Chapter 2

ECONOMIC GROWTH AND DEVELOPMENT
OF TSARIST RUSSIA

We cannot reverse world history. We cannot reverse the Russian revolution of 1917; we cannot reverse Stalin’s decision to collectivize agriculture in 1929 and to install the administrative-command economy in the early 1930s. If the leadership of the former Soviet Union were not standing today at a crossroad, the material presented in this chapter would be of considerable scholarly interest but of little practical import. But because it is standing at such a crossroad the leadership of the former Soviet Union should feel obliged to look backward almost one century to reexamine the remote legacy of its capitalist past. It should ask: Did we grow up believing in stereotypes and myths? Should we view our capitalist heritage in a different light?

It is time for a dispassionate review of the record of tsarist economic achievement or failure. This review will not be based on emotion or political rhetoric but on the statistical record.

Was the Tsarist Economy a Success in Its Last Thirty Years?

There is no simple way to answer the question posed in the above heading. We have no magic standards for evaluating a country’s economic performance, such as 4 percent per annum real growth or above constitutes “good” performance and 2 percent per annum growth or below constitutes “poor” performance. What we do know is that economic success, to the present day, remains limited to a small number of countries—the industrialized world—that account for no more than 20 percent of the world’s population.

The economic performance of any country must be judged in appropriate historical context. The appropriate standard for evaluating the tsarist Russian economy is its performance in the late nineteenth and early twentieth centuries relative to the industrialized countries of the European continent and North America and to industrializing Japan. Did the Russian economy perform as well, better, or worse than the economies of the then industrialized West?

Nobel laureate Simon Kuznets delineated the patterns of modern economic growth of the nineteenth and early twentieth centuries.1 Insofar as there were relatively few industrialized countries during this period (less than twenty) and their performance differed, we can only identify general trends and specify limits based on this relatively small sample of successful countries. To make comparisons of this sort, a large mass of historical data must be available, calculated according to common procedures. Several rich compilations of national historical series have been prepared and analyzed by Angus Maddison, Paul Bairoch, and B. R. Mitchell, as well as by Kuznets, and major studies of national income have been undertaken by Simon Kuznets and Robert Gallman (United States); Walther Hoffmann (Germany); Jan Marczewski and associates (France); Charles Feinstein, P. M. Dean, and W. A. Cole (Great Britain); O. J. Firestone (Canada); and Kazushi Ohkawa and Henry Rosovsky (Japan).2 These studies describe the “Western” experience with economic development in the nineteenth and early twentieth centuries. The tsarist Russian economy of the late nineteenth and early twentieth centuries must be judged against these general trends and limits.

This appraisal of the Soviet Union’s last full-fledged experience with market capitalism focuses on the last thirty years of the prerevolutionary era for two reasons. First, it makes little sense to examine Russia’s premodern past. We date the “modern” era to the period after the 1861 serf emancipation and after the construction of the rail network. By the mid-1880s, both of these events had worked their way through the system. It was in the 1880s that industrialization began in earnest.3 Second, reliable estimates of tsarist economic growth and performance prior to the 1880s are not available.

The cited estimates of Russian growth and structural change are primarily my own.4 Appendix A provides a summary of calculation methods and biases and compares my estimates with those of other researchers. The general conclusions of this chapter hold irrespective of which set of estimates of Russian growth are used.

This chapter views the growth and structural change of the Russian economy during the late tsarist era in historical perspective. The Russian data are compared with those of industrialized countries during the nineteenth and early twentieth centuries.

We seek answers to two questions from such comparisons. First, we wish to determine whether the growth of the Russian economy was slow, average, or rapid relative to the then-industrialized countries over the same period. Second, we wish to determine whether the Russian industrialization experience differed in significant ways from the general Western pattern of economic development. Lenin argued in his writings that the Russian economy had unique characteristics that distinguished it from Western Europe and made it ripe for socialist revolution.5 Alexander Gerschenkron proposed that tsarist Russia followed an “Asian model” of
economic development that differed in substantive ways from the European model. The calculated Russian series, described in Appendix A, are based on methodology and primary data much like those of the historical series of the other industrialized countries. In fact, in some countries with a far more advanced level of economic development than Russia the raw statistics are much weaker (e.g., Great Britain).

Two Snapshots of the Russian Economy: 1861 and 1913

In the analysis of trends, the “big picture” is best seen by taking snapshots of the economy at two widely separated periods of time. Changes that are largely invisible over short periods cannot be overlooked over quarter centuries or half centuries. Moreover, errors and imprecisions in historical data tend to play a less important role when two widely separated benchmarks are used.

In the case of Russia, two appropriate benchmark years come readily to mind. The first is 1861, the year of the peasant emancipation. The second is 1913, the peak year of tsarist economic performance. The 1861 benchmark catches Russia on the eve of its major nineteenth-century experiment in social reform—the emancipation of the serfs—which ushered Russia into the modern era. It precedes the “railroadization” of the Russian empire—an event considered by some to be of equal importance to the emancipation. Pushing the benchmark back to an even earlier date makes little sense. The data are too sparse. Moreover, our objective is to study the economic development of modern Russia, not the economic development of feudal Russia.

Two snapshots of the Russian economy almost fifty years apart bear witness to the amount of change that characterized the Russian economy from its entry into the modern era to the outbreak of World War I. Russian economic change must be judged in relative terms. The Russian economy was part of the nineteenth-century world economy and, more specifically, the European economy. Russia, on the eve of World War I, was the world’s largest debtor nation. Europe’s business cycles were felt in Russia. Russia hosted both Europe’s capital exports and Europe’s entrepreneurs, who set up shop in Russia in great numbers. European and American technology found its way into Russian industry and agriculture.

By the mid-nineteenth century western Europe and the United Kingdom had from fifty to one hundred years of experience with modern economic growth. Through sustained growth of per capita output, continental Europe and England had achieved unprecedented levels of affluence; the transformation from agrarian to industrial economies had been achieved. The average worker in the economy was no longer the peasant but rather the industrial worker. Both birth rates and death rates had declined in the process of demographic transition, freeing the industrialized countries from the Malthusian specters of overpopulation and subsistence wages. In 1861 the United States was poised to become the world’s dominant economy. Its economy was already the world’s largest in both absolute and per capita terms. Its influence served as a magnet attracting European and Asian emigrants. America’s vast frontiers remained to be opened.

Size and Level of Development: The Russian Economy

Russia on the eve of World War I was one of the world’s major economic powers (see Figure 2.1). Russia ranked as the world’s fourth- or fifth-largest industrial power behind the United States, the United Kingdom, France, and Germany, and perhaps Austria-Hungary. The Russian empire produced about as much industrial output as did the Austro-Hungarian empire. Because of its size, the Russian empire was Europe’s dominant producer of agricultural output.

The most striking difference between Russia as opposed to Europe and North America was the clear dichotomy between Russia’s aggregate economic power, as dictated by the magnitude of the Russian empire, and its relative poverty on a per capita basis. Russia began its modern era with a population twice that of the next most populous country in Europe and North America (France) and ended the era with a population almost three times as large as its largest European neighbor (Germany). In 1913 the only country rivaling the Russian empire in size of population was the United States, with slightly more than half the population of Russia.

Given Russia’s large population, exceptionally low per capita levels would be required to prevent Russia from being one of the world’s major economic powers. This fact is reflected in national income rankings in 1861 and 1913. In 1861 Russian national output was roughly half that of the United States, about 80 percent that of the United Kingdom and Germany, and only slightly below that of France. By 1913 Russia’s national output was well above that of France, roughly equal to that of the United Kingdom, about 80 percent that of Germany, and double that of Austria-Hungary. In relative terms, the only decline over this period was vis-à-vis the United States, an economy that grew rapidly in both population and per capita income between 1861 and 1913.

Russia’s economic power was concentrated in the agricultural sector. In 1861 Russia produced more grain than any other country, and only the United States produced more grain in 1913. Yet in 1861 Russia was a minor producer of major industrial commodities (coal, pig iron, steel) and had only a rudimentary transportation system, despite its vast territory. By 1913 Russia’s relative position had improved somewhat with regard to
Figure 2.1: Selected economic and social indicators, Russia and other countries, 1861 and 1913

Fig. 2.1 (cont.)
major industrial commodities (especially relative to France and Austria-Hungary), but Russia still lagged seriously behind the world's major industrial powers in industry. It was only in textiles that Russia occupied a position roughly equivalent to that of Germany, the continent's largest industrial producer.

The relative backwardness of the Russian economy is hidden by such aggregate figures but is evident in the per capita figures. Russia began its modern era with a per capita income roughly half that of France and Germany, one-fifth that of the United Kingdom, and 15 percent that of the United States. By 1913 Russia's relative position had deteriorated because of rapid population growth and relatively slow output growth until the 1880s. Russia's 1913 per capita output was less than 40 percent that of France and Germany, still one-fifth that of the United Kingdom, and one-tenth that of the United States. Of the major countries for which national income data are available for such an early period, Russia's per capita income in 1913 exceeded only that of Japan and was well below that of Spain, Italy, and Austria-Hungary.

The per capita figures reveal that Russia's imposing grain output was not the consequence of high output per worker. Some 75 percent of the labor force was engaged in agriculture, yet per capita grain output was well below that of France, Germany, and the United States in 1861 and was below that of Germany and the United States in 1913. Yet Russia's per capita position was relatively more favorable in agriculture than in industry. For example, grain output per capita in Russia was roughly equal to that of Austria-Hungary in both 1861 and 1913; yet per capita output of


The national income figures are calculated by applying 1813 exchange rates to the 1913 national income figures in current domestic prices. For those countries where only gross national product data are available, the United Kingdom 1913 ratio of net to gross product was applied. The exchange rates are given in Berlin, *Entsklopetia russkogo eksporta*, I:358.

The 1860 national income figures are calculated by applying real growth indexes of national income and population to the 1913 figures. In the Russian case, a 1.8 percent annual growth rate is taken between 1860 and 1885 from Gregory, "Economic Growth and Structural Change in Tsarist Russia," 433.

The Russian 1860 grain output figure is calculated by applying Goldsmith's index of grain output (including potatoes) for the fifty European provinces to the 1913 output figures. See Goldsmith, "The Economic Growth of Tsarist Russia," Table 1.
industrial products in 1913 was typically half that of Austria-Hungary. That Russia’s comparative advantage lay in agriculture is clearly demonstrated by Russia’s emphasis on agricultural exports.

Russia’s most impressive relative improvement between 1861 and 1913 was the development of a rail network that was the largest on the European continent by 1913 (not unexpected given the vast territorial size of the Russian empire) and was comparable on a per capita basis to such countries as Italy and Austria-Hungary.

Russian infant mortality and death rates in 1861 were not much different from those of Germany, Italy, and Austria-Hungary a decade earlier. Forty years later, Russian infant mortality was virtually unchanged, whereas in the other countries it had declined significantly. The advances in public health services experienced in Europe were not shared by the masses in the Russian villages.

Russia was obviously backward relative to its major European competitors both at the beginning of its “modern period” (1861) and at the end of the tsarist era. This conclusion emerges unambiguously from the per capita figures and from social indicators. Russia’s relative strength was in agriculture, where output per capita compared more favorably with the industrialized countries than in the industrial sphere. In industry, the most impressive per capita change was in textiles rather than in heavy industry. Russia was indeed one of the world’s major economic powers. In 1913 Russia’s aggregate output was exceeded only by that of the United States, the United Kingdom, and Germany.

The Pace of Change

Multiplication factors of changes in economic and social indicators can be seen from Figure 2.1. The 2.35 figure for Russian population shows that the 1913 Russian population was 2.35 times that of 1861. The 1913 Russian national income was 3.84 times that of 1861, and so on. The multiplication factors reveal the relative pace of Russian economic and demographic change between 1861 and 1913 against the backdrop of change in Europe and America. The multiplication factors reveal a pace of economic and social change for Russia that was generally consistent with that in Europe—although falling well behind the tempestuous changes occurring in the United States. Russian population growth was the most rapid in Europe and even came close to the emigration-driven high rates of the United States. Russia’s growth of national income was equaled or exceeded only by that of Germany and Sweden. The combination of rapid output growth and exceptionally rapid population growth yielded a growth of output per capita that was relatively low by European standards.

Only the per capita output growth of Italy was less. Yet Russian per capita income growth after 1861 should not be written off as dismal; its multiplication rate was 85 percent of the European average.

The multiplication factor of Russian grain output (3.0) equaled that of Germany and was exceeded only by that of the United States, which experienced such rapid growth of grain output that it became the world’s dominant producer, and by Sweden—a relatively minor grain producer. In the growth of pig iron production Russia was equaled or exceeded only by Germany, the United States, and Italy. The growth of the Russian rail network—which was initiated late relative to the industrialized European countries—was the highest in Europe and was four times that of the United States, a nation that also had a frontier to conquer.

Russia’s most dismal failure was its inability to reduce infant mortality. The exceptionally high Russian infant mortality rate of 1913 was scarcely below that of some fifty years earlier. High Russian infant mortality shows that the Russian empire was an inhospitable place for newborns, with its harsh climate, high illiteracy rates, and poor provision of medical care. On the other hand, the pace of the demographic transition away from high birth and death rates was not significantly different from the European averages.

The multiplication factors of per capita output and population growth cast considerable doubt on previous conclusions about the failure of the tsarist economy. It should be emphasized that the period 1861–1913 included a lengthy period of stagnant growth (1861–80); therefore, the growth rates of the “modern era” (the 1880s to 1913) should compare even more favorably with European performance.

Russian Growth: 1885 to 1913

We turn now to an assessment of Russian economic growth during the industrialization era (1885–1913). How did it compare with the growth rates of other countries during the course of their industrialization? Historical growth rate series for Russia and for other countries are assembled in Table 2.1 for the purpose of comparison.

In comparisons of historical growth rates, one can never be sure that the individual series are comparable or that calculated differences are real in some statistical sense. One must, however, make do with the available series and hope that major distortions in the individual series will not affect the outcome.

Table 2.1 presents series covering three periods of growth rates: “average period,” “high period,” and “early period.” The average-period rate represents the average long-term growth rate between 1850 and 1913 (if a
### TABLE 2.1
Average, High Period (HP) and Early Period (EP) Growth Rates: Late Nineteenth and Early Twentieth Centuries, Russia and Industrialized Countries (% per annum)

<table>
<thead>
<tr>
<th></th>
<th>(A) Total Product</th>
<th>(B) Population</th>
<th>(C) Labor Force</th>
<th>(D) Per Capita Product</th>
<th>(E) Product Per Worker</th>
<th>(F) Incremental Net Capital-Output Ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Russia (1883–87)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>to 1909–13</td>
<td>3.25</td>
<td>1.65</td>
<td>1.6</td>
<td>1.6</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>(2.75)</td>
<td>1.6</td>
<td>1.65</td>
<td>(1.15)</td>
<td>(1.1)</td>
<td></td>
</tr>
<tr>
<td>HP:</td>
<td>1889–92 to 1901–4</td>
<td>4.7</td>
<td>1.3</td>
<td>3.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EP:</td>
<td>1861–63 to 1881–83</td>
<td>1.8</td>
<td>1.1</td>
<td>—</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Great Britain (1855–64)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>to 1920–24</td>
<td>2.1</td>
<td>1.0</td>
<td>0.8</td>
<td>1.1</td>
<td>1.6</td>
</tr>
<tr>
<td>HP:</td>
<td>1870–74 to 1890–99</td>
<td>3.0</td>
<td>1.2</td>
<td>0.8</td>
<td>1.8</td>
<td>2.2</td>
</tr>
<tr>
<td>EP:</td>
<td>1830–49</td>
<td>2.25</td>
<td>1.25</td>
<td>—</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>France (1860–70 to 1900–1910)</td>
<td>1.5</td>
<td>0.2</td>
<td>0.7</td>
<td>1.3</td>
<td>0.8</td>
</tr>
<tr>
<td></td>
<td>to 1878–90 to 1835–44</td>
<td>1.25</td>
<td>0.6</td>
<td>—</td>
<td>1.65</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Netherlands (1860–70 to 1900–1910)</td>
<td>2.1</td>
<td>1.15</td>
<td>0.6</td>
<td>0.95</td>
<td>1.5</td>
</tr>
<tr>
<td>5.</td>
<td>Germany (1850–59 to 1910–13)</td>
<td>2.6</td>
<td>1.1</td>
<td>1.25</td>
<td>1.5</td>
<td>1.35</td>
</tr>
<tr>
<td></td>
<td>HP: 1886–95 to 1911–13</td>
<td>2.9</td>
<td>1.1</td>
<td>1.7</td>
<td>1.8</td>
<td>1.2</td>
</tr>
<tr>
<td>EP:</td>
<td>1850–70</td>
<td>2.4</td>
<td>1.1</td>
<td>—</td>
<td>1.3</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>United States (1880–89 to 1910–14)</td>
<td>3.5</td>
<td>1.9</td>
<td>1.7</td>
<td>1.6</td>
<td>1.9</td>
</tr>
<tr>
<td></td>
<td>to 1869–78 to 1884–93</td>
<td>5.5</td>
<td>2.3</td>
<td>2.8</td>
<td>3.2</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>EP: 1834–43 to 1869–78</td>
<td>4.1</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>7.</td>
<td>Canada (1870–74 to 1920–24)</td>
<td>3.3</td>
<td>1.7</td>
<td>1.9</td>
<td>1.6</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>HP: 1891–1900 to 1911–20</td>
<td>4.1</td>
<td>1.6</td>
<td>2.4</td>
<td>2.4</td>
<td>1.6</td>
</tr>
<tr>
<td>8.</td>
<td>Australia (1861–69 to 1900–1904)</td>
<td>3.4</td>
<td>2.85</td>
<td>—</td>
<td>0.55</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>HP: 1861–65 to 1876–85</td>
<td>4.0</td>
<td>—</td>
<td>3.2</td>
<td>0.8</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Japan (1885–94 to 1905–14)</td>
<td>3.4</td>
<td>1.1</td>
<td>—</td>
<td>2.3</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>HP: 1920–24 to 1938</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Belgium (1970 to 1913)</td>
<td>2.7</td>
<td>0.95</td>
<td>0.9</td>
<td>1.75</td>
<td>1.8</td>
</tr>
</tbody>
</table>

### DEVELOPMENT OF TSARIST RUSSIA

### TABLE 2.1 (Continued)

<table>
<thead>
<tr>
<th></th>
<th>(A) Total Product</th>
<th>(B) Population</th>
<th>(C) Labor Force</th>
<th>(D) Per Capita Product</th>
<th>(E) Product Per Worker</th>
<th>(F) Incremental Net Capital-Output Ratios</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.</td>
<td>Norway (1870 to 1913)</td>
<td>2.8</td>
<td>0.8</td>
<td>0.5</td>
<td>2.0</td>
<td>2.3</td>
</tr>
<tr>
<td></td>
<td>HP: 1915–24 to 1939</td>
<td>3.2</td>
<td>0.7</td>
<td>1.2</td>
<td>2.5</td>
<td>2.0</td>
</tr>
<tr>
<td>12.</td>
<td>Sweden (1870 to 1913)</td>
<td>3.75</td>
<td>0.7</td>
<td>0.7</td>
<td>3.05</td>
<td>3.05</td>
</tr>
<tr>
<td>HP:</td>
<td>1926–35 to 1948–52</td>
<td>4.2</td>
<td>0.7</td>
<td>0.3</td>
<td>3.5</td>
<td>3.9</td>
</tr>
<tr>
<td>13.</td>
<td>Italy (1870 to 1913)</td>
<td>1.45</td>
<td>0.65</td>
<td>0.35</td>
<td>0.8</td>
<td>1.1</td>
</tr>
<tr>
<td>HP:</td>
<td>1920–23 to 1938–40</td>
<td>2.4</td>
<td>1.1</td>
<td>0.1</td>
<td>1.3</td>
<td>2.3</td>
</tr>
<tr>
<td>14.</td>
<td>Denmark (1870 to 1913)</td>
<td>3.2</td>
<td>1.1</td>
<td>0.9</td>
<td>2.1</td>
<td>2.3</td>
</tr>
<tr>
<td>HP:</td>
<td>1880–99 to 1914</td>
<td>3.7</td>
<td>1.1</td>
<td>1.2</td>
<td>2.6</td>
<td>2.5</td>
</tr>
<tr>
<td>15.</td>
<td>Switzerland (1890 to 1913)</td>
<td>2.4</td>
<td>1.1</td>
<td>1.3</td>
<td>1.3</td>
<td>1.1</td>
</tr>
</tbody>
</table>


Note: Dash indicates data not available. For figures in parentheses, see note 18.

Table 2.1 reveals that the Russian growth rate of total product compares favorably with the average long-term rates of the industrialized countries between 1850 and 1914. In fact, Russian growth was equalled or surpassed by only the United States, Canada, Australia, and Sweden, and it equalled

series covering the entire time span is available). If such a long series is not available, then the average period covers the longest available time span prior to 1913.

The high-period rates are from Kuznets, who defines a high-period as the "one period among several distinguished (usually about 20 years in duration) with the highest growth rate in total product."14 The high period in two cases (Italy and Japan) comes after 1913, but in most cases, it falls within the desired 1850–1913 time span. The early-period series represent the earliest available series for the few countries for which long statistical records are available. For Russia, the early period is defined as 1861 to 1883.
or exceeded the growth of the two most important “follower” countries (Japan and Italy) before World War I. With the exception of Sweden and Denmark (with above average rates for Europe), Russian growth was similar to that of the European offshoots in North America and Australia, countries that experienced rapid population growth through immigration and high rates of natural increase. In the Russian case, however, rapid population growth was entirely the consequence of high rates of natural increase, since Russia experienced a net out-migration during this period.

The conclusion that Russian growth was high by international standards is supported by Angus Maddison’s figures for the period 1870–1913. Maddison calculates the average growth rate of “Western” output (Europe and North America) at 2.7 percent per annum, as compared with the Russian rate of 3.25 percent.

The high (by international standards) Russian growth of total product was the consequence of rapid population (and thus labor force) growth. However, on a per capita and per worker basis (columns D and E), Russian growth is still respectable by the same international standards. The average-period Russian per capita growth rate (1.65 percent) was surpassed or equaled by only Belgium, Norway, Sweden, the United States, and Denmark. According to Maddison, the 1870–1913 average annual growth rate of per capita output in the West of 1.6 percent was equal to the Russian rate.

One must be cautious about the interpretation of the labor force growth figures (column C) and the resulting output-per-worker growth rates (column E) because of conceptual and statistical differences in the measurement of labor force, particularly in the treatment of farm employment of females. No adjustment can be made for differences in hours worked per employed person, which likely fell during this time span but not at the same rate for all countries. The Russian figures are themselves crude.

Comparisons of the labor force and population growth rates fail to reveal a consistent pattern. In some countries, labor force growth exceeded measured population growth; in others it fell below population growth; but only in the Italian and Dutch cases are population and labor force growth rate discrepancies substantial. The conclusion follows that, as a general rule, the population and the labor force grew at roughly equivalent rates during this period. The long-term growth rates of product per worker should, on the average, roughly equal those of product per capita, and this is what Table 2.1 suggests when the countries are averaged.

The Russian growth rate of output per worker (1.6 percent) was about average for the countries surveyed. Average hours worked per employed worker generally fell during this period, thus hours worked would rise at a slower rate than population. One cannot, however, establish how Russian average hours worked behaved relative to other countries. If anything, they declined less than in the more advanced European countries.

Incremental net capital-output ratios (column F) are calculated by dividing the average ratio of net investment to output by the annual growth rate of output. Table 2.1 suggests that marginal capital productivity in Russia was average as judged by the experiences of the other countries in the sample. The exceptional cases appear to be Japan, with an exceptionally low (1.6), and Germany, with an exceptionally high (4.8), incremental capital-output ratio.

The surprising finding from the high-period comparisons is that the average growth of Russian output compared favorably with the high-period rates of the other countries. Russia grew as fast or faster than did Great Britain, Germany, Norway, and Italy, but notably slower than did countries such as the United States, Canada, Australia, Japan, Sweden, and Denmark, which experienced short periods of exceptionally rapid growth. On a per capita (per worker) basis, the Russian average growth rate is below the high-period rates of other countries.

The high-period growth rate of Russia covers a shorter time span than those of other countries (twelve years) and, hence, is not directly comparable to Kuznets’s calculations of high-period growth. However, it may be noted that the Russian high-period rate (covering primarily the 1890s) exceeds all other high-period rates except that of the United States. On a per capita basis, the Russian high-period rate compares favorably with the highest high-period rates (United States, Japan, Sweden).

One cannot determine whether the growth rate differences of Table 2.1 are significant in a statistical sense. They use different total product concepts (Net National Product, national income, Gross National Product, Gross Domestic Product), and the labor force statistics are especially unreliable. Nevertheless, the conclusion is warranted that after 1885 the Russian economy grew at total per capita and per worker rates that are at least “average” relative to those of other major industrialized and industrializing countries. Surprisingly, this statement would remain valid for total output even if the most conservative estimate of Russian growth is used.

We conclude that Russia had begun to experience modern economic growth after 1880, although this experience remained limited to less than thirty years. Accordingly, a long-term record is lacking in the Russian case. World War I and then the 1917 revolution interrupted this growth. Hence, it is difficult to know whether the growth would have persisted, accelerated, or decelerated in a capitalist Russia.

**Structural Change**

The course of structural change provides additional evidence on whether Russia underwent modern economic growth after 1885. Kuznets’s estimates of the approximate dates of the initiation of modern economic growth in European and North American countries, as well as per capita
Table 2.2  
Structural Change: The First Thirty Years of Modern Economic Growth, Russia and Other Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Initial Date</th>
<th>Modern Economic Growth Date</th>
<th>Initial 1965 Income</th>
<th>Modern 1965 Income</th>
<th>Initial Date + 10 Yrs.</th>
<th>Modern Date + 10 Yrs.</th>
<th>Initial Date + 30 Yrs.</th>
<th>Modern Date + 30 Yrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russia</td>
<td>1883-85</td>
<td>1913</td>
<td>290</td>
<td>277</td>
<td>227</td>
<td>242</td>
<td>202</td>
<td>222</td>
</tr>
<tr>
<td>France</td>
<td>1831-40</td>
<td>1850</td>
<td>45</td>
<td>40</td>
<td>45</td>
<td>45</td>
<td>33</td>
<td>43</td>
</tr>
<tr>
<td>Germany</td>
<td>1850-59</td>
<td>1865</td>
<td>40</td>
<td>35</td>
<td>43</td>
<td>43</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1865-69</td>
<td>1880</td>
<td>40</td>
<td>35</td>
<td>43</td>
<td>43</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>Norway</td>
<td>1880-89</td>
<td>1895</td>
<td>40</td>
<td>35</td>
<td>43</td>
<td>43</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>Italy</td>
<td>1895-99</td>
<td>1913</td>
<td>40</td>
<td>35</td>
<td>43</td>
<td>43</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>Japan</td>
<td>1874-73</td>
<td>1890</td>
<td>40</td>
<td>35</td>
<td>43</td>
<td>43</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>United States</td>
<td>1870-79</td>
<td>1890</td>
<td>40</td>
<td>35</td>
<td>43</td>
<td>43</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>Australia</td>
<td>1884-89</td>
<td>1913</td>
<td>40</td>
<td>35</td>
<td>43</td>
<td>43</td>
<td>33</td>
<td>33</td>
</tr>
</tbody>
</table>

Note: Generally, data are given for 10-year periods. In the case of the European countries, data are not available for all periods.

Income at that date, are given in Table 2.2. From additional data supplied by Kuznets, the approximate changes in the shares of major sectors (agriculture, industry, and services) during the first thirty years of modern economic growth can be compared with changes in Russia's industrial structure between 1885 and 1913.

Russia began modern economic growth with a relatively high share of agriculture and a low share of industry, much like Japan. Unlike other countries beginning modern economic growth with high agricultural and low industrial shares (Japan, the United Kingdom, Denmark, Italy, the United States, and Canada), the decline in the agriculture share and the rise in the industry share were more gradual in Russia. In this respect, Russia parallels the French experience a half century earlier. Nevertheless, the amount of structural change, as measured by the changes in Russia's agriculture and industry shares between 1885 and 1913, was average or slightly below average when compared to the other countries surveyed.

Similar statistics could be cited for changes in the consumption, investment, and government shares of total product, but a casual examination of the data indicates that the Russian 1885–1913 experience was generally similar to that of other countries during the early stages of their modern economic growth.

Relative Agricultural Productivity

Both Lenin and Gerschenkron pictured Russia as a "dual economy." According to them, industry consisted of substantial pockets of modernity, fostered by foreign capital investment. Agriculture, on the other hand, was dominated by the vestiges of feudalism with cultivation techniques dating to the previous century. From Gerschenkron's and Lenin's description, one would expect to find abnormal divergences of agricultural from industrial labor productivity—a prime feature of their dual economy hypothesis.

The question of the productivity performance of Russian agriculture is of sufficient importance to investigate this matter despite the weak underlying statistics. Table 2.3 demonstrates that Russian agricultural labor productivity grew at an annual rate of approximately 1.35 percent between 1883–87 and 1909–13. The industrial labor productivity growth rate was 1.8 percent, and the economywide productivity growth rate was 1.5 percent. In Russia, agricultural labor productivity failed to keep pace with industry and with the economy as a whole. The relative agricultural labor productivity ratio (agriculture to industry) was approximately three to four; that is, labor productivity in agriculture grew at three-quarters the pace of industry.

It is difficult to place these relative rates of growth in appropriate perspective because the relative rates of growth in the other countries during
### Table 2.3
Composition of National Income, Russia, 1883–1913 (1913 prices)

<table>
<thead>
<tr>
<th>Period</th>
<th>Agriculture (a)</th>
<th>Industry, Construction, Transportation, Communication (b)</th>
<th>Trade and services (a)</th>
<th>National Income (a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(a) % of National Income</td>
<td>(b) Annual Growth Rate</td>
<td>(a) % of National Income</td>
<td>(b) Annual Growth Rate</td>
</tr>
<tr>
<td>1883–87</td>
<td>57.4</td>
<td>23.4</td>
<td>19.2</td>
<td>100.00</td>
</tr>
<tr>
<td>1883–87 to</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1897–1901</td>
<td>51.3</td>
<td>30.6</td>
<td>18.1</td>
<td>100.00</td>
</tr>
<tr>
<td>1897–1901 to</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1909–13</td>
<td>50.7</td>
<td>32.3</td>
<td>27.1</td>
<td>100.00</td>
</tr>
<tr>
<td>1883–87</td>
<td>2.55</td>
<td>5.45</td>
<td>2.5</td>
<td>3.4</td>
</tr>
<tr>
<td>1909–13</td>
<td>2.8</td>
<td>4.5</td>
<td>2.7</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Source: Gregory, Russian National Income, 133–34.

### Table 2.4
The Growth of Agricultural Labor Productivity Divided by the Growth of Industrial Labor Productivity, Russia and Selected Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Period</th>
<th>Relative Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russia</td>
<td>1883–1913</td>
<td>0.75</td>
</tr>
<tr>
<td>Germany</td>
<td>1850–1909</td>
<td>0.67</td>
</tr>
<tr>
<td>France</td>
<td>1870–1911</td>
<td>0.99</td>
</tr>
<tr>
<td>United States</td>
<td>1870–1910</td>
<td>0.87</td>
</tr>
<tr>
<td>Japan</td>
<td>1880–1920</td>
<td>0.86</td>
</tr>
<tr>
<td>Norway</td>
<td>1875–1930</td>
<td>1.00</td>
</tr>
<tr>
<td>Canada</td>
<td>1880–1910</td>
<td>0.77</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1801–1901</td>
<td>0.74</td>
</tr>
</tbody>
</table>

Source: Gregory, Russian National Income, 169.

The growth of agricultural labor productivity has not been constant throughout the period. In the early years of the period, agricultural labor productivity grew more rapidly than industrial labor productivity, but thereafter it tended to grow at a slower rate.

The Russian experience is consistent with this pattern, but given the size of the agricultural sector both at the beginning and end of the period, it would not be expected for the rate of growth of agricultural labor productivity to diverge significantly from that of the economy as a whole.

Data on individual countries during the late nineteenth and early twentieth centuries are scarce. Table 2.4 summarizes the available evidence on relative rates of growth of agricultural and industrial labor productivity.

The most reasonable conclusion to be drawn from Tables 2.3 and 2.4 is that Russian industrial and agricultural productivity does not appear to be much different from that of other countries. The Russian relative agricultural productivity ratio was indeed in the lower group of countries surveyed, but it did not diverge much from that of Germany, Canada, and the United Kingdom, countries that no one could describe as "dual economies."

Although these relative productivity calculations are only approximate, they are sensitive enough to reveal substantive Russian deviations. Gerschenkron's and Lenin's depiction of Russia as a dual economy composed of a dynamic modern factory industry and a backward traditional peasant agricultural sector does not appear to be accurate for the period 1885–1913.

### Distribution of Final Expenditures

The avowed objective of tsarist economic policy during the industrialization era was to raise the investment rate above rates that normally would
have prevailed in a low-income country by attracting foreign investment and increasing domestic savings.25 According to the Gerschenkron model of Russian "Asian" development, high domestic savings were to be achieved largely by depressing rural living standards. An Asian pattern would be evidenced by high investment rates and low consumption rates at a low level of economic development.

Table 2.5 gives the breakdowns of total output by final expenditure category in Russia and in other countries for which data are available. The data are classified as "early" (the 1850s to the 1890s) and "late" (from the turn of the century to the early 1930s). We will examine whether the pattern of resource allocation in tsarist Russia differed from that of other countries.26

Definite signs of an Asian pattern are evident in both the early and late Russian figures. In the early (1885–89) period, the Russian net investment rate (7.8 percent) was exceeded only by that of Germany, the United States, and Australia—all countries with a per capita income dwarfing that of tsarist Russia (see Table 2.1). The other countries surveyed all had lower investment rates despite their much higher per capita income. The other country with an apparent Asian pattern was Japan, with a net investment rate roughly equal to that of Russia despite lower per capita income. Yet in the Japanese case, a portion (15 percent) of net investment was financed out of foreign savings, whereas in Russia it was financed during this early period entirely from domestic savings.

The early Russian domestic savings rate was thus high for a low-income-country, exceeded only by that of the United Kingdom (1870–74), Germany, France (1850–59), and the United States. Russia's early personal consumption rate was exceptionally low for a low-income country. Whereas higher per capita income countries in this early period typically had consumption rates slightly below 90 percent, the Russian rate (84 percent) was more like those of the highest income countries (United Kingdom, Germany, and the United States).

Another distinguishing Asian feature of this early period was the large share of government final expenditures. The Russian government share of final expenditures (8 percent) was the highest of the countries for which data are available. Because Russian government expenditures were devoted primarily to defense and administration (and not to health and education), they reflect the heavy burden of military competition with the more advanced European countries and the considerable size of the Russian bureaucracy.

The Asian features of the early period became more pronounced by the eve of World War I. The Russian investment rate was now exceeded only by that of Germany and was roughly equal to that of the United States. Russia's domestic savings rate, however, was exceeded by several countries,
for Russia had become by this late period a significant foreign borrower. During the early period (the period of preparation for the gold standard), Russia financed investment entirely out of domestic savings. By the end of the period, domestic investment came to be financed out of both domestic and foreign savings.

At the end of the tsarist era, the share of Russian government final expenditures was the highest of the countries surveyed, but the differences between the Russian share and that of other countries had become smaller. Japan came to have Asian features much like Russia, namely, an exceptionally high share of government spending for a low-income country.

It is difficult to establish whether foreign capital played an exceptional role in Russian development, because “normal” patterns of foreign capital are not that well known. As judged by the experiences of smaller capital-importing countries (the Scandinavian countries, Canada, Australia, Japan, and the United States during its earlier period of debtor status), the Russian experience (net foreign investment accounting for up to 20 percent of domestic investment) is not unusual. We are not able to define what a “normal” capital flow is, and foreign saving as a percentage of total output appears to be inversely correlated with country size. The Russian economy was very large; so perhaps the flow of foreign investment into Russia was indeed exceptionally large.

Resource allocation in tsarist Russia exhibited Asian features in terms of relatively high domestic investment and domestic savings rates, high government spending shares, and low personal consumption shares for a low-income country. In this regard, Russia resembled Japan. The puzzle is the mechanism by which Russia achieved its Asian distribution, for in Japan almost half of capital formation was from public investment, whereas in Russia public investment (except in railroad construction) played a relatively minor role.

**The Personal Distribution of Income**

That income was distributed more unequally in Russia than in the advanced European countries is a fairly safe proposition. Russia’s highly unequal distribution of income is commonly cited as a major cause of the revolutions of 1905 and 1917. It therefore comes as a major surprise that the Russian distribution of income calculated by the Ministry of Finance for 1905 and 1909–10 was not more unequal than that of the United States and was likely more equal than that of the United Kingdom (see Table 2.6).

In light of this unexpected result, one must question the validity of the Finance Ministry study. A casual examination of the Finance Ministry study does reveal a counterintuitive finding, namely, that income from land accounted for only 17 percent of income over one thousand rubles. In a

<table>
<thead>
<tr>
<th>Country</th>
<th>Top 1%</th>
<th>Top 5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russia</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td></td>
<td>48</td>
</tr>
<tr>
<td>1880</td>
<td></td>
<td>43</td>
</tr>
<tr>
<td>Prussia</td>
<td></td>
<td>21</td>
</tr>
<tr>
<td>1854</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>1913</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Denmark</td>
<td></td>
<td>37</td>
</tr>
<tr>
<td>1870</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>1908</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norway</td>
<td></td>
<td>27–32</td>
</tr>
<tr>
<td>1907</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United States</td>
<td>14</td>
<td>24</td>
</tr>
<tr>
<td>1913</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Gregory, Russian National Income, Table 6.4; Kuznets, Modern Economic Growth, 208–11.*

*Note: Dash indicates data not available.*

country that was still largely agricultural with a highly unequal distribution of land, such a low percentage seems implausible. It appears that the calculated distribution well understates the degree of inequality in Russia. Until a major revaluation of the Finance Ministry study is undertaken, the Russian figures must be treated with skepticism.

**Lessons for Perestroika**

The Russian economy, on the eve of the October Revolution, was the most backward of the major European countries. This backwardness developed as a consequence of Russia’s failure to participate early in the process of modern economic growth that began in England in the mid-eighteenth century and then spread to western Europe and to North America. The Russian empire began to experience modern economic growth in the 1880s, and from the 1880s to 1913 was able to keep pace with the industrialized economies of Europe in per capita terms and even catch up in terms of total product.
During the last thirty years of the Russian empire, Russia’s economic growth was more rapid than western Europe’s, but its rapid population growth held per capita growth to the west European average. The structural changes that occurred in the thirty years preceding World War I were in line with the first thirty years of modern economic growth elsewhere. Russia definitely had begun the process of modern economic growth by the outbreak of the First World War I.

Russian modern economic growth began under unfavorable circumstances. Long-term property rights had not been established in agriculture; onerous tariff barriers protected the domestic economy from competition; political instability had begun to grow, and the government bureaucracy was rife with corruption. Yet fundamental economic forces dictated sustained economic growth and profound structural changes. Because barriers to growth would have continued to disappear, Russian growth would likely have accelerated. If this insight is correct, Russian growth over the next half century (1913–1963) would have exceeded the rates recorded for the period 1885–1913.

We have no way of knowing for sure what would have happened had there been no world war, no October Revolution, and no Russian civil war. What we can say is that the Russian economy had begun the process of overcoming its relative backwardness and was on the way to sharing the affluence of western Europe and North America. The branding of the Russian economy as a failure is a consequence of the Leninist desire to show the ripeness of Russia for socialist revolution. It is not supported by the empirical facts. In fact, a remarkable feature of the debate over the state of the Russian economy prior to the Revolution is the failure to use empirical data. The empirical data, as we have shown, present a fairly clear picture of an economy taking the first steps toward affluence.

Chapter 3

THE AGRARIAN CRISIS

The western and Marxist literatures explain that the Russian revolution was caused, in no small part, by the agrarian crises that plagued Russian agriculture from the 1870s to the early twentieth century. This chapter explores the sources of the so-called agrarian crisis and presents empirical evidence that refutes its existence.

Agrarian Crisis and Revolution

The notion of an agrarian crisis features prominently in Lenin’s writings on prerevolutionary Russia: The 1905 revolution was a reaction by exploited peasants and downtrodden industrial workers to growing immiserization. Symptoms of the agrarian crisis were rising land prices, growing peasant tax arrears, the famine of the early 1890s, declining peasant per capita landholdings, peasant impoverishment in grain-deficit provinces, and most significant, declining per capita rural incomes. The 1905 uprising was the peasants’ way of reacting to their deteriorating economic situation.

Western economic historians such as Alexander Gerschenkron, Lazar Volin, and Alec Nove have largely accepted the existence of an agrarian crisis. They draw parallels between tsarist and Stalinist agrarian policies. In both cases, industrial capital formation was financed by forced reductions in peasant living standards. Agriculture was starved to pay for the tsars’ ambitious industrial programs.

Most historians believe that postemancipation Russian agriculture experienced an agrarian crisis. To quote a typical conclusion: “Heavy taxes had exhausted the peasant population’s ability to pay and had driven all of Russian agriculture into an endemic crisis.” Lazar Volin emphasizes the remarkable agreement among late nineteenth-century observers that the condition of the Russian peasant had actually worsened since the peasant emancipation of 1861. The deterioration of peasant living standards over the final quarter of a century “required no special demonstration.” Few social and economic writers felt that Russian agriculture was progressing on a promising course. Soviet students of prerevolutionary agriculture took the existence of an agrarian crisis as a confirmed fact.
Sources of the Social Consensus

The Western literature has always been ambivalent in its view of tsarist Russian agriculture. On the one hand, Russia's prominent role in the world grain market has been cited as evidence of the vitality of prerevolutionary Russian agriculture and of the subsequent decline of Soviet agriculture.

On the other hand, writers of the period were convinced that conditions in agriculture were deteriorating. In fact, a remarkable social consensus existed among observers of rural conditions concerning the growing destitution of the village. Numerous sources—both literary and statistical—were cited to support the view of deteriorating living conditions in the countryside. Censuses of livestock in the Kromskoi district of Orel province in central Russia taken in both 1887 and 1901 showed a substantial decline in livestock holdings per family. Zemstvo commissions graphically documented the epidemics, the unsanitary conditions under which peasants lived, the malnutrition of peasants in many districts, and the high rate of infant mortality among peasant families.

Literature played an influential role in forming a social consensus about growing rural poverty. As Volin writes: "In belles-lettres, which always reflected accurately the pulse of social thought in pre-Soviet Russia, the theme of rural distress was taken up by outstanding writers of the period, such as Gleb Uspenskyy and Zlatovarskii, and later Chekhov. Perhaps the best portrayal came from the pen of A. N. Engelhardt who in the late seventies depicted rural poverty in his celebrated 'From the Countryside.'"6

There were indeed appalling cases of rural poverty in Russia. The existence of rural poverty in a particular time and place, however, does not necessarily yield accurate evidence about its trend over time or about its spatial distribution. According to the statistical evidence, agricultural decline was especially prominent in the populous central black earth region, whereas agriculture was expanding in other regions, especially on the periphery.7 But since the central black earth region was populous and politically important, there was a tendency to generalize about the rest of Russian agriculture based on its experience.

In the course of any economic development, there will be rising and declining regional economic fortunes. The declining agricultural fortunes of the central black earth region were being offset by the rising fortunes of western Siberia and the Baltic provinces.

Aggregate data show how agriculture as a whole is performing. Averaging across families and regions smooths out differences at the extremes. Government commissions are usually organized to study problems, not to record successes. Literary accounts focus on the most downtrodden peasant family, not on the average family.

Defining an Agrarian Crisis

The literature has suggested a number of ways to determine whether Russia was indeed suffering an agrarian crisis in the decades after the peasant emancipation—for example, rising land rents, falling per capita landholdings, and tax arrears. There is no ready-made definition of an agrarian crisis, so we must craft one that fits the objective of this study. We must ask: Were organizational arrangements and state policy so structured in Russian agriculture after the emancipation to prevent the agricultural economy from achieving rates of growth of output, productivity, and consumption sufficient to sustain modern economic growth? If the answer is yes, then Russian agriculture was indeed in the throes of an agrarian crisis.

If we accept this definition, the appropriate test for the existence of an agrarian crisis would be the aggregate growth of Russian agriculture's output, productivity, and living standards. Although, as noted above, regional differences would be of considerable importance in explaining political and social actions, the major concern must be the aggregate performance of agriculture.

Doubts about the Agrarian Crisis

Russian agriculture had for centuries developed in an extensive manner.8 The opening of the Russian frontier via military conquest, expansion into low-density areas inside the periphery, and later railway-led expansion were major sources of growth of agricultural output. Russian agriculture had grown largely through the expansion of cultivated areas, not through improvements in productivity. Even the central black earth zone was regarded as a relatively empty agricultural area in which rapid population growth was encouraged in the early nineteenth century.

Russian agricultural development followed the typical pattern of an economy with a vast frontier. Russia was able to expand agriculture's cultivated area by pushing out the frontier. As expansive areas were opened, older agricultural areas tended to decline.

The proponents of the agrarian crisis do not suggest that there was a crisis on Russia's agricultural frontiers. The institutional impediments to rational land cultivation were less prominent in the frontier areas. The agricultural development of western Siberia, for example, proceeded largely on the basis of land freeholdings much like in western Europe.

Long-term deterioration of peasant living standards, especially during a time of substantial agricultural progress in other countries, would be a rare historical phenomenon, requiring a convincing explanation. The agrarian crisis was purportedly characterized by an actual decline in real peasant incomes over a thirty-year period. As such, it would have to be caused by
fundamental long-term forces, not by the natural fluctuations in agricultural prices and output. Moreover, the Russian agrarian crisis was manifesting itself at the very time when the fruits of railroad construction were being felt, transportation costs were being lowered, world technological progress in agriculture was rapid, and Russian agriculture was being integrated into world markets. It was during this very period that Russia and the United States emerged as the major suppliers of grain to the rest of the world.9

Russian peasant emancipation was compelled by the political foreshadowing over a restless enserfed peasantry and the growing conviction that serf agriculture was in a sorry state. To assert that peasant living standards deteriorated even further from the very low starting point of 1861 requires a convincing explanation.

Gerschenkron’s Explanation

Alexander Gerschenkron sought to supply a theoretical explanation for the long-term decline in Russian peasant living standards that he believed took place after the emancipation. Gerschenkron contended that the agrarian crisis was caused by the emancipators’ economic and political decision to retain communal agriculture.10 The emancipation handed land over to the commune, not to individual peasant households. Moreover, the commune was made responsible for the mortgaged value of the land that was ceded to the commune and for making mortgage (redemption) payments, which it had to collect from individual peasant families.

Political authorities wanted continuation of the policing and tax-collection services of the commune, and the gentry wanted cheap labor, which was to be guaranteed by inadequate land allotments to the commune.

A heavy tax burden, by itself, would not be expected to cause a general decline in rural living standards. If land allotments had gone directly to peasant families and the communal form had been dropped, those peasants with the best farming skills would eventually have bought out other peasants. A private agriculture based on medium-scale units would have emerged along with the more viable estates. Labor would have naturally sought out its highest return, and for many peasants this would have meant giving up their land and working as farmhands, in the factory, or in rural artisan activities.

The retention of communal agriculture, according to Gerschenkron, made western-European-type agricultural development impossible. The restrictive features of the commune were too strong. The Emancipation Act of 1861 required that peasant families pay off fully their mortgage responsibilities before withdrawing their land from the commune. The Emancipation Act failed to create a viable capital market for peasant land purchases, which would have allowed peasants to pay off their mortgages. Even if a capital market had existed, the peasants’ debt initially exceeded the capitalized value of the land. Paying off principal was not a viable option for the peasants in the first decades after the emancipation, nor would it have made much business sense.

The formal rules of the commune did not encourage productivity improvements. If a peasant family made land improvements, its investment might benefit another family at the next periodic redistribution. Joint responsibility for debts created a giant “free rider” problem. The more industrious peasant families, theoretically, had to pay the debts of laggards.

Key cultivation decisions, such as when to plant and when to start joint improvement projects, were left up to village elders, who often won elections by offering vodka to their supporters. The peasant families who sent adult members to the city stood to lose land. Periodic redistributions were based on the number of adult family members, so the migration of a family member to the city would reduce the family’s claim to land.

Because of natural differences in productivity and location, the equity-minded commune could not consolidate landholdings. Instead, peasant holdings were composed of strips of land located in different areas of the commune. Strip farming held down productivity.

According to Gerschenkron, the retention of a communal form of agriculture, overburdened by debt, caused the growth of agricultural output to fall short of the growth of agricultural population. Gerschenkron calculated that per capita wheat and rye available for domestic consumption in the late 1890s was lower than in the early 1870s.11 Other indicators of the agrarian crisis were the growth in peasant tax arrears and rising land prices and rental rates.

The strongest and apparently most compelling evidence of an agrarian crisis was the well-documented existence of rural poverty in Russia. Rural poverty was chronicled by the Vluev Commission in the 1870s and by the numerous zemstvo studies of peasant consumption and wealth holdings. The terrible famine of the early 1890s was followed by famines in 1897 and 1901.

In the Gerschenkron model, communal agriculture eventually strangled industrialization. Restrictions on labor mobility starved industry of labor and forced Russian industry to use capital-intensive factor proportions. The exhaustion of the peasantry created political instability. Communal agriculture depressed agricultural productivity and deprived the Russian economy of agricultural raw materials. The agrarian crisis kept the peasant consumer from the market, forcing the Russian state to be the main purchaser of industrial goods.12

The civil unrest of 1905 forced the Russian leadership to introduce meaningful reform, in the form of the Stolypin reforms. These reforms cancelled peasant indebtedness and gave peasant families the right to with-
draw their land from the commune. The Stolypin reforms came too late. The outbreak of World War I was followed by the October Revolution, which ended the chances of a prosperous private agriculture in Russia.

Agricultural Performance and the Agrarian Crisis

The neatness and convenience of Gerschenkron's agrarian crisis hypothesis have made it a part of the received doctrine on prerevolutionary Russia. It provides an apparently logical explanation of the major political event prior to October 1917—the 1905 revolution. It is a point of view that can draw support from Marxist and Western scholars alike. For this reason, the agrarian crisis hypothesis remains firmly entrenched in most standard histories of prerevolutionary Russia.

Much of the discussion of the agrarian crisis has not been based on direct evidence of rural living standards. Instead, indirect evidence such as peasant arrears, excise tax payments, rising land rents, and accounts of rising poverty have been cited to prove the existence of an agrarian crisis.¹³

The most compelling evidence of an agrarian crisis would be countrywide declining rural living standards. If real per capita rural income was indeed dropping or stagnant over the decades preceding the 1905 revolution, the agrarian crisis hypothesis would appear justified.

It is impossible to estimate a comprehensive index of rural real per capita income for the period 1860–1905. The conceptual difficulties and data problems are simply too great. In the end, one must rely on more partial indicators of rural living standards.

The best available data are for grain production and technical crops.¹⁴ Reliable livestock, dairy, hunting, fishing, and vegetable production statistics are scarce as are data on peasant purchases in retail markets. Moreover, data on peasant earnings in nonagricultural pursuits is sketchy.

The available data allow three approaches to test the agrarian crisis hypothesis. The first is to use aggregate data (agricultural output, consumer goods output). Second, the wealth of data on grain production, sales, and exports can be used to draw inferences concerning peasant living standards.¹⁵ The major drawback is that grain products accounted for only 50 percent of retained farm consumption at the end of this period.¹⁶ The third approach is to use data on the real wages of hired agricultural workers.¹⁷ Presumably, real wage trends would reflect trends in rural living standards.

Aggregate Output

The national income figures cited in Chapter 2 provide some insights on the agrarian crisis. Agriculture accounted for 85 percent of the Russian population and for 75 percent of the Russian labor force at the turn of the century. It is therefore unlikely that trends in rural real incomes would differ substantially from the economy as a whole. For urban incomes to grow much faster than rural incomes in the long run, severe restrictions on rural-urban migration would have to be present to prevent a narrowing of wage differentials.¹⁸

As noted in Chapter 2, the growth of real per capita income in Russia was comparable to that in other countries over the period 1861–1913. If one concentrates on the “industrialization era” (the 1880s and 1890s), Russia's growth of per capita output was comparable to western Europe's during the supposed peak of the agrarian crisis. In a predominantly agricultural country, any secular decline in rural per capita income would almost inevitably show up as a decline in per capita national income. If the national income figures of the previous chapters are to be believed, they provide no evidence of a countrywide agrarian crisis prior to the turn of the century.

Agricultural Production

The most comprehensive study of Russian agricultural production over the 1861–1913 period was done by Raymond Goldsmith in 1961.¹⁹ Goldsmith used data from the fifty European provinces of Russia and hence omitted the faster growing periphery areas. Moreover, the Goldsmith series were for gross agricultural production rather than net production. Insofar as Russia began this era with exceedingly high ratios of seed grain to grain output, net growth would have been higher than growth of gross agricultural production.²⁰ Accordingly, the Goldsmith series represent a conservative estimate of Russian agricultural output.

The Goldsmith series (Table 3.1) reveal that per capita agricultural output was probably stagnant between the early 1870s and early 1880s, but grew substantially on a per capita basis from the onset of the industrialization era in the 1880s through the first five years of the twentieth century and resumed its growth after the unrest of 1905.

Goldsmith fails to provide support for the agrarian crisis hypothesis. Both agricultural and factory production were growing faster than the population from the 1880s to 1904, albeit with considerable annual fluctuations.

As aggregate figures, the Goldsmith data tell us little about regional trends or about the distribution of this output between the estates and peasant households. It is unlikely for an agriculture that was growing on a per capita basis not to have this growth shared by the majority of the rural population. Peasant agriculture was the dominant form of agricultural production during the late tsarist period. Between 1885 and 1913 estate agriculture's share of cultivated land fell from 30 to 25 percent, while the shares of peasant allotments and privately held peasant land rose from 60
to 66 percent. These percentages probably underestimate the relative share of peasant households because a large portion of gentry land was leased to peasant families.

The alternative agricultural production series for the 1885–1913 period that I present in Table 3.2 corrects for the two major deficiencies in the Goldsmith series. Table 3.2 includes the non-European provinces and adjusts for the decline in the seed-output ratio. For these two reasons, it yields agricultural growth rates higher than Goldsmith’s.

The author’s results confirm Goldsmith’s basic result: that there was substantial per capita growth during the two decades preceding the 1905 revolution. From 1883 to 1901 agricultural output grew at 2.55 percent per annum—a rate double the 1.3 population growth rate.

A third source of aggregate evidence for the twenty years leading up to the 1905 revolution is an index of per capita output of consumption goods, prepared but never published by the prominent Russian statistician V. E. Varzar.

Varzar’s index consists of physical output series weighted by 1913 prices (see Table 3.3). It includes consumer goods such as grains, animal products, and textiles, and some producer goods such as pig iron and copper.

### Table 3.3

<table>
<thead>
<tr>
<th>Period</th>
<th>Value of Production (in millions of rubles)</th>
<th>Per Capita Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>1887</td>
<td>4298</td>
<td>48.0</td>
</tr>
<tr>
<td>1904</td>
<td>7057</td>
<td>60.6</td>
</tr>
</tbody>
</table>

Source: Maskov, Kriticheskiy analiz burzhuaznykh statissticheskikh publitsatii, 459.

The Varzar index shows a 26 percent increase in the real per capita output of consumer goods between 1887 and 1904 (a 1 percent annual rate of increase). Insofar as the rural population accounted for 85 percent of the total population, simple arithmetic rules out the possibility that these increases in real per capita consumption would have been restricted to the urban population alone.

In sum, the available agricultural production series suggest that agricultural production grew more rapidly than the rural population did between the 1880s and 1905. Both series grew at circa 2.5 percent per annum. According to both series, agricultural output was growing at around 1 percent per capita. The available agricultural output series do not suggest declining output per capita in agriculture. Instead, they point to a substantial growth of per capita agricultural output when cumulated over twenty years. Extraordinary upward biases would be required to yield declining per capita output.

### Agricultural Exports

The forcing of “hunger exports” from the rural population has been cited as another indicator of the agrarian crisis. The “hunger exports” proposition argues that an increase in agriculture’s output per capita could still have been consistent with declining rural living standards. The increase in grain exports recorded during this period was a sign not of rising prosperity but of the peasants’ scramble to meet tax obligations.

Grain export statistics (which are the most reliable statistics cited in this chapter) reveal that grain exports did indeed grow more rapidly than grain output during this period. Between 1884 and 1904 grain exports grew at an annual rate of 3.5 percent, as compared to a growth rate of grain output of 2.5 percent. The ratio of grain exports to grain output therefore rose at an annual rate of around 1 percent over these two decades.
Do increasing grain exports mean that peasants were being “forced” by oppressive taxes to part involuntarily with their grain production and thereby suffer declines in their standards of living? By marketing grain, peasants were more likely exchanging cash crops for manufactured goods and other farm products. Such exchanges, if voluntary, raise, rather than lower, standards of well-being. The question is therefore: Were such exchanges voluntary?

It is doubtful that the Russian state possessed sufficient power in the countryside to force peasants to part involuntarily with their output. The evidence on tax arrears suggests that peasants treated direct tax obligations rather casually. “Fixed” tax payments were positively correlated with agricultural incomes. When harvests were good and prices were high, the peasants paid their taxes. When harvests were bad and prices were low, they did not.

It is hard to imagine the peasant community marketing grain in face of hunger in order to meet direct tax obligations. The state’s reliance on indirect taxes supports the proposition that peasants could not be forced by direct taxes to market output against their wishes.

Agricultural Wealth

A further indicator of rural living standards is the capital wealth of the agricultural population. The real capital stock of a farm population consists of its livestock herds, farm equipment, inventories, and farm structures. Unfortunately, the simplest indicator of rural wealth—livestock—is subject to a wide margin of error in tsarist statistics. The official series on livestock gathered by veterinary authorities and the Ministry of Agriculture are considered unreliable, and hence we cannot determine conclusively whether per capita livestock holdings were rising between the 1880s and 1904.

Two studies that have been undertaken of livestock herds come to very different conclusions.28 Depending on which one we use, livestock herds could have fallen slightly or remained constant on a per capita basis between 1885 and 1905.

We have better data on other forms of real capital wealth in Russian agriculture. Available estimates of the agricultural capital stock are provided in Table 3.4. They show that the agricultural capital stock was growing more rapidly than farm population between 1890 and 1904. This conclusion holds irrespective of which series is used for livestock herds.

Rural Living Standards

National income, agricultural production, and agricultural capital stock all point to per capita increases between the 1880s and 1904. Such series, however, do not shed light on regional and household distributions. It is possible, for example, for one agricultural region to experience declining per capita output while the aggregate series is growing per capita. It is also possible for one agricultural group, say small landholders, to experience declining per capita output while the aggregate series grows.

We cannot break down the agricultural series between the estates and peasant farms. It is important to the agrarian crisis debate, however, to demonstrate that capita growth was shared by peasant farmers and was not limited to estate agriculture.

Grain retained by peasants for their own consumption (given Adam Smith’s adage about the demand for food being limited by the capacity of the stomach) should roughly indicate the farm population’s consumption of grain products. Peasant budget studies show that grain made up a substantial portion of the peasant family’s budget and, hence, grain consumption serves as a key indicator of peasant real income.

Figures on food grains retained (consumed) by the farm population are recorded in Table 3.5. Between 1885–89 and 1897–1901, the constant-price value of grain products retained by the farm population rose by 51 percent, while the rural population increased by 17 percent. Grain consumption on the farm grew three times faster than the rural population.

Table 3.5 shows a changing composition of retained grain products in favor of the “luxury” grain, wheat. In the 1880s wheat was primarily produced for the market, and rye was consumed by the peasant family. By

<table>
<thead>
<tr>
<th>Year</th>
<th>Wheat</th>
<th>Rye</th>
<th>Ale</th>
<th>Potatoes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1885–89</td>
<td>154 (100)</td>
<td>551 (100)</td>
<td>113 (100)</td>
<td>65 (100)</td>
<td>883 (100)</td>
</tr>
<tr>
<td>1897–1901</td>
<td>44 (223)</td>
<td>649 (118)</td>
<td>168 (149)</td>
<td>171 (263)</td>
<td>1322 (151)</td>
</tr>
</tbody>
</table>

Source: Gregory, “Grain Markets,” 147.
the turn of the century peasant families were consuming significant portions of their wheat crops—a fairly clear sign of rising per capita income.

RURAL WAGES

Tsarist statistical authorities compiled considerable data on the wages of hired agricultural workers. Much of this data has been summarized by S. G. Strumilin.29 Agricultural wages adjusted for inflation also provide evidence on the existence of an agrarian crisis. It would be highly unlikely for real agricultural wages to rise while rural real incomes generally fell.

The Strumilin wage data apply to the average wages of hired farmhands for the fifty European provinces. Hence, they are averages that cover most hired agricultural workers. After adjustment for inflation, Strumilin finds that the average daily real wage of hired farm workers rose by 14 percent between 1885–87 and 1903–5. Again, we find no evidence of an economywide decline in agriculture. Strumilin, as a prominent Gosplan economist, would have had no vested interest in producing such a result.

An impressive array of evidence thus supports the proposition that postemancipation Russian agriculture was not deteriorating. Both agricultural output and grain consumption point to the fact that the output and consumption of agricultural goods rose faster than did rural population from the early 1880s to 1905. Varzar’s data on per capita consumption fail to support the view of declining rural living standards. Real agricultural wages were rising from the early 1880s to 1905. In fact, none of the cited series supports the basic propositions of the agrarian crisis.

A Dual Economy?

Postemancipation agriculture grew on a per capita basis. Perhaps its growth was so slow compared to industrial growth that, in relative terms, it gave the impression of crisis. Perhaps postemancipation agriculture could be characterized as a dual economy, consisting of a backward and primitive peasant agriculture and an advanced industrial economy.

For such a dual economy to exist, there would have to be a strong mechanism for limiting the flows between the two sectors, particularly flows of population and labor force. The dual economy thesis is based, in part, on the notion that the emancipation placed such severe restrictions on mobility that large income differentials could emerge between agriculture and industry.10 In this way, the farm population would be forced to shoulder the burden of industrial investment.

To find evidence of a dual Russian economy one can look at urban and rural living standards and relative agricultural-industrial productivity. In Table 3.6, data are assembled on growth indexes of “urban” and “rural”

<table>
<thead>
<tr>
<th>Year</th>
<th>Urban Consumption</th>
<th>Rural Consumption</th>
<th>Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>1885—89 to 1889—93</td>
<td>1.2</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>1889—93 to 1893—97</td>
<td>5.7</td>
<td>5.9</td>
<td>11.9</td>
</tr>
<tr>
<td>1893—97 to 1897—1901</td>
<td>5.7</td>
<td>1.6</td>
<td>3.4</td>
</tr>
<tr>
<td>1897—1901 to 1901—1905</td>
<td>2.9</td>
<td>3.1</td>
<td>2.9</td>
</tr>
<tr>
<td>1885—89 to 1897—1901</td>
<td>3.2</td>
<td>2.7</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Source: Gregory, Russian National Income, Table 6.2.

real consumption. Needless to say, these two indexes are inexact. The urban index assumes that all retail sales were to urban residents, and the rural component includes only retained farm products and rural housing services.

The two indexes on urban and rural real expenditures fail to reveal a significant divergence between urban and rural real consumption trends. Real rural consumption growth is likely underestimated due to the allocation of all retail sales to the urban population. Accordingly, the growth of per capita consumption was not limited to the urban population alone. As noted above, in a country dominated by rural population, arithmetic rules out the possibility of substantial per capita increases that exclude the rural population.

The relative rate of growth of agricultural labor productivity in Russia and other countries was discussed in Chapter 2. A dual Russian economy would be revealed by low relative rates of growth of agricultural labor productivity vis-à-vis other countries. As Table 2.4 showed, Russian relative agricultural labor productivity growth did not stand out as being extraordinarily low relative to other countries. Although Russian agricultural productivity lagged behind industrial productivity, this phenomenon is characteristic of modern economic growth. The extent of the Russian lag appears not to have been exceptional by western European standards.

How Did Communal Agriculture Actually Work?

The aggregate evidence suggests that Gerschenkron underestimated the vitality of post-emancipation Russian agriculture.31 Gerschenkron, however, makes a convincing case of the nonviability of Russian communal agriculture in the postemancipation period. The postemancipation commune restricted labor mobility, dampened incentives, and created inefficient strip farming.
The Flexibility of the Commune

In its legal form, the Russian commune, both before and after the emancipation, could not have been set up in a worse form for raising productivity. Periodic redistribution, strong equity principles, and collective responsibility, if strictly observed, would have strongly impeded productivity improvements. The real issue, however, is not the formal rules of the commune, but its actual operating arrangements. Scholars who believe that the commune operated according to its legal rules implicitly accept the populist arguments of A. V. Chayanov that Russian peasants did not act as rational economic agents. Chayanov believed that they operated according to an unusual set of rules that caused them to sacrifice their priority to equity considerations within the family and commune.

The alternative approach would be to assume that Russian peasants operated according to "rational" neoclassical economic rules. They sought out profit opportunities and acted as utility maximizers. If this assumption is correct, then the neoclassical model would predict that many of the formal rules of the commune would have been overridden by considerations of economic rationality.

If the commune indeed distributed land in a manner uncorrelated with peasant farming skills (such as the initial emancipation distribution), there would have been pressure for redistribution among peasant households based on informal agreements and side payments. The more able farmer would have offered terms to cultivate the less able peasant's land that would increase the welfare of both parties. A mutually beneficial exchange would have given less able farmers the opportunity to employ their labor elsewhere. Side payments could have varied from the use of draft animals to a share of the crop to a money payment.

With a profit-minded peasantry, it would be difficult to envision Russian agriculture not taking advantage of these opportunities. The initial distribution of land, therefore, would have had a much stronger effect on the distribution of income within peasant agriculture than on its productivity. In effect, an equal distribution of land would have resulted in the eventual redistribution of income from the more able to the less able peasants.

The historical literature has yet to offer the necessary case studies of the actual operation of the Russian commune. A close analysis of the commune might show a strong pattern of informal land and wealth redistributions based on mutually beneficial side payments. A land distribution based on equity rather than productivity need not detract significantly from long-run productivity as long as a system of informal side payments redistributes land to its most productive use.

The restrictive feature of the commune emphasized strongly in the Gershenkron model was the inability (and unwillingness) of adult members of the commune to leave their land for alternate employment. A permanent departure of an adult family member would have reduced the family's claim to land at the next redistribution. The neoclassical model, however, predicts that the decision to leave the commune would require a comparison of lifetime family earnings (assuming the maximizing unit is the peasant family) with or without the permanent departure of an adult family member from the commune.

The decision to leave would depend positively on the discounted value of the lifetime earnings outside the commune and negatively on the discounted value of the extra earnings from an eventual higher land allotment. If earnings outside the commune were relatively high, the time between redistributions long, or the link between adult family size and the redistribution weak, then the hold of the commune on departing family members would be limited.

Studies of internal passports, the finding of weak rural ties of the urban labor force, the rapid growth of the industrial labor force, and the vast internal migration of the Russian population after 1861 prove that the commune's hold on departing family members was weak. In fact, the growth of Russia's industrial labor force (based on flows from the countryside) was rapid by international standards during this period.

One surprising feature of the commune's limited hold on departing members was that this weakness was already apparent in the eighteenth century. The notion of a permanent attachment to the commune by those who had left was more romanticized than real.

If indeed a peasant family's long-run landholdings depended on family size, then fertility might be higher in those areas in which land was periodically redistributed. This question would have to be studied empirically by relating regional fertility and marital rates to chronicled land redistribution practices. The empirical evidence is mixed because the direction of causation between per capita landholdings and marriage is uncertain and because patterns were dictated by longstanding customs and practices that vary by region of the country (for example, the more Western pattern of demographic behavior occurred in the Baltic provinces).

In a neoclassical framework, the relationship between completed family size and land redistribution practices is complex. The rearing of a child would have its costs and the payoff in terms of a larger family allotment would be delayed until the child became an adult. It is also unclear whether the peasant family would maximize per capita family output or total output. If the desire was to maximize per capita output, the calculation would become very complex because the family would have to determine whether the eventual marginal product of the new family member would be greater than the average product, hence raising per capita family output.

Another open question is the extent to which the postemancipation
Russian commune actually implemented its formal egalitarian principles. If indeed a peasant family could be deprived of its improved land, this would have placed a damper on productivity improvements. Neoclassical theory would predict that redistributions would be spaced far apart (giving the proprietor a de facto long-term lease), and that when they took place they would not seriously disrupt the existing distribution of land wealth.

If the existing distribution was based on side payments, then the informal side payment could be continued after the redistribution. Presumably, the elected village elders would be chosen from the more experienced and successful farmers, and these elders would be unlikely to penalize a family who had done well and carried a disproportional burden of the commune's tax obligations. A rational commune government, pressured to meet its tax obligations, would recognize the free-rider problem fostered by egalitarian redistributions.

Analysis of these issues requires being able to look inside the governance of the commune to see how these matters were dealt with in practice. One indirect indicator of the commune's adherence to a purely egalitarian policy is the extent to which the tax burden was distributed equally among commune members. Some evidence suggests a distribution of the tax burden according to ability to pay. The acceptance of this principle would have made it difficult to pursue a purely egalitarian redistribution policy.

The Russian commune was probably much more flexible in its actual working arrangements than its formal rules suggest. Throughout its history, Russian serf and communal agriculture proved to be a relatively flexible institution. In the eighteenth century it was flexible enough to allow serf-owning serfs and serf industrialists, and it did not prevent the settlement of a vast frontier. The emancipation's removal of feudal obligations should have increased rather than reduced this natural flexibility.

The Tax Burden

The inflexibility of Russian communal agriculture is not the only cause of the purported agrarian crisis. A second argument is that the peasant's tax burden destroyed incentives and deprived peasants of the opportunity to accumulate capital. The origin of the unmanageable tax burden was the overvaluation at the time of the emancipation of peasant land values relative to the capitalized value of net income. The resulting debt burden strapped the tax-paying capacity of the peasantry.

Left with less land than before the emancipation, peasants scrambled to acquire additional land. This scramble for land drove up land prices (creating a "land hunger"), which made it even more difficult for peasants to meet their tax obligations.

The first point to note is that long-run land prices should equal the present value of anticipated earnings net of taxes from the land. For land prices to rise, either farm prices or productivity would have to rise, raising present values of income from land after payment of tax obligations. Rising land prices are typically taken not as a sign of declining farm income but of rising farm income.

At a microeconomic level, rising land prices and rents would, of course, be perceived by individual peasants as an unpleasant rise in the cost of doing business, and peasants with less farming skills and less accumulated capital would find themselves priced out of land markets. Yet, on average, rising land values mean a rising effective demand for farmland that was being exercised by one segment of the peasant population. The distribution of land between peasant and gentry shifted in favor of peasants during this period. Therefore, a considerable portion of the effective demand for land was being exercised by the peasant population.

The massive research of Kovalchenko and Milov confirms the theoretically expected relationship among agricultural prices, land prices, and land rents during the 1861–1900 period. The Kovalchenko and Milov data underscore the dangers of generalizing from isolated regional data. The enormous regional disparities in output prices, land prices, and rents throughout this period make it possible to draw virtually any conclusion simply by selecting a particular region that confirms the desired picture.

Kovalchenko and Milov avoid these pitfalls by estimating the general functional relationships that emerge from the regional data. They confirm that land prices depended positively on agricultural prices and that land rents were correlated with land prices. Thus land prices rose rapidly when agricultural prices were rising rapidly, and land prices fell (or failed to rise rapidly) when agricultural prices were falling (or not rising rapidly).

The Kovalchenko and Milov study also reveals that land prices had risen by 1879 to a level generally higher than the above-market prices on which the redemption payments were based. Although Russian peasants entered the emancipation era saddled with debt based on overvalued land prices, this disadvantage was wiped out within less than twenty years.

According to Anflov's study, direct taxes accounted for about 6 percent of peasant income in 1901. It would be hard to argue that direct taxes averaging 6 percent of peasant income represented ruinous taxation. Data from the state bank also show that peasant tax arrears rose substantially between 1866 and 1881. It appears that peasants tended to adjust their tax payments to trends in grain prices, raising their arrears during periods of falling prices and becoming more conscientious debtors during periods of rising prices. This is not an unexpected pattern in a world in which debt payments are fixed in nominal terms and prices are subject to radical fluctuations.

The most important fact argued against the ruinous taxation theory is
that the secular trend in land prices was upward. As long as land prices represented the present discounted value of the earnings stream from the land, rising prices indicate that rising productivity and expected future prices more than compensate for the tax burden. Another important point to emphasize is that land taxes should not affect agricultural output and productivity. As Henry George taught, land taxes affect only the distribution of income by redistributing land rents from land owners to the state. In this sense, land taxes should not affect agricultural output and productivity.

LESSONS FOR THE PRESENT

Property rights in agriculture remain one of the most sensitive questions for the present leadership of the former Soviet Union. This leadership continues to cite two reasons for not returning to private peasant agriculture. The first is the failure of private agriculture under the tsars. The Soviet literature continued to emphasize the deep agrarian crisis that characterized Russian postemancipation agriculture. The second reason is the failure of private peasant agriculture during the NEP period of the 1920s—a matter that will be discussed in Chapter 6.

This chapter shows that, despite its institutional problems, Russian agriculture was progressing at normal or even above normal rates (as judged by the experiences of western Europe) in its last thirty years. The empirical evidence does not support the notion of a deep agrarian crisis. In fact, on an economywide basis, Russian agriculture was growing per capita, peasant living standards and real wages were rising, and exports were booming. The agrarian crises that did exist were limited to the eroding traditional agricultural regions.

The experiences of the tsarist period, therefore, do not provide ammunition for the anti-private-agriculture arguments of the present. The levels of agricultural output and affluence achieved by 1913 probably were not achieved again until after World War II.

Chapter 4

STATE POLICY, THE GOLD STANDARD, AND FOREIGN CAPITAL

This chapter is about the Russian state and Russia’s integration into the world economy prior to the revolution. As the leaders of the former Soviet Union look to the outside world for capital and technical assistance, it is timely to review the role of the world economy in Russia’s economic development. And as Russia develops a new commercial legislative framework and a tax system, it is also timely to consider the framework that was in place on Russian territory in 1917.

On the eve of the World War I, Russia was the world’s largest debtor. Its currency was backed by gold; the gold ruble exchanged at a fixed and stable rate with the currencies of the other industrialized countries. The stocks and bonds of Russian corporations, state governments, and the imperial government traded actively in financial centers not only in Moscow and Saint Petersburg but also in London, Paris, and Amsterdam. The multinational companies of the late nineteenth and early twentieth centuries—the Singer Company, Siemens, and Krupp—had branches in Russia. Although foreign companies operating in Russia complained about corruption and the difficulty of obtaining necessary government licenses, the commercial laws of Russia appeared to provide sufficient stability to attract direct investment into Russia.

In international markets, Russia exchanged its timber, wheat, oil, and textiles for machinery, garments, and automobiles. Financial crises in Paris and London affected financial markets in Moscow and Saint Petersburg. Well-heeled Russians were no strangers to the capitals of western Europe, spending their time not only in commerce but in recreation at the famous spas of Europe.

THE STATE, INDUSTRIALIZATION, AND THE WORLD ECONOMY

Just as Alexander Gerschenkron set the Western research agenda for Russian postemancipation agriculture, so he dictated the course of research on the Russian state. The Russian state’s industrialization policy, often called the Witte system after Sergei Witte, the minister of finance from 1892 to 1903, played a prominent role in determining the course of Russian industrialization and its opening to the West.¹