raw materials and labour by increased short-term borrowing on commercial paper through pre-existing credit networks and by financing plant extension from retained profits. Particularly during the 'eighties they enjoyed a phase of great prosperity as their wares not only displaced craft products but, as tariffs increased, also made great inroads into those markets previously supplied by imports. During the 'nineties, however, having achieved market dominance, they, like their counterparts in textiles, became dependent for sales on changes in consumer incomes and as these increased so did production in a series of fitful booms (1889/93-1893/7 and 1897/1901-1901/5), the pace of industrial expansion being conditioned by manufacturers' abilities to induce productivity changes by technological innovation.

The years 1880-1900 thus saw a major transformation of industrial activity in Central Russia as the Black Earth provinces underwent a process of de-industrialization leading to a transfer of activity northward to the the Non-Black soil provinces which now became the premier Russian industrial region, by the latter date encompassing 28.5% of output and 31.1% of manpower employed in manufacturing industry within the Empire (including Poland). Its manufacturers, moreover, set the norms for industrial performance in the economy and in adjusting to the baleful effects of government intervention, which denied them access to foreign capital whilst enhancing raw material costs, they turned their back on the processes of intensive growth which had characterised the free trade era and ushered in a period of declining productivity and extensive growth.

From 1880-1905 in the private sector, due to government intervention, industry thus was doomed to a pattern of slow growth and structural obsolescence. Resources diverted from the use of manufacturers there, however, now provided the basis for a new patterns of sectoral growth. For a few products where international demand existed for Russian raw materials, like oil or timber, market forces led to foreign investment and export markets provided the key to expansion, particularly in the weak foreign exchange conditions of the 1880s but even here producers were not immune from the effects of government intervention and the enhancement and over-valuation of the ruble in the late 1890s subsequently sealed their fate. For either foreign or domestic producer therefore the 'ninties were an unpropitious age.

Accordingly from 1892 the State, cognizant of the state of desolation in Russian industry but unwilling to accept responsibility for the prevailing situation, set about fostering development and, having established its own financial viability, used its privileged position in foreign capital markets to foster the development of the new heavy-industrial complex in the Ukraine. During the 'nineties it provided a rising market for the products of this complex with the steady growth of railway construction which equally looked unlikely to falter because it had the support of a government which, thanks to Witte, itself looked a sound proposition as surplus upon

surplus was built up on ordinary account (even if this was only achieved by transferring expenditure to the secret extra-ordinary account financed by foreign borrowing). Moreover, production for that market was secured by heavy tariff protection. Accordingly money poured in to establish industries with guaranteed state contracts whilst it avoided the more "insecure" private sector. Whilst the private sector thus experienced difficulties in obtaining necessary funding, foreign and particularly French investment flooded into heavy industry, creating a new industrial complex in the wild steppe lands of the south - Donbass/Krivroi Rog - which from its inception reflected the structurally distorted factor markets which gave it birth. Created in a region of acute labour shortage, plant reflected the availability of cheap capital which was substituted for dear labour, whilst the privileged position enjoyed in markets allowed the payment of high wages to pull in Petersburg/Polish and foreign skilled men. A high cost producer was being brought into being by the existence of its privileged position in both product and factor markets, both ensured by the security afforded it by State patronage. "Security", however, was an illusion. The market existed only as long as the state could borrow money to finance railway construction. When State financing stopped in 1901 so did the railway boom. Private capital, without State subsidies, would not continue to operate or extend a railway network, which had little economic purpose. On most of the new track freights would not even cover variable costs. Similarly most of the newly created heavy industries of the south, having lost subsidised markets, could not sell their wares. 1901 thus witnessed a decline in the Wittian industrial complex and saw the initiative for industrial development pass back to private sector concerns, which if not markedly expansive due to their grotesque over-manning and obsolete capital structure, remained buoyant - at least until 1905.

III. Industrial Growth in the Shadow of the Past, 1905-13.¹ 1905-6 saw the whole economy thrown into turmoil. As has been suggested these years saw the tensions inherent in the process of agricultural change erupt in violent disorders which pressaged demands for agrarian reforms. To diffuse this difficult situation the Stolypin administration instituted its own reform programme. From 1905 surplus population was redeployed from European to Asiatic Russia, each marginal shift enhancing productivity and income. Even here, however, the legacy of the years 1878-1905 reared its head. The labour-intensive aristocratic estate structures created in the western provinces during those years could not compete with the products of

¹ On the post-1905 boom in the economy there is the old study of M Millar, *Russian Economic Development 1900-1914* (1926) which may be brought up to date by reference to P Gatrell, "Industrial expansion in tsarist Russia, 1908-1914", *Econ. Hist. Rev.* 2nd series, XXXV (1982)

the rich eastern lands and differential tariffs embodied in the famous "Cheliabinsk break" were instituted to remedy the situation - lowering prices beyond the Urals and accordingly retarding emigration. Yet though this might slow rates of emigration to Siberia and force the government to support the agro-technological efforts of peasantry in the Central Region in order to compensate for the continuing decline in per capita land availability, it did not seriously impede the process of migration. Thus as labour markets in European Russia were depleted of surplus population wages rose, encouraging government subsidization (through export bounties) of the labour-intensive agricultural techniques adopted by the aristocratic estates of the Western provinces during the years 1878-1905 and resulting in a displacement of activity to the South and South-east where from 1897 a highly capitalised, extensive grain cultivation had been re-introduced and thereby inaugurating a period of rapid expansion in agricultural output. Thus within the agricultural sector the support of old systems and the encourage of new served to promote a continuation of output growth, providing a rapidly growing market for manufactured products and a buoyant tax base for the State.

For this demand to be satisfied, however, required a system of distribution. Nor was this to prove lacking. Railway development though declining in absolute terms became during the years 1904-13 heavily concentrated in the market sector of European Russia and in opening up Asiatic Russia - areas which would generate enough freight to merit new construction, areas moreover which had accounted for barely 10% construction from 1878-1897. Similarly the twentieth century witnessed the proliferation of retail outlets in these areas. The agrarian market was thus growing, well provided with transport facilities and retail outlets.

The events of 1905, however, had also affected the ability of manufacturers to respond to this situation by a transformation of capital market structures, for if the financial crisis of 1901 had seriously undermined the credit worthiness of the Russian government on international markets and had ushered in a phase of indirect investment by foreigners through Russian banks, 1905-6 saw the domestic capital market thrown into total disarray. During these years, as the rest of the international economy continued on the path of economic recovery the outbreak of the Russo-Japanese War coupled with the Revolution precipitated a crisis more serious even than that of 1901. Government expenditure could not be constrained yet Kokovtsev, following as a true disciple to Witte, resolved to maintain Russia's commitment to gold. The war, accordingly, was financed on Treasury Bill issues and interest rates were raised dramatically - the ruble was defended and company after company passed into the receiver's hands.

Even as rural markets were once more restored to a path of rapid expansion from 1905, therefore, manufacturers experienced an acute crisis and a fundamental

restructuring of their factor markets. The ways in which they responded to this situation, however, involved a complex series of reactions, which eschewed regional barriers and were largely conditioned by past experiences. Many producers in St Petersburg and the Baltic provinces reacted to the fall-off in orders occasioned by the government's financial difficulties and the enhancement in labour costs by continuing along the path of product diversification and enhancement. Thus in the case of the Riga RBVZ concern for instance as the demand for waggons from the railways continued to fall new departments were opened in St Petersburg for the production of aircraft and motor cars. Similarly these years saw the "Treugolnik" and "Provodnik" rubber works diversify to the production of medical equipment and car tyres in a move towards the fabrication of high value-added wares. To accomplish this transformation, moreover, manufacturers, with the withdrawal of the State from foreign capital markets, from 1902 and particularly 1906, sought access to the London, Paris and Berlin bourses to float new issues of their shares in order to finance not only the technical re-equipment of their plants but also to facilitate the provision of social overhead capital for their workforces.

These native manufacturers of the Baltic region, moreover, were not alone in being emancipated by the collapse of the Wittian system. Foreign businessmen, no longer captives of the mythology of Russian poverty and private sector backwardness or bedazzled by the inflated returns to investment in the Ukrainian metallurgical complex, now sought to exploit the opportunities opened up by the increase in rural and urban purchasing power in European Russia and Siberia. Firms like International Harvester established works in Moscow to supply agricultural machinery to the newly settled farmers of Siberia. Others like the Gramophone Company established recording studios and pressing plant in St Petersburg, servicing the artistic demands of the urban rich and in the process preserving for later ages a record of the Belle Epoch of Russian opera. During the years after 1902 and particularly after 1906 there thus emerged a highly complex industrial structure catering for the requirements of an increasingly rich and sophisticated population.

Such a market, inspite of the advances of these years, however, remained fairly restricted in character and these years, therefore, also saw, superimposed upon this new pattern of production for consumer markets, another pattern, more traditional in character, as from 1908 the State initiated a major re-armament programme. Thus if RBVZ sold cars and aircraft to private consumers during the years 1905-1908 they soon reached market saturation and from the latter date sought to sell these products to the military. Similarly if "Treugolnik" diversified production to cash in on the private motor car market through the sales of tyres, it made much more money by securing contracts to build airships for the military. Other firms, like the Putilov concern or the Franco-Russian Works, long established in shipbuilding, were even

more dependent during these years on government contracts, conjoining with State works in and around St Petersburg (the Baltic Works, Admiralty Yards, Izhorsk Works and Obukhov Steel Mill) to participate in the 900 million ruble programme for the post-Tsushima reconstruction of the fleet.

An old reliance on State orders thus combined with the exploitation of new opportunities in the provisioning of an increasingly rich and sophisticated population to promote a phase of major growth amongst the engineering industries of the Baltic region, initiating a process which, through the demand for high-quality raw materials, also transformed, if only indirectly, the position of the Ukrainian heavy industry complex. Producers in this high-cost sector of the iron industry, unlike entrepreneurs in the engineering industries of the Baltic region, when faced with a decline in railway construction after 1902 were unable, because of the low-quality of their produce, to diversify. But as during the period 1900-7, pig iron prices fell, production stabilization came about with the development of a symbiotic relationship between the Ukrainian and Urals industries which allowed primary smelting capacity to be reduced in the latter centre and Martin plant to be built to convert cheap, low-grade Ukrainian pig into high-grade steel, then much in demand in the engineering works of the Baltic region. Nor subsequently did this dependence on the Urals much diminish although, as from 1907-1913 rail demand recovered and there were increased sales of construction steel for the building of such structures as the Singer Building in St Petersburg or the Astoria Hotel in the same city, the price of Ukrainian pig began to rise and sales to the Urals industry diminished. In this case, therefore, the unresponsive reactions of producers in the new but high-cost southern metallurgical complex, who made only marginal adjustments to accommodate themselves to the new market situation, were compensated for by the initiatives of their Urals counterparts who adjusted to the post-1902 market situation by supplying high-grade steel to the new and expansive engineering industries of the Baltic region.

If producers in the new but high-cost southern metallurgical complex made only marginal adjustments to accommodate themselves to the new market situation, however, they were not alone in this respect. Their counterparts in the mighty cotton industry were no more successful in adjusting to the new market conditions and whilst total output grew cotton production devoted to the home market declined: 1900 32 million puds (82%); 1910 28 million puds (75%) 1914 25 million puds (60%)

Expansion was based, however, on exports to Turkey, Afghanistan, China and above all Persia which absorbed an increasing proportion of total output. The export boom, moreover, was entirely dependent upon an increasing level of state subsidies. Russian consumers did not buy Russian manufactures. Rising incomes were spent predominantly on German manufactures and English imported tropical foodstuffs.

Imports accordingly grew rapidly. Manufacturers in many sectors of Russian industry remained in 1914 as dependent on the State for markets as they had in the 1890s. Their enterprises remained as unviable as they had been in 1900. Technologically obsolete they now felt the full brunt of rising wage bills and little attempt was made to rationalise production and attract capital. Domestic investors preferred rather to channel increased savings into the growth sector of the economy - agriculture. In industry there was simply a capital widening with funds guaranteed by the State Bank. Thus whilst growth was resumed during the years 1905-1914 as some entrepreneurs seized the opportunities proffered in catering for the requirements of an increasingly rich and sophisticated population, the legacy of the years 1878-1905 remained. The structurally obsolete industrial establishments remained, entrepreneurs and investors remaining dependent on a State intent on building military-industrial capacity and pursuing a policy of economic imperialism - with disastrous results in 1914.

Lecture 17

The Imperial Russian economy in 1913

Following the crisis of the 1838/42 the recovery phase of the second cycle had begun, initially slowly during the years to 1851/60 and then extremely rapidly. Indeed the 1860s and early 1870s witnessed the fastest phase ever in Russian economic growth before retardation after 1874 finally gave way to stagnation in 1881. The years 1881-1892 thus marked a period of short-term economic stagnation in an economy already firmly established on a growth path. That phase of stagnation (1881-1892), moreover, ensured that when the path of recovery was resumed in the 1890s subsequent increases in national income were insufficient to ensure a full restoration of per capita income to the level of 1807. In 1914 the average Russian, with a per capita income of 60 rubles a year, was still poorer than his counterpart in 1788/1807.

Russian national income 1913
(million silver rubles at constant 1762 prices)

Sector	of economy	Income
(a)	Agriculture (including forestry and fishing)	4960
(b)	Industry (factory, handicraft and construction)	2587
(c)	Transport	563
(d)	Trade	790
(e)	Net government product, net housing product, personal medical services, domestic services and utilities.	870
(a-e)	Total	9775
	Per capita income	60

He also lived in an economy which since 1880 had been undergoing a much slower process of structural change. During the initial phase of recovery such change had been rapid as the economy acquired a modern industrial-commercial complex which increased the sectoral share of national income derived from such activities from under 10 per cent in ca.1850 to 33 percent in 1880. During subsequent years, however, as the rate of agricultural growth quickened and industrial growth slowed,

the rate of structural transformation slackened so that in 1914 this sector contributed no more than 40 per cent of national income in an economy which was still overwhelmingly agricultural.

It was also an economy where incomes, unlike elsewhere, were becoming more rather than less unequal. In the 1850s, after a period when the aristocracy had steadily increased their share of national income, the 114,500-115,500 families encompassed within this estate, who comprised 1 per cent of the population, controlled 6 per cent of national income. Half a century later in 1905 the equivalent top 1 per cent (now including others than the aristocracy) controlled 12 per cent of national income and only five years later in 1910 this had risen to 15 per cent. The rich were getting richer, a process which involved them in tapping all the new sources of income which had emerged during the intervening years.

Total amount of national income held by that 1 per cent of the population with incomes over 1000 rubles, at current prices.¹

Source of income	Million rubles		% of total	
	1905	1910	1905	1910
Land	286	412	16.6	15.6
Urban property	210	275	12.2	10.4
Industry & commerce	646	857	37.5	32.4
Interest	239	340	13.9	12.9
Salaries & fees.	343	760	19.9	28.7
TOTAL	1724	2645	100	100

Land, from which some 75 per cent of aristocratic income had been derived in the 1850s, yielded only 15-16 per cent of élite incomes half a century later. The rich on the whole derived their incomes from other sources. But so did most of the aristocracy. In 1850 80 per cent of nobles had belonged to landowning families. In 1905-10 the figure was only 38 per cent. The economy may have changed but the aristocracy's control over it had been barely shaken. Typical of the new age was Count A D Sheremetev whose income in 1913 (1.55 million rubles) derived 62 per cent from interest and dividends from his investments in commerce and industry, 32 per cent from agriculture and forestry and 6 per cent from urban property which made him fairly typical of his peer group. The economy may have changed but the social order had not - and this was essentially the problem of the recovery period, a

¹ I should like to thank Professor Olga Crisp for making this information on élite incomes, derived from her researches, available to me.

problem which led directly to the catastrophic government intervention in the economy in the 1880s, to the subsequent phase of slow growth and to the debacles of 1914 and 1917.