

Asian Historical Statistics: Russia (Abstracts)

This volume presents long-term economic statistics for Russia for the period from 1860 to around 2015 as basic materials for the analysis of economic development, in accordance with the framework of the System of National Accounts. The research target “Russia” comprises three countries or territories that are geographically distinct and from different time periods: the Russian Empire, the Soviet Union, and contemporary Russia (Russian Federation). The Russian Empire included territories across Europe, Asia, and North America from 1721 until 1917. In this book we explore the economic growth of the Russian Empire between 1860, just before the liberation of the serfs, and 1913, leading into World War I. The Russian Empire was replaced by the Union of Soviet Socialist Republics (USSR), also known as the Soviet Union, which existed as a socialist state until 1991. Its largest republic was the Russian Soviet Federative Socialist Republic (RSFSR), also known as the Russian Republic. The Russian Federation, which includes the territory of the Russian Republic, has inherited all the external assets (credits and debits) of the former Soviet Union.

Introduction

Masaaki KUBONIWA and Kazuhiro KUMO

In the Introduction, we begin by clarifying the historical evolution of these specific territories in some detail. Second, we briefly summarize Chapters 1-9. Third, using results of estimates of historical statistics and related data, we provide some analytical examples. Lastly, we conclude with tasks that require further research.

The following analytical examples are included in this volume:

1. Russia’s population dynamics by territory are charted in a Figure, comparing them with population dynamics in the United States, Europe, and Japan. It is suggested that economic growth in the Russian Empire was driven by population growth rather than productivity development.
2. Russia’s long-term GDP and per capita GDP series in constant 2011 US dollars are presented in a Figure.
3. Annual GDP growth rates are presented in a Figure, showing the high volatility of growth, in particular during the Russian Empire.

4. Russia's dependence on foreign trade is analyzed for the period from 1885 to 2017. The development of foreign trade during the Russian Empire ended with the Soviet autarky (closed) economy. After WWII, Soviet dependence on foreign trade increased slowly. Following the oil shocks of the 1970s, foreign trade began to show rapid increases. After the collapse of the Soviet Union, Russia's dependence on foreign trade skyrocketed, due to the liberalization of foreign trade and currencies.

5. Russia's dependence on state finance is analyzed for the period 1885-2017. The Russian Empire showed steady economic development for 1885-1913 while the state ran a surplus for only a few years during 1860-1913. In the Soviet Union, dependence on the state budget showed marked increases. The Soviet Union experienced budget deficits during the period 1918-57 and budget surpluses during 1958-84. Beginning in 1985 budget deficits increased. After the collapse of the Soviet Union, budget deficits continued. In 2000, Putin's Russia showed a favorable budget surplus thanks to windfalls from higher oil prices. This situation continued until the summer of 2008. Because of falling oil prices and US sanctions, contemporary Russia continues to run budget deficits with a relatively large government.

6. Looking at Marshall's k for 1885-2017, in the Russian Empire $M0$ to GDP decreased from 14% in 1885 to 11% in 1913, while $M2$ to GDP doubled from 17% in 1885 to 35% in 1913. This can be seen as monetary deepening. In the Soviet Union $M0$ to GDP decreased until 1960 and then increased to 10% in 1987, whereas $M2$ to GDP showed rapid increases from 19% in 1937 to 32% in 1960, 62% in 1980, and 79% in 1987. This phenomenon, which occurred in a non-convertible currency economy, cannot be seen as monetary deepening. In contemporary Russia, $M0$ to GDP has stayed around 9% while $M2$ to GDP has shown large increases, reaching 46% in 2017. This indicates that Russia has been normalized.

7. Changes in Russian nominal industrial structures for 1913-2015 are shown at market prices or basic prices or factor costs. For an economy with growing agricultural subsidies, knowing whether the price system is market prices or basic prices is crucial to understanding its industrial structure.

8. What is the GDP of the oil and gas industry? This is a key issue in contemporary Russia, which has been vulnerable to fluctuations in international oil prices. For 2011, converting the official data to desirable data based on the 2011 benchmark input-output data, the true size of the oil and gas GDP at market prices is provided as about 20% of total GDP.

9. Long-term statistics on general price levels, wages, labor distribution ratios, and investment ratios are also briefly reviewed.

This introductory chapter concludes with several remaining issues, such as refining Russia's

long- term statistics of nominal and real GDP on the expenditure side and expanding the research to include the Russian Empire in the 18th century or even extending it to Muscovy (the principality centered on Moscow) in the 13th-16th centuries.

Chapter 1 Characteristics and Development of the State Statistics in Russia

Shinichiro TABATA

The state statistical systems of the Russian Empire (early 19th century-1917), the Soviet Union (1917-91), and the Russian Federation (1991-present) differ significantly. During the Soviet Union, we can distinguish three periods: from the Russian Revolution in 1917 to the 1920s, when a new statistical system emerged that would correspond to the socialist economic system that was being pursued ; the Stalin period (1930s to the first half of the 1950s), when a so-called Soviet-type statistical system and methods were established ; and the period after the mid-1950s, when the statistical system changed considerably.

Despite the differences among these periods, we can point to three common characteristics in the Russian and Soviet statistical systems. First, in most periods, a centralized statistical system functioned, in which censuses and statistical surveys were carried out by the central statistical organization, which took responsibility for statistical surveying as a whole. For much of the Stalin period, especially in industrial sectors, a decentralized system was established, where each ministry and agency compiled the statistics required for their work. In the extreme years of 1929-31, censuses and sample surveys were abolished. Second, in most periods except for the latest Russian Federation era, a system of reporting statistics was constructed based on information collected by regular reports from business entities. Only in contemporary Russia were sample surveys widely conducted for reporting purposes. Third, there is a rich trove of statistical resources prepared by administrative institutions in Russia, including from the period of the Russian Empire and the Soviet Union, and they have been well preserved.

Chapter 2 Population

Kazuhiro KUMO, Takako MORINAGA, and Yoshisada SHIDA

In this chapter we aim to (1) provide an overview of the statistical systems and methods of maintaining population statistics in the Russian Empire, the Soviet Union, and the Russian Federation ;

(2) provide population statistics in territorial units comparable to the Russian Federation

based on primary materials ; and (3) take a general view of long-term population dynamics from the late imperial era to the Russian Federation. There is a significant gap between previous research on the population during the Russian Empire and research that examines the period after the October Revolution ; few studies drew on primary data in investigating population figures of the imperial era.

First, we focus on the institutional background of maintenance of population statistics in the Russian Empire, and then examine the population statistics systems after the establishment of the Soviet government. In estimating population and collecting archival data, efforts were made to use primary materials consistently and to adjust figures for all the territories in accordance with those of the Russian Federation. Thus, this study provides fundamentally necessary information for investigating historical development processes in Russia.

Further, we highlight the role of structural factors and demographic waves, resulting from the tragic history of the 20th century, in shaping the natural population decline - often referred to as depopulation. These factors are often neglected in the general literature, which indirectly reinforces two widespread erroneous beliefs: first, the collapse of the Soviet Union was the main reason for the worsening demographic situation ; and second, the current depopulation is mainly due to low fertility.

Chapter 3 Labor

Yoshisada SHIDA, Yasushi NAKAMURA, Kazuhiro KUMO, Sadayoshi OHTSU, Tsuyoshi ISHIKAWA, and Takeo HIDAI

This chapter aims to present the long-term dynamics of labor - the most fundamental element of economic activity - being mainly based on officially published Russian statistical data. Our goal is to build a database that reaches as far into the past as possible, while adhering to the concepts and systems of modern labor statistics to the greatest extent possible. Because the object of our inquiry - namely, labor statistics gathered at the macro level - does not exist for the imperial era, we exclude this period from the analysis. We highlight differences in the systems between labor statistics in the Soviet era and the contemporary era, and compile a set of long-term statistics that straddle these two periods.

Chapter 4 Agriculture

Manabu SUHARA

In this chapter we discuss Russian agricultural statistics. Section 1 introduces an overview of agricultural statistics in Imperial Russia, and presents the results of calculations of agricultural production indices from this data. Sections 2 and 3 address agricultural statistics for the Russian Republic (RSFSR) during the Soviet era. Section 2 briefly reflects on Soviet agriculture and considers the significance of agriculture in the Soviet economy. The intent is to deepen understanding of the agricultural statistics of the Russian Republic that are introduced in Section 3. Section 3 shows the main agricultural statistics released by the Russian Republic statistical authorities in organized formats, and discusses related issues. Specifically, the first part of Section 3 provides statistics regarding agricultural production in the Russian Republic, and the second part presents the problems with Soviet Union (Russian Republic) official statistics as indicated by scholars in the West in particular. The third part addresses statistics related to the main forms of agricultural operations in the Soviet Union, such as *kolkhozy* and *sovkhozy*, and the fourth part summarizes statistics related to agricultural labor in the Russian Republic. Section 4 presents an outline of the changes in Russian agriculture and agricultural statistics since the collapse of the Soviet Union.

Chapter 5 Industry

Manabu SUHARA

Historical Russian statistics on industry are discussed in this chapter. During the century from the emancipation of the serfs to around 1960, Russia attained an impressive level of economic development, though growth was interrupted by the October Revolution, the Russian Civil War, and WWII. The mainspring of Russia's advancement was industrial growth. The mainly agrarian economy, in which the rural population accounted for about 85% of the total population at the end of the 19th century, underwent a complete change in structure. This Russian success, however, came to an end by the late 1950s and early 1960s. The mining and manufacturing industries, which had until then led the economy, lost vigor, and the industrial economy as a whole withered. This deterioration led to the collapse of the Soviet Union by the end of the 20th century and the start of systemic transformation to capitalism. In this chapter we look back at the history of Russia from the viewpoint of industrial statistics. In the first section, we offer a general view of industrial statistics in Russia under the Tsarist regime. Some estimates of production indices for industry in the Russian Empire are presented and compared. In the second section, production, labor, and capital statistics for Russian industry in the Soviet era are discussed, followed by the third section, in which changes in industrial statistics for Russia's new era are summarized.

Chapter 6 Money and Finance

Yasushi NAKANURA

The monetary and financial system during the Russian Empire was characterized by strong governmental influence ; nevertheless, Russia was moving slowly toward a standard market economy. The Soviet period disrupted this development, although the statism was carried over to the USSR. Socialist ideology insisted on the elimination of money, capital, and markets, and Soviet authorities tried to comply. Money was, however, never eliminated. The Soviet economic system was unable to solve the problem of managing fiat money (declared by the government to be legal tender) without a market in which monetary and financial information are generated and monetary and financial policies are exercised. The inability to manage fiat money resulted in low efficiency of fund use. The state bank gave bank loans creating the corresponding deposit money and bank notes: non-performing loans resulted in depreciation. After the mid-1960s, bank loans increased rapidly, using up almost all household deposits. Without the market, it was impossible to know how bank loans were performing and how much the ruble had depreciated. From the monetary and financial perspective, the transition to a market economy indicated the reintroduction of money and capital markets and the return to the management of fiat money. The financial data are fragmented and often nontransferable, reflecting these developments in the Russian monetary and financial system. It is also difficult to adjust most of monetary and financial data to the territorial changes.

Chapter 7 State Budget

Shinichiro TABATA and Tomoko TABATA

This chapter discusses statistics on state budgets in Russia over the past 200 years. The data collected cover 1803-1914 for the Russian Empire, 1918-90 for the Soviet Union, and 1992-2015 for the Russian Federation. We pay special attention to the continuity of data in each period and the comparability of data between these periods. For the collection of data in Soviet times, we used archival materials made available after the breakup of the Soviet Union. We thus collected data even from the 1920s through the 1940s, when Russia and the Soviet Union experienced a series of crises, such as civil wars, the Great Purge, famines, and world wars. Using these data from the past two centuries, we make a preliminary analysis for the purpose of considering the characteristics of the state budget in Russia. One characteristic is the

continuing appearance of budget deficits and the authorities' efforts to hide them. The authorities in the Russian Empire and the Soviet Union promoted the illusion of healthy public finances. One reason for the budget deficits was increasing defense expenditure. Another was expenditure on developing the economy in order to catch up with developed countries. In the 21st century, Russia has been protected from budget deficit problems by the growing revenues from the oil and gas industries and the unique tax system that secures these revenues for state coffers.

Chapter 8 Foreign Trade

Akira UEGAKI

In this chapter we reconstruct a time series of foreign trade data for Russia and the Soviet Union from 1897 to 2010 using a consistent method of commodity classification and grouping trading partner countries. This study's main feature is our time series of the Soviet Union's and Russia's export and import value by one-digit code of the SITC (Standard International Trade Classification) rev. 1 for each year in the period 1918-2010. Using this method, we discover the existence of the "residual (or concealed)" value of exports and imports in the data for the Soviet Union and the Russian Federation, for which we had only fragmentary knowledge in the past. As for trading partner countries, we find that the "socialist countries" — which includes countries that were not socialist during the examined period but would become members of the socialist camp after WWII - occupied only an insignificant position in Soviet trade until the end of WWII, with the exception of trade with China and Mongolia in the late 1930s. As for the composition of trade items, we find that the export of "inedible crude materials excluding fuels" — the main item being lumber - greatly increased in the period of "establishment of the Stalin regime" and "from the German-Soviet pact to World War II." This finding reveals the importance of forced labor in Soviet industrialization.

Chapter 8 Appendix Soviet Foreign Trade Earnings Revisited

Masaaki KUBONIWA

Soviet statistics authorities attempted to incorporate foreign trade earnings into national income, based on a unique formula. First, we show that they must have applied one of the well-known formulas for trading gains or terms of trade to their specific accounting context.

Then we prove that this Soviet practice should have been corrected. Second, we reveal our estimate of Soviet foreign trade earnings, calculated using Soviet official data on foreign trade and input-output tables, and then we explore the implications of our estimate. We further look at how contemporary Russia has followed the Soviet statistical and institutional legacy of reporting foreign trade earnings in the national accounting.

Chapter 9 Gross Domestic Products

Masaaki KUBONIWA, Yoshisada SHIDA, and Shinichiro TABATA

Chapter 9 focuses on estimates of GDP growth for the Russian Empire and the Russian Republic for 1860-1990 (sections 9.1 and 9.2), an estimate of the informal economy for the Russian Republic for 1960-90 (section 9.3), and a reappraisal of GDP data by industry for present-day Russia for 1989-2015 (section 9.4).

Section 1 GDP Estimates for Imperial Russia

Masaaki KUBONIWA

A new series of real GDP growth rates for 1860-1913 is presented here. The nominal value added structure for the base-reference year 1913 is determined using own estimate of the nominal value added of the (non-material) service sector in addition to M. E. Falkus's 1968 study. Regarding real growth of agriculture and industry, the results in Chapters 4 and 5 are directly applied. We estimate real growth rates for the trade sector and the service sector. Estimated growth rates for the Russian Empire are quite close to those in earlier research. The new estimation shows that real GDP grew at an annual average rate of 2.5% for the period 1860-1913, which led GDP per capita to grow at an annual average rate of 0.9%. GDP per capita grew at -0.2% annually for 1860-85, and at 1.9% annually for 1885-1913. GDP for the Russian Empire is used to estimate GDP in the territory of present-day Russia and the Soviet territory according to population proportions in 1913. Growth rates in both territories are assumed to be equal. We examine the possibility of estimate biases owing to long retrospective extensions using a fixed 1913 structure. Some international comparisons are made, using 1913 exchange rates (gold standard) against the US dollar or international dollars, such as Maddison's 1990 GK (Geary-Khamis) dollars or the World Bank's 2011 international dollars. These comparisons demonstrate the backward development level of Russia's capitalism along with Japan's. The volatility of growth rates is also statistically examined in a comparative view.

The volatility in growth during the Russian Empire was an economic factor contributing to the first revolution in 1917.

Section 2 GDP Estimates for Soviet Russia

Masaaki KUBONIWA

Real GDP growth rates in the Russian Republic for 1913-90 are estimated to correct for the major drawback of official statistics - the overestimation of growth rates. For this, nominal value added structures for 1961-90 are estimated through converting Soviet-type MPS (Material Product System) to SNA (System of National Accounts). Using our own sectoral estimates of real GDP growth and nominal value added structures, we estimate real GDP growth rates in the Russian Republic for 1913-90. GDP growth rates for 1913-61 are estimated using retrospective extensions based on the fixed value added structure in 1961 and real sectoral growth rates for 1913-61. GDP growth rates for 1961-90 are estimated based on a chain method by using nominal value added structures in 1961, 1965, 1970, 1975, 1980 and 1985 with real sectoral growth rates for 1961-90. Our new estimates of real GDP average annual growth rate are 3.6% for 1913-90 and 4.1% for 1917-90, representing half the Soviet official figure of 7.0% for 1917-90 but a higher rate than Maddison's estimate of 2.8% for 1913-90 for the Soviet Union. Regarding postwar growth, real GDP average annual growth rates are estimated at 4.2% for 1950-90 and 3.2% for 1960-90, which are much lower than the Soviet official figures of 5.9% for 1950-90 and 4.8% for 1960-90 but larger than CIA's estimates of 3.5% for 1950-90 and 2.9% for 1960-90 for the Soviet Union. International comparisons of our estimates are made, along with volatility. Volatility in growth was lower for the Soviet era, while a slowing in Soviet growth with negative TFP (Total Factor Productivity) and worsening GDP quality after the 1970s led to the breakup of the Soviet Union in 1991. We also compare long-term growth trends for Russia and Japan for 1860-2016. Russia is unlikely to catch up with Japan in the foreseeable future.

Section 3 Russia's Informal Economic Growth, 1960-1990

Yoshisada SHIDA

In this section we study the historical GDP of Russia from the perspective of the informal economy. Further, we re-estimate nominal and real informal GDP in the period 1961-90, using the expenditure approach and declassified archival data of household budget surveys.

The primary findings are as follows: previous estimates of Russia's nominal GDP are underestimated by about 12.6% on average, due to a lack of informal GDP data ; economic growth, including informal GDP, is overestimated by 15-39 points, which corresponds to an annual growth rate in the range of 0.24-0.38%.

Section 4 National Accounting for Contemporary Russia

Shinichiro TABATA

After the collapse of the Soviet Union and the socialist economic system, Russia attempted a transition from the MPS to the SNA as a method of compiling national income statistics. By the mid- 2010s, Russia had succeeded in introducing basic elements of the SNA, and its national income statistics are basically in line with international standards, although there are some deficiencies, such as a relative shortage of data in real terms. With respect to the classification of industries, Russia shifted from the old classification inherited from the Soviet period to international standards in the 2000s. Since the Russian statistical authorities have not revised the data from the 1990s into the new classification, we have estimated them.

Chapter 9 Appendix Estimating GDP and Foreign Rents of the Oil and Gas Sector in the Soviet Union and Russia

Masaaki KUBONIWA

How large is the GDP of the oil and gas sector in the USSR and in Russia today? We estimate these figures, including rents from exports: the estimation of the GDP of the Soviet oil and gas sector may be the first attempt in the literature. We also update our estimate of the Russian oil and gas GDP, focusing on exports. We demonstrate that in the USSR and in Russia today, estimated measures of oil and gas GDP are much larger than the official measures. This result is intuitive. However, it may not be intuitive that the share of oil and gas GDP in the USSR's total GDP was much smaller than it is in Russia today. This may be partly due to an overvaluation of the total GDP through applying the single official exchange rate to tradable and non-tradable goods in a non-hard currency world. To correct this unintuitive outcome, we present the Soviet oil and gas GDP in 2015 US dollars for comparison. Needless to say, resolving these issues will require further investigation.