Russian Economic History

Lecture 1

Econ 472

Fall 2020
Introduction

- Why Study Russia?
  - The great economic and social experiment of the 20th century
  - How did Russia go from backwards to the first country to launch satellites? To nuclear weapons in one generation?
    - Russia was the last country in Europe to end serfdom and the first country in the world to launch a man in space
  - How did the Soviet Union become a superpower yet remain unable to produce adequate and sufficient consumer goods, even housing, for its citizens?
  - How could Russia and the Soviet Union be a literary superpower, a scientific leader, yet rank incredibly low internationally in personal freedom and personal security?

- Russia is not a normal country
Overview

- **Russian Characteristics**
  - Russia is the largest country. It is the coldest country. More of its population lives in extremely cold climates than anywhere else.
  - Russia started as a trading country in Kiev, riverine trade.
  - Muscovy: Importance of resource dependence.
  - Does cold climate explain Russia’s peculiar history?
    - 1990: the population of Siberia and Far East reached 25% of Russian Federation’s total. Population of Canadian Yukon and North-West territories, comparable in climate to Siberia, is only 0.3% of the total.
  - Serfdom much later than anywhere else.
Russian Empire

Russian Empire, 1913
Real GDP per capita in the Long Run
Markevich-Harrison Diagram

Source: Markevich and Harrison, JEH, 2011
Overview

Argument

- The Russian economy has been shaped by the rents from its natural resources, mainly oil and gas.

- Resource abundance had profound effects on Soviet industrialization.

- Russia might have evolved like any resource abundant economy, but the Soviet experience had a profound effect.

- This transformation of the economy created addiction to resource rents, which primarily derive from oil and gas production.

- Resource abundance has had an important impact on the Soviet experiment, and this is important for drawing lessons about Soviet economic history.
Early Development

- Russia’s export of furs began in the middle ages and fueled the growth of Kiev, Novgorod, and other cities of the early Rus.

- The exploitation of Siberia was driven by the abundance of beaver pelts, until the exhaustive exploitation of this resource led to near extinction. Indeed, the primacy of Muscovy owes in large part to its leadership in exploiting Siberian fur resources.

- Not just furs
  
  "In 1740 Russia produced 31,975 metric tons of cast iron, England 20,017, France 25,970 and Germany only 17,691. It was only from 1805 that Russia, in the production of cast iron fell behind England, from 1828 behind France and the United States, and from 1855 behind Austria and Germany." Baykov (1974: 7)
Question

- Why did Russia squander its lead?
- Why was Russia behind by the end of the Nineteenth Century?
- Need to talk about serfdom, which came late and stayed too long in Russia
Some characteristics of the Empire

- Population more than doubled from 161 to 1914
- Growth was primarily in rural areas. Urban population grew. From 1811 to 1913 6.6% to 14% of total population
- Very multinational. By 1897 Russian empire had 126 million people with 110 nationalities speaking 54 languages
- Although Russian orthodoxy dominated, expansion of territory meant that Catholics, Protestants, Moslems, and Buddhist populations also were important. Jews were concentrated in the Pale of Settlement in Russia and Poland.
Serfdom

Domar on Kliuchevsky:

*The economist would recast Kliuchevsky’s account as follows. The servitors tried to live off rents (in one form or another) to be collected from their estates. But the estates could not yield a significant amount of rent for the simple reason that land in Russia was not sufficiently scarce relative to labor, and ironically, was made even less scarce by Russian conquests. The scarce factor of production was not land but labor. Hence it was the ownership of peasants and not of land that could yield an income to the servitors or to any non-working landowning class.*
Serfdom
Geography of Serfdom: Serfs in 1858 as a Share of Rural Population
Dynamics of Agricultural Productivity in the Russian Empire

- Average grain productivity, Russian empire

The abolition of serfdom
The Time-Varying Effect of Emancipation: Grain Productivity
Russian Empire

Emancipation Effect on Industrial Development

The Time-Varying Effect of Emancipation: Industrial Output

log industrial output
(Relative to the year 1795)

The Time-Varying Effect of Emancipation: Industrial Output

Coeficient

Time

1849  56,58  82,83  85  1897
Russian Empire
Emancipation Effect on Nutrition

The Time-Varying Effect of Emancipation: Draftees’ Height

Draftees’ height by province, cohorts 1853–1866
(Relative to cohorts of 1853–1854)
Late Russian Empire Economic Development

Leadership

Sergei Witte

Pyotr Stolypin
Late Russian Empire Economic Development

Major Project

The Trans-Siberian Railroad in the Early 20th Century

- Trans-Siberian Line via China
- Southern Branch via China
- Amur Line
- Ussuri Line

Russia

Map showing the Trans-Siberian Railroad with major cities and routes.
Late Russian Empire Economic Development
Trans-Siberian

Along the Coast of Lake Baikal
Late Russian Empire Economic Development
Population in Comparative Perspective
Late Russian Empire Economic Development

National Income

B. National Income (Million 1913 Rubles)
and Per Capita Income (1913 Rubles)

1861

1913

National Income

Per Capita Income

National Income

Per Capita Income

Russia

U.K.

France

Germany

U.S.

Netherlands

Norway

Sweden

Italy

Austria-Hungary

Spain
Late Russian Empire Economic Development

Infant Mortality

Infant Mortality, Birth and Death Rates, 1861 and 1913

Infant Mortality

Birth and Death Rates, 1861 and 1913
## Late Russian Empire Economic Development

### Structural Change

<table>
<thead>
<tr>
<th>Country</th>
<th>Initial Date of Modern Economic Growth</th>
<th>National Income, 1965 $ at Initial Date</th>
<th>(A) Agriculture Initial Date</th>
<th>(A) Agriculture Date + 30 Yrs.</th>
<th>(B) Industry Initial Date</th>
<th>(B) Industry Date + 30 Yrs.</th>
<th>(C) Services Initial Date</th>
<th>(C) Services Date + 30 Yrs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russia</td>
<td>1883–87</td>
<td>260</td>
<td>57</td>
<td>51</td>
<td>24</td>
<td>32</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1786–85</td>
<td>227</td>
<td>45</td>
<td>32</td>
<td>35</td>
<td>40</td>
<td>20</td>
<td>28</td>
</tr>
<tr>
<td>France</td>
<td>1831–40</td>
<td>242</td>
<td>50</td>
<td>45</td>
<td>32</td>
<td>35</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>Germany</td>
<td>1850–59</td>
<td>302</td>
<td>32</td>
<td>23</td>
<td>33</td>
<td>43</td>
<td>35</td>
<td>24</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1865</td>
<td>492</td>
<td>25</td>
<td>20</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Denmark</td>
<td>1865–69</td>
<td>370</td>
<td>47</td>
<td>29</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Norway</td>
<td>1865–69</td>
<td>287</td>
<td>34</td>
<td>27</td>
<td>32</td>
<td>35</td>
<td>34</td>
<td>37</td>
</tr>
<tr>
<td>Sweden</td>
<td>1861–69</td>
<td>215</td>
<td>39</td>
<td>36</td>
<td>17</td>
<td>33</td>
<td>44</td>
<td>31</td>
</tr>
<tr>
<td>Italy</td>
<td>1895–99</td>
<td>271</td>
<td>47</td>
<td>36</td>
<td>20</td>
<td>21</td>
<td>25</td>
<td>28</td>
</tr>
<tr>
<td>Japan</td>
<td>1874–79</td>
<td>74</td>
<td>63</td>
<td>39</td>
<td>16</td>
<td>31</td>
<td>21</td>
<td>31</td>
</tr>
<tr>
<td>United States</td>
<td>1834–43</td>
<td>474</td>
<td>45</td>
<td>30</td>
<td>24</td>
<td>39</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>Canada</td>
<td>1870–74</td>
<td>508</td>
<td>50</td>
<td>36</td>
<td>31</td>
<td>36</td>
<td>19</td>
<td>28</td>
</tr>
<tr>
<td>Australia</td>
<td>1861–69</td>
<td>760</td>
<td>18</td>
<td>21</td>
<td>31</td>
<td>30</td>
<td>51</td>
<td>48</td>
</tr>
</tbody>
</table>


*Note: Generally, the time spans covered by the Kuznets data exceed thirty years. In such cases the percentage changes are apportioned by the factor 30 divided by the number of years covered. Dash indicates data not available.*
### Late Russian Empire Economic Development

Agricultural Productivity relative to Industrial Productivity

<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.*
Late Russian Empire Economic Development

National Income Growth

<table>
<thead>
<tr>
<th>Sector</th>
<th>Output growth factor</th>
<th>Increased value added</th>
<th>Percentage of increased value added</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>2.04</td>
<td>5250</td>
<td>44.9%</td>
</tr>
<tr>
<td>Heavy industry</td>
<td>9.31</td>
<td>1457</td>
<td>12.5</td>
</tr>
<tr>
<td>Light industry</td>
<td>3.48</td>
<td>991</td>
<td>8.5%</td>
</tr>
<tr>
<td>Handicrafts</td>
<td>2.80</td>
<td>746</td>
<td>6.4%</td>
</tr>
<tr>
<td>Transportation/communications</td>
<td>5.88</td>
<td>974</td>
<td>8.3%</td>
</tr>
<tr>
<td>Construction</td>
<td>2.33</td>
<td>590</td>
<td>5.0%</td>
</tr>
<tr>
<td>Trade</td>
<td>1.89</td>
<td>771</td>
<td>6.6%</td>
</tr>
<tr>
<td>Government</td>
<td>3.03</td>
<td>379</td>
<td>3.2%</td>
</tr>
<tr>
<td>Housing</td>
<td>1.92</td>
<td>357</td>
<td>3.0%</td>
</tr>
<tr>
<td>Medical</td>
<td>2.70</td>
<td>79</td>
<td>0.7%</td>
</tr>
<tr>
<td>Domestic service</td>
<td>1.28</td>
<td>58</td>
<td>0.5%</td>
</tr>
<tr>
<td>Utilities</td>
<td>1.67</td>
<td>47</td>
<td>0.4%</td>
</tr>
<tr>
<td>National income</td>
<td>2.36</td>
<td>11698</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Late Russian Empire Economic Development

Terms of Trade in Imperial Russia

[Graph showing the terms of trade for agriculture and industry over the years 1890 to 1910.]
Late Russian Empire Economic Development

Earnings in the Countryside

Figure: Earnings in the Countryside

<table>
<thead>
<tr>
<th>Year</th>
<th>Peasants</th>
<th>Day Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1885</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1895</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1900</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1905</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1910</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Late Russian Empire Economic Development

Oil Production

**Early Russian and US Oil Production**

![Graph showing early Russian and US oil production](image-url)

- **US annual (000) barrels**
- **Russian annual (000) barrels**
- **Ratio of Russian to US production**
Graham’s Paradox

- Russia has had many innovators and innovations, but not great success from them.

- *Lonely Ideas*: The idea appears first in Russia but is developed elsewhere
  - Tula Gun Factory
  - Railroads
  - Lighting
  - Lasers

- Problem of commercial exploitation and lack of diffusion

- Why was technological development not sustainable?

- Russia problem: Czarist and Soviet and post-Soviet
Tula

- Tula armory produced rich ornamental guns that won awards.
- Master craftsmen at Tula resisted any innovation that would reduce their status to the ranks of the state peasants.
  - Similar to what happened at Harpers Ferry, but not Springfield.
  - In Tula most of the armorers worked at home.
  - For many, moving to the factory would mean becoming industrial employees instead of artists.
- Early success followed by failure to adapt to new technology: interchangeable parts.
- Czarist pressure from above and social pressure from below.
Some Causes

- Graham argues that Many Russian inventors and scientist show a common trait which he says is important. They think business is dirty.
  - "success in technology is just as much a matter of business acumen as it is technological brilliance."

- But he also argues that Autocrats distrust entrepreneurs

- Lomonosov’s diesel innovations, Sikorsky’s aviation

- Is it only a Soviet problem?
  - "This conclusion is unwarranted. Neither the tsarist government nor the Soviet one favored individual enterprise and private initiative, and neither provided an environment in which private investors could support talented innovators."
Causes

- Is it cultural?

- Mokyr:

  "Russia's uneasy and vacillating attitude toward Western culture and values is an intermediate case. While obviously suspicious of Western values and anxious to protect its Slavic culture, there were episodes in its history in which Russia made deliberative efforts to westernize. Much like other non-Western societies, the transfer was partial and spasmodic."

- But there is the scientific success and innovations appear

- Soviet command model worked against innovation,
  - But why the continuity across regimes?
What about Defense?

- Similar stories, early success not sustained
  - semiconductors, computers, space
- Defense sector was priority
- Lack of commercial opportunity for development
- Conflict with political imperatives for control
Role of resource abundance

Extractive institutions result of resource abundance

In rent abundant economy all wealth looks like rents
  - Russian phenomenon, accentuated in Soviet period

Rent management system develops to tax rents

Soviet system exacerbates this via addiction