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“Russia’s Income Distribution 1678-1913: What the Estimates Imply Thus Far”

A preliminary paper draft for the conference on

**QUANTIFYING LONG RUN ECONOMIC DEVELOPMENT**

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**ABSTRACT**

Just how unequal were the incomes of different classes of Russians on the eve of Revolution, relative to other countries, to Russia’s earlier history, and to Russia’s income distribution today? Careful weighing of an eclectic data set provides provisional answers. In 1904, on the eve of military defeat and the 1905 Revolution, Russian income inequality was middling by the standards of that era, and less severe than inequality has become today in such countries as China, the United States, and Russia itself. We enrich this emerging story by noting some distinctive fiscal and relative-price features of Imperial Russia. We hope that this report sets the stage for comparisons to Russian before the serf Emancipation of 1861.

**CAVEATS**

This draft is a preliminary and incomplete report on an open-source research project. Given the uncertainties of any inferences from still fragmentary historical data, we invite others to add additional data, procedural revisions, and alternative interpretations. As much as possible, the data are being posted on <http://gpih.ucdavis.edu> (click on European Russia, either on the world map, the Europe map, or the data list folder). Every sentence describing results here is implicitly prefaced by the clause “As best we can infer from limited and fragile data, and until later revisions suggest otherwise, we tentatively suggest that ...” Later versions of this paper will add further material, especially for other benchmark dates.

**I. ISSUES AND OVERVIEW**

For all the debate over class differentiation in Russia before the world’s first successful Marxist Revolution, scholars have still not been able to develop a clear picture of the country’s overall inequality. A new struggle is needed to piece together the

eclectic scraps of information into an overall distribution of incomes between and within classes.

Another reason for launching into this difficult task is that better knowledge about inequality would also improve our understanding of the level and pace of late Imperial economic development. We need to expand our empirical picture beyond that provided by Paul Gregory's national income series for the period 1885 to 1913. Recent work on living standards by Mironov and others has brought to bear a wealth of new data on heights, wages, and consumption patterns in the 19<sup>th</sup> and early 20<sup>th</sup> centuries. Still, the explosion of recent empirical work on long-run economic growth in peripheral areas, such as Latin America, Africa, and East Asia has mostly bypassed Russia.<sup>1</sup> This paper seeks to help fill this gap by presenting newly compiled data and using this information to derive estimates of income inequality in the late-Tsarist period. We have explicitly aimed to produce results that are comparable to those available for other countries in the early twentieth century.

## II. VIEWS OF PRE-REVOLUTIONARY INEQUALITY

As typically defined in Western scholarship, inequality in Tsarist Russia has received remarkably little attention.<sup>1</sup> Other than a small number of tax censuses and limited estate-level records, the period prior to serf emancipation in 1861 remains mostly an empirical dark age. The information we do have suggests a relatively rigid society, albeit one that showed significant local heterogeneity when it came to living standards and economic activities. While observers in the immediate post-emancipation decades claimed that there was a growing gap between an impoverished peasantry and the urban classes in cities such as Moscow, St. Petersburg, and Odessa, their empirical base was frequently limited to comparing mean values of a small set of indirect welfare indicators, such as taxes per capita (e.g. Ianson, 1881). Moreover, they tended to focus on perceived differences between legally defined social classes, such as peasantry, nobility, and

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<sup>1</sup> Indeed, a full-text search for the terms "income" or "wealth," "inequality" or "unequal," and "Russia" or "Soviet" in the database Historical Abstracts turned up practically no relevant entries and exactly none that pertained directly to the late-Tsarist period. On inequality in the Soviet Union, see Bergson (1984).

townspeople, rather than actual income or wealth inequality. These social classes, or *sosloviia*, were defined at birth (although one could change one's class at a cost) and came with specific civil rights and legal conditions that were often associated with differences in wealth or income-generating opportunities. While we do rely, in part, on social class to define different income groups within late-Tsarist society, in practice, such class-based distinctions were increasingly problematic over time. When it came to defining inequality, the steady growth in the number of peasants engaged in non-agricultural activities, and the slow decline of the nobility as the dominant holders of landed wealth led to the blurring of class distinctions.

After 1861, academics and policymakers were increasingly aware of their limited knowledge of the countryside, and of economic conditions in the Empire more broadly. This led the Central Statistical Committee of the Ministry of the Interior and other ministerial bodies to engage in more statistical research projects, an effort that culminated in the first national census in 1897. This census not only documented the ethnic, religious, and geographic diversity of the Empire, but it also collected detailed data on the occupational structure of the population. This census and other similarly impressive statistical research efforts after 1900 (such as the 1905 Land Statistics) provide some of the necessary building blocks for estimating the level of inequality in European Russia around the turn of the century. But few scholars have endeavoured to evaluate just how unequal Russia was by 1900, and those that did so have generally relied on approaches that do not translate into modern estimates.

Most central government research efforts focused on aggregate levels of information, either at the province or the district levels. In contrast, a new institution of local self-government – the *zemstvo* – frequently engaged in village or household-level data collection efforts (Nafziger, forthcoming). These new bodies were responsible for monitoring the taxable resources under their jurisdiction. In doing so, they often collected information on household incomes, asset holdings, and the distribution of land. In analyzing and presenting their findings from household surveys and land valuation censuses, *zemstvo* statisticians frequently classified the peasant population according to the size of landholding, the number of livestock, or the number of adult workers in the household. But their research tended to be limited to individual districts or provinces.

Little was done to make more comparative inroads towards the study of inequality within the 85% of the population that were legally peasants.

Two scholarly trends emerged at the end of the 19<sup>th</sup> and in the early 20<sup>th</sup> centuries that indirectly spoke to the nature of inequality in late Tsarist society. The first was the rise of a school of peasant studies that extended *zemstvo* research by undertaking detailed budget studies of “representative” peasant households. Emerging first in the province of Voronezh under the leadership of Feodor Scherbina in the 1880s (e.g. Scherbina, 1897), this movement came to be associated with the later work of Alexander Chaianov, especially his influential *The Theory of the Peasant Economy* (1986). Relying mostly on data from peasant households in Moscow province, Chaianov theorized that the “peasant economy” was *not* governed by market interactions but was predicated on a unique form of utility maximization that aimed to minimize effort. As a result, inequality of rural households – observed either across budgets or within larger *zemstvo* research efforts – was driven more by life-cycle events such as aging or household division than by differences in accumulation, human capital, or other factors that directly affected labor productivity.

The focus on analyzing household budget data and *zemstvo* classifications of rural households played a key role in Soviet interpretations of peasant *differentiation*, or *rassloenie* (or “polarization” – see Field, 1989). Beginning with Vladimir Lenin’s massive volume *The Development of Capitalism in Russia*, Soviet scholars expended considerable effort on slicing and dicing the pre-revolution peasantry according to the categories laid out in the *zemstvo* and budget data. The ideological motivation behind many of these efforts was to link changes in the Russian countryside to social class divisions that were supposed to accompany the transition from feudalism to capitalism under the Marxist model of development. Rich peasants with slightly larger communal allotments or a few more horses became rural bourgeoisie (or *kulaki* – whose property could be expropriated), while poor peasants were increasingly landless and “proletariatized.” Lenin dedicated much of his volume to laying out these processes as he interpreted them in a variety of *zemstvo* data, while later Soviet scholars focussed on documenting such changes in particular localities, types of agricultural production, or

certain time periods (pushing the origins of peasant differentiation back to the pre-1861 period).<sup>2</sup>

In particular, A.M. Anfimov (e.g. 1984) and Ivan Koval'chenko (e.g. 1967) continued this style of research into rural Russia by incorporating a much wider set of evidence from archival materials and other quantitative sources and expanding the analysis to consider change within the landed nobility. In a sense, Field's (1989) fascinating analysis of turn-of-the-century wealth polarization among the peasants of agricultural Poltava province builds on this Marxist scholarship by estimating Gini coefficients (and their change over time) for the same types of assets. He even frames his findings in quasi-Marxist terms, emphasizing the emergence of "rural capitalism" among the peasant population by 1900. However, Field also acknowledges that such *zemstvo* data make it difficult to accurately estimate true income or wealth inequality, because the asset categories, definition of a household, types of economic activity engaged in by the peasants changed over time.<sup>3</sup>

Overall, these two types of research – peasant budget studies and Marxist analyses of rural stratification – provide some evidence of an increasing amount of wealth or occupational heterogeneity within the rural population in the late Tsarist period. But they do not directly tackle income inequality, and as such, they cannot really shed light on the "big" questions that lies behind much of Russian economic history in the late Tsarist period. For instance, such studies do a poor job of placing what is happening in rural Russia in the context of contemporaneous urban and industrial developments. Given their ideological persuasion, Soviet scholars did pay close attention to who was in or out of the "worker" (*rabochie*) class and often included large numbers of the "rural proletariat" in any such calculation (e.g. Rashin, 1958). As emphasized by numerous scholars from Tugan-Baranovsky (1970) onward (including the census takers of 1897), the Russian peasantry was becoming increasingly involved in migratory, protoindustrial, or industrial occupations in cities or quasi-urban areas, but they were generally doing so

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<sup>2</sup> Research projects in the 1920s and 1930s tried to pin down the processes of social stratification among the peasantry by following a given strata – defined by land or livestock holdings – over time in a particular area. In a sense, these dynamic household censuses were attempts to bring Chaianov's insights into a Marxist framework.

<sup>3</sup> In a more recent work, Johnson (1997) analyses income stratification by household size, as reported in a 1909 budget survey from Kostroma province. He emphasizes the existence of Chaianovian life-cycle differences in household wealth and inequality and employs a language very similar to that of Field.

while continuing to work in agricultural production. This led to rather convoluted categorizations by Soviet authors as they tried to explain the forces behind the urban Revolution, but it also points to the importance of moving beyond class-based analyses towards other methods of calculating *total* income inequality.<sup>4</sup>

Before we do just that, it is worth touching on two areas of scholarship that are directly related to our method of calculating income inequality. The first is the growing literature on living standards in Tsarist Russia. Soviet scholars such as Kirianov (1979) tended to focus on *either* rural or urban (i.e. “worker”) living standards by considering work conditions, diets, and some very limited information on wages and salaries. But these studies were written through a Marxist filter and, therefore, did not pay much attention to the income generated from asset ownership.<sup>5</sup> In his recent impressive study of living standards from Peter the Great to the Revolution, Mironov (2010) essentially sets aside direct calculations of incomes in favor of an anthropometric approach. His reliance on military and factory data on adult heights opens an important area of research into Russian living standards, especially in aggregate and over time, but it does not say much about inequality in the cross-section. Moreover, the non-anthropometric data presented in his book and associated articles frequently relate to Moscow or Petersburg, and not necessarily to the rest of the Empire or even the European provinces. In view of this, Dennison and Nafziger (2011), in their case study of two districts in the Central Industrial Region, argue that it is of vital importance to take a more local approach to study living standards in order to adequately understand the evident geographic heterogeneity in living standards across the Empire. This directly relates to one important dimension of late Tsarist income inequality as we discuss below, although at this preliminary stage of research, we are forced to leave such considerations for the future.

Finally, the various studies of living standards, peasant stratification, the emergence of a working class, and household budgets have tended to be micro in their use of evidence. While we argue elsewhere that micro studies of living standards are

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<sup>4</sup> Indeed, Lenin’s tactical adoption of a “vanguard party” model for the Bolsheviks was partly based on the peasant basis of much of the urban population.

<sup>5</sup> By adopting a “labor theory of value,” these and other Marxist studies certainly missed a key part of income inequality, especially when it came to land. Moreover, this theoretical perspective might explain why there is a surprisingly small amount of business or estate-level histories that employ modern accounting ideas to assign “corporate” incomes to individual owners.

especially valuable for understanding the nature of heterogeneity in Russian living standards (Dennison and Nafziger, 2011), evaluating the level of inequality in a particular society depends on taking a more macro approach, whether geographic or otherwise. Gregory's (1982) important revision of Russian national income – which documents a relatively high growth rate from the 1880s to 1913 – provides a baseline measure of the size of the economic “pie” that was divided among agents in the economy. In building up his accounts, Gregory draws almost exclusively on Empire or European Russia-wide aggregate data series on final expenditures on goods and services, with only some limited acknowledgement of variation in consumption among different groups in society.<sup>6</sup> Thus, we see our as an important addition to a wide literature on the Tsarist economy that has never really offered a complete estimation of income or wealth inequality.

Our take-away message from this short summary of the literature on inequality in pre-Soviet Russia is relatively simple – there has been little work done to this point. Populist and Soviet ideas of inequality focussed on class, rather than income. Class membership was often characterized by asset ownership, although incomes from owning assets did not really enter into their calculations.<sup>7</sup> Geographic heterogeneity has rarely been investigated, and the related literature on living standards has tended to be narrow in focus or interested more in the long-run time series. In what follows, we rely on a variety of sources and a new methodology that allow us to make an estimate of overall inequality which is comparable in spirit to estimates for a number of other societies at different points in time. We leave for future work the issues of geographic variation (especially outside European Russia) and heterogeneity within some groups of the population.

### III. COUNTING PEOPLE FOR MAPPING INEQUALITY

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<sup>6</sup> In a related work, Gregory (1980) estimates peasant grain consumption but does not look into the consumption of foodstuffs of urban or non-peasant populations. Early Soviet studies of national income prior to 1913 – particularly Prokopovich's estimates for 1900 and 1913 – did emphasize some geographic differences.

<sup>7</sup> That communal allotment land (*nadel*) comprised the bulk of property held by most peasants led many scholars to assume more homogeneity among peasant households than was manifest in practice. Soviet class-based analyses did not necessarily employ this simplification, but many did tend to assume that the possession of little property was equivalent to poverty, without acknowledging the possibility of occupational specialization across households.

To determine just how unequally incomes are distributed among individuals and classes, we must first clarify what human units we have in mind.

**(A.) The Population Unit: Inequality among Whom?**

Simon Kuznets warned repeatedly that our studies of inequality fail to define the unit of population clearly.<sup>2</sup> The usual candidates are

- inequality of total income among households,
- inequality of income per household member (or per adult male equivalent) among households, and
- inequality of individual incomes per economically active person (e.g. taxpayer, or member of the labor force).

Kuznets emphasized the superiority of the household focus on theoretical grounds. Caring about economic inequality means caring about how unequally people consume resources over their lives. Even if data constraints force us to study annual inequality rather than life-cycle inequality, Kuznets pleaded for measuring annual household income per consumer in the household. The numerator must capture the incomes of all economically active household members, and the denominator should capture the number of adult-equivalent consumers. He warned against measure inequality among individual earners.

For the purpose of mapping Russian inequality, Kuznets's theoretical argument is reinforced by practical empirical considerations. We must focus on households (*khozyaistva*) as income recipient units in order to conform to the prevailing practices of those who generated our data. Our Imperial Russian sources also favored studying the household as a unit, especially for the peasantry. So did those who investigated the income structure of other countries in centuries past, since they too confronted the simple fact that taxable property, such as real estate, is used by all household members, even if only one is the owner and taxpayer. Their thirst for measuring nations' potential for paying taxes and supplying soldiers has proven enormously helpful to social science historians.



### **(B.) Putting Households into Social Classes**

A further advantage for the study of economic inequality is that past observers defined classes in a way that differentiated them relatively clearly by income level. Before the twentieth century countries typically had well-defined social classes receiving different kinds of incomes, and the data were gathered accordingly. This makes it easier for our data to divide national income along the same class lines that others have considered important. True, the classes overlapped in their income distributions to some extent, but there is considerable evidence that the social tables come close to being size distributions of income.<sup>3</sup> The same was true of Russia, with its focus on estates (soslovia) and on city versus countryside. Sometimes the data align according to output sectors of the economy rather than by socio-occupational classes (e.g. Volume 8 of the 1897 census). Still, the sectoral detail seems useful as a way of grouping people with different average income levels.

### **(C.) Russia's Social Head Counts, 1678-1913**

Boris Mironov has already reaped the rich harvest of data on membership in social-economic classes since 1678. His findings are summarized in Table 1. Despite some churning at the top, with the replacement of old aristocracies with new, changes were slow. The shares of the aristocracy that contemporaries chose to define by landed titles was not high, hovering around 2 percent of the population of recognized households. That was perhaps comparable with the early modern share in France and England. *Ancien regime* France in 1780 had a similar share of its population distinguished by nobility or clergy: 1.93%. For England and Wales, the share distinguished as landowners was similar, but a bit higher: 2.11 percent around the year 1290, 3.15 percent in 1688, and 3.47 percent in 18901-03.<sup>4</sup> These are very rough counts, of course. Still, it is noteworthy that a far more rural Russia had such a small share of its population in the landed elite. Also noteworthy is the thinness of Russia's government bureaucracy. In 1750, for example, Russia had only one official per 10,000 of

population, similar to China's thin bureaucracy of one official per 11,350 in the same year. By contrast, in sixteenth-century England each official covered only 4,000 persons on the average, and in France under Louis XIV each corresponded to only 7,700 of population.<sup>5</sup> The top ranks looked thin, in relative terms.

Given these suggestive head counts, we of course need information on the incomes of the different classes.

#### IV. THE 1904 INCOME BENCHMARK

Our best opportunity to take a snapshot of the Russian income structure comes from the start of the twentieth century, or more accurately from a combination of data sets stretching from 1897 to 1905. The starting point is the Imperial population census of 1897, which offered not only detailed population counts but also details on household structure, the occupations of household heads, the distribution of land ownership, and much more. Using the census as a springboard the Ministry of Finance launched a detailed inquiry into the structure of incomes, in order to estimate how much tax revenue the state could raise, and from whom. One fruit of this endeavor was the Ministry's detailed estimates of high incomes over the period 1900-1904, entitled *Opyt' priblizitel'no ischislenia narodnovo dokhoda po raslichnym evo istochnikam i po razmeram v Rossii*, hereafter cited as *Opyt'* (1906). Apparently targeting only the top of society for potential income taxation, the Ministry's estimates covered only part of the richest three percent of households. Interestingly, the study compared hypothetical Russian income tax rates to those actually imposed in Austria, Bavaria, Prussia, and Wurttemberg. A follow-up study in 1910 gave further elaborate forecasts of the possible revenues. Yet in the end, the project for a comprehensive income tax was blocked and not implemented anytime before the 1917 Revolution.<sup>6</sup>

For economic and social historians, one benefit of the Russian data attempts, especially those most detailed attempts from 1897 on, was their rich geographic detail. Most of the data were presented by province and even at the level of the *uezd* (county or district), sometimes just for the 50 provinces of European Russian, but often for other parts of the Empire as well. We take only slight advantage of this geographic richness

here, but note the opportunity to multiply the study of Russian inequality fifty-fold in future work.

### **(A.) The Income Unit: Inequality of What?**

Conceptually, the biggest target to aim at is the distribution of people's total annual incomes.<sup>7</sup> That can complement the goal of offering more insight into aggregate national income, and it fits what scholars and political advisors tried to measure in other countries.

We immediately confront a large problem of income data throughout the history of Imperial Russia: Total income was never measured by empire-wide sources. Only in the micro-surveys of worker and peasant households did researchers capture a household's total income.

What the national data sets offer are only counts of specific kinds of income, and the numbers of people receiving them. Some data sets offer the distribution of land area or land value, with no attention to other incomes; others are confined to urban real estate rents; other data sets offer wage and servant income in narrow formal sectors; others cover just industrial or commercial profits; and so forth. The same problem often arises in other countries, e.g. in the current Lindert-Williamson work on early America, where the data on property incomes are completely divorced from the data on a household's own human earnings.

This partial coverage of incomes, one estate (soslovie) or sector at a time, seems analogous to the problem that S.M. Prokudin-Gorskii had in trying to pioneer color photography over a hundred years ago. Each take, or shot, could only capture a narrow range of color frequencies and it was hard work to overlay them to produce true color.

Fortunately, however, a fairly true color emerges by combining the different data sets on partial incomes. Even though the authors of the Opyt' study recognized that their study of potential fiscal revenues failed to deliver a sharp focus on the distribution of total household incomes, what they have provided does yield a fairly clear picture.

## **(B.) Helpful Constraints and Bounding Assumptions**

In what follows we take advantage of the fact that the data have to fit some clear constraints:

(1) The national income of European Russia in 1904 was on the order of 75 percent of the 13,255 million credit rubles estimated by Paul Gregory for the entire Russian Empire in 1904, so that any view of how different incomes were distributed must fit this relatively reliable aggregate. More precisely, the total incomes of the household sector in European Russia in 1904 should equal this 9,152.8 million rubles minus the 742.5 million rubles of rental value of lands collectively held by the state, the churches, and other institutions, or a net household sector income of 8,410.3 million.<sup>8</sup>

(2) The total number of households in European Russia in 1904 was 18,284,896, implying an average of 460 rubles per year of household income. That income was divided among economic sectors as shown in Table 2. Any assignment of separate income sources to different households has to fit these sectoral head counts.

To extract as much reliable information as possible from the eclectic official data, we need to present three different versions of how the different incomes were combined. The first version is a “too-equal” set of estimates, which uses the information to understate inequality just enough to yield an implausibly low estimate of inequality, without going so far as to be uselessly low. The second version takes the opposite tack, overstating inequality in a way that seems unlikely, yet still makes good use of the historical information. Finally, between these two sets of bounding assumptions, we produce a “preferred” set of estimates of inequality, a plausible one based on moderate assumptions.

We can summarize the contrasts in the three sets of estimates, even though the detailed work producing them from a large data base can only be presented in large spreadsheets elsewhere.<sup>9</sup> The first major difference among the three sets of estimates relates to their assumptions about how the top 404,703 incomes in the *Opyt*’ study were combined across households. These 404,703 – ostensibly a number equal to 2 percent of all households – were not total incomes of any Russian households. For one thing, only 369,655 of them were incomes of persons primarily residing in the 50 provinces of

European Russia, which provided the most reliable data. These 369,655 top incomes, each falling in a size distribution bracket somewhere over 1,000 rubles, were different types of incomes that could have accrued to the same rich persons. How were they actually combined? Our “too-equal” estimates assume that every such partial income accrued to a separate household, deliberately overlooking the fact that many rich landlords, for example, also had government salaries, urban real estate, bond incomes, and so forth. At the other extreme, our “too-unequal” income estimates took the extreme view that every single one of the top 156,271 households in each of six income classes (from 1,000-2,000 up to 50,000-plus) captured *all* of the other types high incomes in the same class. That procedure gave the richest 1,167 households an implausibly high average income of 281,893 rubles a year. In between these two extremes, our moderate “preferred” estimates recognized the multiplicity of high-income portfolios, but only gave the same high income of 11,255 rubles to each of the richest 148,343.

Another differentiation among our three sets of estimates lies in their treatment of landless peasant incomes (the minority of peasants owning private lands were treated differently in the data). The “too-equal estimates” give every landless peasant household the same modestly comfortable income of 340 rubles a year, based on household surveys of Kazan province in 1898-1899. This figure includes their assume-equal share of rents from the shared *nadel* lands allotted by the 1861 reform, and any net farming profits captured by the *zemstvo* household surveys. At the other end of the spectrum, the “too-unequal” estimates gave landless peasant households only the low and differential wage incomes revealed for hired farm workers in the *zemstvo* surveys, ignoring any farm profits, and it assumed that they shared the *nadel* land returns unequally, in proportion to their wage incomes. Between these two the “preferred” estimates took a middle ground described in the spreadsheets.

The three artificial snapshots of Russian society produced by these procedures are shown in Table 3. By design, all three sets of estimates have the same mean household income of 460 rubles a year, the figure implied by Gregory’s national income estimates, the household population counts, and the rental value of state lands not offered to private households. The preferred estimates show the kind of “skewness” we expect from most

income distributions: The median household has less than the average income, making them closer to the poor than to the rich in that sense.

At the top of Table 3, the overall measures of inequality differ in the way one would expect, given the assumptions. We are encouraged by the fact that the bounding assumptions of the “too-equal” and “too-unequal” estimates are not hopelessly far part, meaning that the Russian data for circa 1904 have delivered useful information about the degree of inequality. The gini coefficient of 0.360, to use the “preferred” result, means that if one could hypothetically play Robin Hood and redistribute income from rich to poor without changing the total income, then shifting 36.0 percent of the income would make everybody exactly equal.

Are these inequality numbers large or small? Context is everything, in such quantitative studies as in other branches of history. To offer some initial context, let us compare these 1904 Russian results with those from other countries around that time, and with Russian and other inequalities today.

## **V. RUSSIA’S 1904 INEQUALITY RESULTS IN GLOBAL PERSPECTIVE**

In the degree of its household income inequality in the early twentieth century Russia was not alone. So say Table 4’s comparisons of those two kinds of summary measures of inequality, the shares of all incomes received by the top ranks, and the gini coefficient.

Even though one might have expected that a country on the eve of the first Communist Revolution might have provoked its fate with some of the world’s widest gaps in income, Table 4 offers no confirmation of this hunch. The clearest contrast consists of a set of experiences where inequality was more severe elsewhere than it was in Imperial Russia. One such bastion of inequality was Victorian England, as represented by Baxter’s estimates for 1867 (two others were Peru and South Africa, as Table 4 suggests). The gaps were wider in England, both between top incomes and middle incomes and between middle incomes and the bottom. The other setting of extremely wide inequality, in which gini coefficients often exceed 0.42, consists of countries today. Among the many countries where incomes are clearly more unequal than they were at the

sunset of Imperial Russia are today's Brazil, China, the United States – and Russia itself. All four of these countries have experienced a long-run rise in inequality, the United States across the nineteenth century and the other three across the twentieth. Yet for many other countries, such as Britain and Sweden, the gaps are now narrower – households are more equal – than they were in the nineteenth century and early twentieth.<sup>10</sup> This contrast in long-run movements is a puzzle worth pondering anew.

Such comparisons need to be enriched in at least two dimensions, namely the redistributive role of the state in inequality, and the subtlety that class-specific differences in the cost of living might make something called relative “real inequality” quite different from the usual comparison of nominal inequalities like those in Tables 3 and 4. In both of these two dimensions, we see initial signs that a fuller comparison of Russia with countries to the West may reveal some intriguing twists.

The possible redistribution from poor to rich, alias “fiscal regressivity”, lurks in the background here. It is hidden by the fact that for Russia, as for other countries, the database offers more information on “pre-fisc” income inequality than on the “post-fisc” inequality of what they ended up with after taxes and transfers. Relative to other European countries, Russia showed more signs of fiscal regressivity, declining to redistribute from rich to poor. One sign of regressivity in the government's policies is the fact that the net rentals values on state and church lands could have been worth as much as 8.1 percent of national income. If one views these as incomes that an elite withheld from the people who worked those lands, then top-income shares should be raised by this amount. Another sign of regressivity was that failure to pass an income tax when other governments were doing so in the early twentieth century. Regressive was also evident in the central government's unwillingness to spend on mass education, leaving primary school finance at the mercy of political debate within *zemstva* and other impoverished local governments.<sup>11</sup>

The other intriguing extension of the international inequality comparisons relates to that subtlety about class-specific differences in the typical “cost of living” bundle of goods and services. Most income-distribution studies fail to pick up this subtlety, one that could greatly change our comparative perspective on Russian inequality. Since different income classes consume different bundles of goods and services, it could matter

a great deal if basic staples such as grains were cheaper relative to luxury goods in one country than in another, as Hoffman *et al.* (2002) have pointed out. Indeed, Imperial Russia stood out as a cheap-grain country, raising the possibility that the gaps in class-specific purchasing power were narrower than the usual comparisons of nominal income inequality imply. That does indeed appear to have been the case. As Boris Mironov has pointed out, health indicators and income clues both suggest that the lower ranks of the peasantry enjoyed living standards far enough above subsistence to experience the well-documented rapid rate of natural increase.<sup>12</sup>

## VI. INTERPRETATION AND NEW AGENDA

The intermediate level of inequality, and the slight skewness that left the middle-income ranks closer to the bottom than to the top, might be viewed as the net result of two fundamental influences on Russian economic fortunes. The fundamental egalitarian force was geographic: Russia has always stood out as abundant in productive land and abundant in staple grains, yielding a strong seasonal labor demand. The land/labor logic that other scholars have used to link the Black Death to the freedom and wellbeing of the English yeoman should theoretically have compressed the income structure – and probably continued to do so, other things equal, even on the eve of Revolution. Yet the country's pre-Revolutionary history was also dominated by the inegalitarian force of the state. Imperial autocracy dependent on elites for its power continued to be reflected in the income inequality among estates and classes. Even if extraordinary political inequality did not manage to create extraordinary inequality by global standards, it did leave those signs of regressive redistribution we have already noted.

The research task that now dominates our research agenda is how the level of economic inequality reached in the early twentieth century came about over the course of earlier Russian history. Was it always that way? Or did the classes' relative fortunes change across the post-Emancipation era, say from 1877 to 1913 -- and across the Emancipation Era, between the relatively well-documented benchmark years 1858 and 1877? What earlier movements were likely? Boris Mironov and others have led the way with important new work on real wages and other indicators of living standards. The



post-Petrine tax returns also promise to shed new light on earlier inequality movements. The task is not an easy one for the pre-Emancipation era, mainly because it is hard to capture the income effects of the ownership of serfs.<sup>13</sup> Yet the archives allow us to make further progress.

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<b>Table 1. Social Structure of the Household Heads of European Russia, 1678-1913</b>										
(in thousands)										
	1678*	1719*	1762*	1795*	1833*	1858	1870	1897	1913**	
Estate										
Nobility	158	304	212	720	860	889	861	1373	1936	
Hereditary				403	482	612	544	886	1249	
Non-hereditary				317	378	277	317	487	687	
Clergy (Christian)	80	280	370	434	492	567	609	501	697	
Military	420					3767	3981			
Army	80	219	273	449	840	927	704	1095	1320	
Honored, titled						21		308	611	
Merchants		100		236		400		240		
Urban	390	578	617	1482	3306	4300	6091	10493	22716	
Peasantry	8200	13300	20000	31600	41900	49000	53600	80100	103300	
<i>Raznochintsy</i>		240	366	911	1966	730	383	738	258	
Total pop***	9300	14900	21800	35600	49400	59300	65500	93200	128900	
Sums of detail	8908	14921	21838	35596	49364	56413	62248	94300	130227	
(in % shares of total population)										
Nobility	1.8	2.0	1.0	2.0	1.7	1.6	1.4	1.5	1.5	
Clergy (Christian)	0.9	1.9	1.7	1.2	1.0	1.0	1.0	0.5	0.5	
Army	0.9	1.5	1.3	1.3	1.7	1.6	1.1	1.2	1.0	
Urban	4.4	3.9	2.8	4.2	6.7	7.6	9.8	11.1	17.4	
Peasantry (mln.)	92.1	89.1	91.6	88.8	84.9	86.9	86.1	84.9	79.3	
Other	0.0	1.6	1.7	2.6	4.0	1.3	0.6	0.8	0.2	
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
<b>Sources and notes:</b>										
Mironov, <i>Social History</i> , I, p. 254; revised in his <i>Wellbeing</i> (2010, p. 645).										
* Considering the number of females to be equal to the number of males.										
** Reconstructed from church administrative data, 1895-1914, and from the agricultural census of 1916.										
***For 1678 and 1858-1913, without a regular army.										
[For these years, Mironov used total military. For other, army.]										
For the total nobility, the 1762 figure is really for 1782.										

<b>Table 2. Household Heads by Economic Sector, the 50 Provinces of European Russia 1904</b>				
				Shares of total (%)
	Urban	Rural	Total	
Rural economy (sel'skoe khoz.)	198,922	13,522,490	13,721,412	75.0
Mining	4,511	75,596	80,107	0.4
Manufacturing	572,893	868,520	1,441,413	7.9
Construction	97,778	184,594	282,372	1.5
Trade, transport, communications	504,623	492,149	996,771	5.5
Administration (gov't &c)	80,957	57,744	138,702	0.8
Clergy	30,879	95,088	125,966	0.7
Free professions	67,468	54,825	122,293	0.7
Private service, servants &c	321,192	453,107	774,299	4.2
Other	318,053	283,508	601,561	3.3
All households	2,197,275	16,087,621	18,284,896	100.0

Sources: The 1897 census, volume 8, and *Ezhegodnik/Annuaire Statistique* 1904.

<b>Table 3. Summary of the Income Inequality Estimates for European Russia circa 1904</b>			
Estimate:	Too- equal	Preferred (best guess)	Too- unequal
Gini coeff	0.290	0.360	0.472
<i>Income shares in % of total income--</i>			
Top 1% of HHs:	17.4	20.2	20.6
Top 5%:	26.3	27.0	37.4
Top 10%:	31.9	33.5	45.0
Top 20%:	42.8	44.8	55.9
Next 40%:	30.1	33.8	26.8
Bottom 40%:	27.1	21.4	17.3
<i>Income levels, in rubles --</i>			
Mean:	460	460	460
Median:	340	342	533
Top 1% of HHs:	8009	9287	9457
Top 5%:	2424	2479	3444
Top 10%:	1468	1541	2068
Top 20%:	984	1031	1286
Next 40%:	346	388	309
Bottom 40%:	312	246	198
For a summary of estimation methods, see the text.			
For the details, see <a href="http://gpih.ucdavis.edu">http://gpih.ucdavis.edu</a>			

<b>Table 4. Income Inequality in Imperial Russia and Selected Other Countries since the Late Nineteenth Century</b>				
Percent of all household income received by				
	<u>Top 1%</u>	<u>Top 2%</u>	<u>Top5%</u>	<u>Gini coefficient</u>
Russia 1904	20.2	22.0	27.0	0.360
England-Wales 1867	28.6	31.7	41.2	0.490
Sweden 1903	27.0	29.1	35.3	
Finland 1922	14.9	19.1	32.0	
USA 1917	17.6	20.8	30.3	
Japan 1907	18.3	21.8	32.3	
China 1880s	19.7	25.6		0.239
Brazil 1872	11.2			0.387
Peru 1876	20.8			0.413
South Africa 1914	20.5			
<i>Colonial settings --</i>				
Maghreb 1880				0.570
Kenya 1914				0.331
Kenya 1927				0.416
India 1922	12.7			
Java 1880				0.389
Java 1924	14.4			0.318
<i>More recently -</i>				
Russia 2002				0.453
USA 2003	14.9	18.6	29.9	0.464
China 2003				0.449
Brazil 2001				0.612
<b>Sources and notes:</b>				
The main tertiary sources are APS (Atkinson-Piketty-Saez 2011), MRW (Milanovic, Lindert, and Williamson, 2011), <a href="http://gpih.ucdavis.edu">http://gpih.ucdavis.edu</a> , "early income distributions", and the World Bank's Deininger-Squire inequality database wiid2.				
The primary and secondary sources used here are referenced more fully in those tertiary sources.				
Note that the colonial income distributions exclude incomes taken away by non-residents.				

## ENDNOTES

<sup>1</sup> See Mironov (2010) on Imperial Russia, Arroyo Abad (2009) on Latin America, Africa Fenske (forthcoming) and Nunn (2008) on Africa, and Allen *et al.* (2011) on East Asia.

<sup>2</sup> See especially Kuznets (1976).

<sup>3</sup> Milanovic, Lindert, and Williamson (2011) note how historical tables of class average incomes seem to approximate size distributions in practice.

<sup>4</sup> See Morrisson and Snyder (2000) on France in 1780, Campbell (2007) on England 1290, and Lindert and Williamson (1982) on England 1688-1803. We should note one dip in the English landed share: Joseph Massie's table for England and Wales in 1759 had only 1.2% in the titled landowning classes.

<sup>5</sup> See Pintner (1980) and Sng (2011).

<sup>6</sup> The fiscal fight over tax reform after 1905 is summarized by Gorlin (1977).

<sup>7</sup> These can be “pre-fisc”, meaning gross income received, or they can be “post-fisc”, meaning net income after taxes and transfers. Both are of interest, but we focus on measuring “pre-fisc” gross incomes here.

<sup>8</sup> For the all-Empire estimate, see Gregory (1982, pp. 58-59). We estimate a 75-percent share for the 50 provinces of European Russia somewhat roughly, using their population share of the Empire (73.3%) and their shares of rural land rents, urban realty rents, profits, and grain production.

<sup>9</sup> See the file “1904 Russian inequality” at <http://gpih.ucdavis.edu>, in the folder for Russia. That folder can be located either by looking within the “data list” folder or by clicking on European Russia on the maps.

<sup>10</sup> By 1904 the share of income received by the top one percent of households was probably already down as low as it was in Russia, as was the top-one-percent share in Germany (Atkinson, Piketty, and Saez 2011, Figure 7B).

<sup>11</sup> See local school progress in an impoverished setting, Nafziger (2009) and Chaudhary *et al.* (2011).

<sup>12</sup> Mironov (2010, pp. 655-659).

<sup>13</sup> Again see Mironov (2000, 2005, 2010, and his data series at <http://gpih.ucdavis.edu>). For the seventeenth century we can continue to mine Richard Hellie’s vast data set. The issues regarding the incomes extracted by serfs are well framed and illuminated by Dennison (2006).