

Democracy Under the Tsars? The Case of the *Zemstvo*

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Abstract

The emancipation of the serfs is often viewed as watershed moment in 19th-century Russian history. However, this reform was accompanied by numerous others measures aimed at modernizing the Tsarist economy and society. Among these “Great Reforms” was the creation of a new institution of local government - the *zemstvo* – which has received comparatively little attention from economic historians. This quasi-democratic form of local government played a large role in expanding the provision of public goods and services in the half century leading up to the Russian Revolution. In this paper, I draw on newly collected data from several years of spending and revenue decisions by district *zemstva*. These data are matched to information on local socio-economic conditions to produce one of the first (panel) datasets with broad geographic coverage on any topic in Russian economic history. I use this dataset to investigate how population characteristics, local economic conditions, and mandated peasant representation in the *zemstva* influenced funding decisions over public goods. Through their representation in this local political institution, were peasants able to voice their preferences over spending levels and funding for specific initiatives? I find that district *zemstvo* with greater political representation from the peasantry spent more per capita, especially on education. This study initiates a broader research agenda into the *zemstvo*’s place in Russian economic history and contributes to the literature on the political economy of public good provision in developing societies.

In 1864, Tsar Alexander II issued the *Statutes on Provincial and District Zemstvo Institutions* as part of a larger effort to modernize Russia after its defeat in the Crimean War.¹ This act established a new local government institution – the *zemstvo* – in 34 of the 50 provinces of European Russia. The initial act granted the *zemstva* (pl.) fiscal authority (primarily through property taxation) and required the institution to finance other institutions of local government, ensure military provisions and grain stores, and collect taxes for the central government.² Besides these required responsibilities, the founding statutes called on the *zemstva* to undertake programs to support “the local economic and welfare needs of each province.”³ This led to *zemstvo* involvement in the expansion of rural education and health care, in the support of local

¹ See *Polnoe sobranie zakonov Rossiiskoi imperii* [PSZ] (Series II, Vol. 39, No. 40457, 1864). The *zemstvo* statute was part of a sequence of reforms that dramatically altered rural Russian society and economy. These so-called “Great Reforms” (“*Velikie reformy*”) included the emancipation of the peasantry, land reforms transferring property rights to the newly freed peasants, the founding of a new State Bank, the installation of a new judicial system in the countryside, military reforms, and other changes in the state’s administrative structure.

² In this way, the *zemstva* were a response to what one historian has called the “problem of provincial under-institutionalization” (Robbins, 1987, p. 16). This reform occurred in the wake of local administrative reforms in Prussia and the French Republic.

³ See *PSZ* (Series II, Vol. 39, No. 40457, Clause 1, 1864).

artisans and craftsmen, in encouraging credit and cooperative organizations, and in providing veterinary and agronomic services to farmers.

What makes the *zemstva* an especially intriguing institution to study is that they incorporated representation from different *soslovie*, or social estates. *Zemstvo* legislative assemblies were elected at the district level by three curiae of voters: rural property owners, urban property owners, and communal peasant villages. The *zemstvo* statutes fixed the electoral share of each curia in each district, thereby guaranteeing the peasantry some political voice in the assemblies. From among themselves, these assemblymen (*glasnye*) then elected district executive boards (*upravy*) and representatives to provincial *zemstvo* assemblies (which then elected a provincial executive committee). Together, these legislative and executive bodies made revenue and expenditure decisions. Conservative reforms of the 1890s winnowed away the electoral shares of the peasant and urban curiae and enhanced the authority of the landed nobility, but peasants retained seats in the *zemstvo* assemblies and the possibility of election to executive positions. Rather than simply passing local fiscal and administrative authority to the central ministries and the land-owning elite – as had been the case under serfdom – the *zemstvo* system possessed at least some nominally democratic characteristics.

Did the political structure of the *zemstva* influence the provision of public goods in Tsarist Russia, especially for the “disadvantaged” peasant majority? Or was the institution simply an arena for the local landed elite to exercise autocratic or seigniorial authority under a new guise? The predominant view among contemporaries was that the peasantry detested the *zemstvo* as simply a way for the local elite to impose more taxes and suffering upon them.⁴

However, to date there have been almost no empirical studies of whether peasant involvement

⁴ For example, see Leroy-Bealieu (Vol. 2, 1894, p. 170). In his short story, “The Muzhiks” (1915, p. 306), Anton Chekhov describes the mood of some villagers: “The accused the *Zemstvo* of everything – of [their tax] arrears, of oppression, of famines, although not one of them knew exactly what the *Zemstvo* was.”

and local socio-economic conditions help explain variation in *zemstvo* activities.⁵ This paper addresses these questions and contributes towards a better quantitative understanding of the *zemstvo*'s role in Russian economic history.

The first section of the paper briefly describes the organizational structure of the *zemstva*, their internal political processes, and the institution's relationship to other parts of the Tsarist public sector. The second section then introduces a new district-level panel dataset on *zemstvo* spending and revenues, electoral shares, and other socio-economic information covering several years between the 1870s and the 1900s. These data allow me to summarize characteristics of *zemstvo* activity, including some limited evidence on the impact of the institution's expenditures. In the third section of the paper, I draw on a recent literature on the political economy of local public good provision in developing societies to sketch out a theoretical framework to describe *zemstvo* decision-making. This leads to some simple, empirically testable hypotheses regarding the determinants of *zemstvo* expenditures and revenue sources. I bring these to the data and find evidence that greater peasant representation in the *zemstva* increased overall expenditure levels and shifted spending in directions likely preferred by the majority of the population. The brief last section of the paper concludes by identifying some of the many questions that remain to be explored.

1: The *Zemstvo* and Local Self-Government in Late-Tsarist Russia⁶

At noon on October 23, 1883, *zemstvo* executive committee chairman A.P. Fedorov and 31 assemblymen filed into the district courtroom in the town of Ardatov in Simbirsk Province.⁷

⁵ In an important neglected study, Pape (1979) investigates whether high peasant involvement in the *zemstva* of Viatka province affected spending and policies. He finds that greater peasant involvement in the institution led to greater emphasis on educational spending and less on medical care. The present paper employs econometric methods in extending Pape's pioneering work to consider variation in the *zemstvo* across European Russia.

⁶ This section is a much condensed version of the discussion in the longer working version of this paper.

After meeting for three days, they were ready to hear final reports on issues ranging from the ongoing construction of a village school to the *zemstvo*'s activities in road maintenance over the past year. Two final pieces of business were especially important. First, the assembly heard a report from a sub-committee of the *zemstvo*'s executive board on the planned budget for 1884. The budget contained 81,481.64 rubles of expenditures, including 31,756.96 for health care (including the salaries and expenses for four doctors and three hospitals) and 12,139.30 for education (including 5160 rubles of salaries for 35 teachers). The proposed budget foresaw 81,521.15 rubles in revenues for the 1884 calendar year, 65140.68 of which derived from a tax of 12.08% on the estimated income generated by land and other "immovable" property. After the budget was approved, the assembly voted on positions for the 1883-1886 electoral period. These included a new executive board chairman, new executive board members, two *zemstvo* representatives to the district school council, and nine representatives to the Simbirsk provincial *zemstvo* assembly. Many of these newly elected members of the local administration were from the landed gentry, but Filipp Mikhailovich Mikhailov, a peasant from the village of Kurmachkas, was elected as the executive board chairman, and two other peasants – Mikhail Timofeevich Diagilev and Petr Vasil'evich Turgenev – were voted in as the other members of the executive committee. As a result, executive power in the Ardatov *zemstvo* lay entirely in the hands of the peasantry. Filipp Mikhailovich's rise to the top of the local hierarchy was indicative of the new political possibilities for the peasant majority just twenty-two years after serfdom.⁸

Similar meetings of elected representatives to district and provincial *zemstvo* took place across European Russia, beginning in early 1865 and continuing through World War I. Between

⁷ This description of Ardatovskii district *zemstvo* activities for 1883 is taken from the meeting minutes published in *Zhurnaly Ardatovskago* (1884, pp. 106-223).

⁸ Even after the end of serfdom, the peasantry remained a distinct and legally-defined social class with specific rights and obligations to the state (Wirtschaftler, 1997).

the late 1875 and 1911, 34 provinces and 359 of the districts in those provinces had *zemstva*.⁹ Figure 1 shows the provinces where *zemstvo* were established by 1900 (note that Olonets also possessed a *zemstvo*). *Zemstva* were not initially established in the western (Byelorussian) provinces, in the Baltics, in the sparsely populated provinces of the far north and far southeast, or in Siberia and Central Asia. These provinces did not receive the new institution, either because special governing bodies already existed (military authorities in the southeast), or because no amount of electoral rigging could guarantee that Orthodox Russians would predominate in the *zemstva* hierarchies.¹⁰

Local government before the Great Reforms had a number of different corporate and administrative components, some of which had elements incorporated into the *zemstvo*. These included peasant communes, provincial and district assemblies of the nobility, offices of the Tsarist ministries, urban guilds and councils, district courts, and agencies and committees for a variety of local issues.¹¹ Village and township councils and elected elders, clerks, and other peasant officials constituted the lowest layer of (self-)government (*samoupravlenie*) in the countryside.¹² Authority over these peasant institutions and over most aspects of local affairs

⁹ The original statutes (*PSZ*, Series II, Vol. 39, No. 40457, Prologue, 1864) established *zemstva* in 33 provinces, but the institution never opened in Orenburg. *Zemstva* were soon established in Bessarabia (1869 – except for one district that never received one) and Ufa (1875 – carved out of Orenburg province). Except for short-term interruptions, 34 provinces and 359 districts had active *zemstva* between 1875 and 1911. *Zemstva* were never established in Siberia or Central Asia.

¹⁰ The power of German elites was feared in the Baltic provinces, while the Polish landowners and the Jewish population caused worry in the Byelorussian provinces (McKenzie, 1982; and Weeks, 1996). After 1911, *zemstva* were established in nine Byelorussian and southeastern provinces (containing 82 districts). Laws establishing provincial, district, and (new) township-level *zemstva* throughout the Empire were announced in May and June of 1917, but the institution was ended by Soviet decree in December of 1917, following the Bolshevik Revolution.

¹¹ For discussions of other institutions of self-government in the cities and the role of urban social estates during the first half of the 19th century, see Brower (1990) and Mironov (1993). The Urban Reform Statutes of 1785 created minimum property qualifications for voting in city elections, which foreshadowed similar property qualifications for the *zemstvo* elections (see below). Another predecessor to the *zemstvo* was the administrative structure of the state peasantry created in the Kiselev reforms of the 1830s. These included the establishment of a Ministry of State Domains and the installation of a system of township and village government.

¹² The nobility held absolute control over the serfs residing on their estates. However, serf villages, as well as the villages obligated to the Tsar's family and state peasant settlements, also possessed communal forms of self-government.

frequently resided in the hands of the landed gentry, especially after the Provincial Reform of 1775 and the Charter of the Nobility granted by Catherine the Great in 1785. These measures gave the nobility formal representation (elected from their district and provincial assemblies) in various public agencies, including the police, treasury offices, school boards, and local offices of the central ministries.¹³ Provincial governors, who were the chief executives of the provinces and the personal representatives of the Tsar, oversaw all of these administrative and estate-based institutions of local government. Reforms throughout the 18th and early 19th centuries revised the structure and responsibilities of various local government institutions, but the trend was towards consolidation of authority under the central ministries and the provincial governors.¹⁴ Local self-government existed, but it was increasingly subject to chaotic decisions made by often ill-informed and overworked bureaucrats in St. Petersburg.¹⁵

Local government revenues and the provision of public services were limited before 1861. Central government assessments - head taxes (the famous soul tax), different land and property taxes (including the quit-rents paid by state peasants), and a number of “natural duties,” such as labor for roadwork and resources for troop quartering – were haphazardly collected and little was transferred from the center.¹⁶ Serf owners, state peasant administrators, and informal

¹³ The assemblies of the nobility were loci for gentry power in district and provincial government. According to the Charter of the Nobility, these bodies received the right to collect revenues from members and spend them on local matters. Assemblies elected representatives to serve in a variety of local government institutions. Especially important were the marshals of the noble assemblies, who could petition the Senate or the Tsar regarding local issues (Hamburg, 1984).

¹⁴ Alexander I established the ministerial system, and a number of the ministries (finance, internal affairs, etc.) maintained offices in the provincial and district capitals. The numbers employed by the offices of the ministries rose by several times during the reigns of Alexander I and Nicholas I. For summaries of the central and provincial government structure in the pre- and post-reform period, see Hartley (2006) and Shakibi (2006).

¹⁵ All the same, some scholars have viewed the history of involvement in various local institutions during the pre-reform period as formative for working in the *zemstva* (Starr, 1982).

¹⁶ A complicated system of provincial and ministerial planning produced tax assessment lists by location and social estate. District treasury offices distributed these burdens through the local police (*ispravniki*), who, in turn, applied collective responsibility to peasant villages, serf estates, and urban communes in the final allocation. There were some limited efforts to take ability-to-pay into account when assessing tax obligations. For example, the Kiselev reforms differentiated the amount of quit-rents due from the state peasants by the quality of land. Different types of

village (communal) authorities funneled few resources towards education, healthcare, transportation, or other public services. Peasant and urban communal authorities occasionally assessed their members to provide some services (such as paying a literate villager to teach in an informal school or buying medicine), but the impact on level of public goods was quite small.¹⁷ The local nobility oversaw provincial Social Welfare Boards (*Prikazy obshchestvennogo prizreniia*), which were theoretically responsible for a variety of public services, from hospitals to schooling. Mismanagement and a lack of funds meant that these Boards supplied few actual goods and services to the local populations.¹⁸ Other efforts at providing public goods were similarly lacking. Although Alexander I's creation of the Ministry of Education in 1802 led to a revision of the empire's educational system, central government funding for the expansion and support of primary schooling under this reform was rarely forthcoming.¹⁹ Healthcare was limited to a few provincial hospitals and small efforts among the state peasants. Private charity and the

taxes were typically lumped together when collected, further complicating the centralization and reallocation of revenues. The Charter on Local Obligations (1851) attempted to clarify the muddled revenue system by dividing direct taxes into state, provincial, and "particular." This had little effect, and local finances continued to deteriorate. Indeed, the financial problems of the late 1850s led to the establishment of the *zemstvo* as a partial solution to revenue collection problems (Atkinson, 1982, pp. 96-97; and Starr, 1972, pp. 37-44).

¹⁷ Historians of serfdom have found little evidence of significant welfare or public good provision by serf communes (Dennison, 2004; and Hoch, 1986). In a few cases, serf-owners supported schools with instruction by priests (Brooks, 1982, pp. 245-247) or some health care facilities (Hoch, 1986, p. 137). Serf-owners often demanded that their peasants labor on local infrastructure projects as part of their obligations. The Ministry of State Domains, which administered the state peasantry, did establish a grain storage network, founded primary and secondary schools, and organized rural health networks staffed by peasant medics. These turned out to be rather limited efforts, but they did provide examples followed by other ministries and, later, by the *zemstva*. By 1853, the state peasant administrators had established 2795 schools enrolling over 150,000 students across European Russia (Eklof, 1986, p. 34). This was only a small portion of the school-age state peasant population. On public good provision among the state peasants, see Ivanov (1945 – especially on grain storage), Ramer (1982, pp. 282-285 – on healthcare), and Brooks (1982, pp. 245-247 – on education). All peasants and members of urban communes were also liable for troop levies and indirect taxes on the consumption of alcohol, salt, and other goods. The nobility were generally excluded from all the forms of direct taxation and most other obligations to the state.

¹⁸ The Social Welfare Boards were established under the 1775 law and included representation from the urban social estate as well as the provincial nobility (Starr, 1982). The Boards were initially endowed with funds from the central government (although no tax revenues), but the gentry leadership quickly turned these into little more than mortgage banks. Efforts by the Ministry of State Domains and additional reforms in 1822 and 1834 attempted to create a system of famine relief at the provincial and district levels. Money and grain was to be collected, pooled together, and then disbursed to communities in need. Bureaucratic inefficiencies and perpetual underfunding meant that very little relief actually occurred during the period (Robbins, 1975, pp. 18-20). Food relief efforts were turned over to the *zemstvo* after 1864.

¹⁹ See Walker (1984) and Eklof (1986, Chp. 1) on the organization of education in the pre-reform period.

Orthodox Church supported some schooling, basic medical care, and other social services.

Overall, the supply of these and other public goods barely increased at all in the first sixty years of the 19th century.²⁰ It was in this context that Alexander II convened a Special Commission on Provincial Reform, which concluded that there was a need for an “all-class” institution to conduct local tax collection and provide public services. Looking favorably at examples of decentralization in France, Britain, and Prussia, this commission and work by other committees led to the creation of the *zemstvo*.²¹

1.2 The Structure and Functions of the *Zemstvo*

According to the 1864 *zemstvo* act, assemblies in each district were made up of between 10 and 100 representatives elected by three electoral curiae for three-year terms. The first curia was comprised of individual agricultural landowners with private property rights and at least a minimum amount of land. Most of the voters in this curia were nobility, although anyone having the minimum amount of land as private property was eligible under the 1864 law.²² The second curia included district residents holding urban or industrial property of at least a minimum

²⁰ According to rough official statistics from European Russia in 1866, there were 585 state supported primary schools, 1070 church parish schools (secondary and primary), and 31898 “popular” [*narodnye*] schools, which were mostly three or four-year primary schools. These schools enrolled a total of 835,202 students, about 20% of which were female. The total population of the European part of the empire was slightly more than 60 million at this time. The schooling data comes from official registers, which may have departed substantially (above or below) from the actual numbers. See *Statisticheskii* (1866; Section 1, Ch. 1, p. 31 and Section 3, Chp. 2, p. 58). I have been unable to find comprehensive data on the supply of other public goods before the *zemstvo*.

²¹ See Garmiza (1957) and Starr (1972) for more about the bureaucratic, intellectual, and political reasons behind the move toward decentralization. Starr’s study also emphasizes the debt of the Russian movement to earlier European examples of political reform., especially those coming out of the French Revolution.

²² These minimum land holdings ranged from 100 to 800 *desiatina* (1 *desiatina* = 2.7 acres), depending on the district. Rural industrial property (worth at least 15,000 rubles with 6,000 rubles of yearly production) could be substituted for land in determining eligibility to vote in the first curia primaries. Private property owners with smaller amounts of land (including clergy) were grouped together and voted in special by-elections to name representatives to the curia primary. The description of the electoral system provided here is a simplification of what was a very complicated structure. For a more complete description, see McKenzie (1982).

value.²³ The final curia was comprised of peasant communities, who elected representatives in a two-stage process. As part of the reforms of the 1860s, most Russian peasants received property rights and associated obligations as members of *sel'skie obshchestva*, or rural societies (new administrative communes). The *zemstvo* statutes then allowed one vote per commune in township-level “primaries,” which elected the district assemblymen for the curia.²⁴

The elections for district assemblies took place according to supplementary rules published with the initial establishment of the *zemstvo* in the 1860s. Once district and provincial executive boards finalized the lists of eligible voters, each curia held their short primary congresses. Anyone eligible to vote could run for the district assembly, although the 1st and 2nd curiae could only elect from amongst themselves, and the 3rd curia could elect any eligible *zemstvo* voter as a representative.²⁵ Simple counts of affirmative votes elected assemblymen in each primary. The lists of representatives were then sent to the sitting assemblies for verification and then on to the governors for ratification.²⁶

The 1864 law stated that the three curiae were to be allocated seats in the district assemblies according to the “number of landowners, the size of arable lands they own, population of the towns, number and value of urban properties, number of townships, rural population, and the size of the land in possession of the rural communities.”²⁷ The exact

²³ This minimum value was 500 to 6000 rubles, depending on the location and type of property. Individuals in the first two curiae could name proxies to vote in their places. The 1864 law restricted eligibility or voting in *zemstvo* curiae primaries to males older than 25.

²⁴ Townships were a level of government lying between the village and the district. Each province held 6 to 15 districts. In the 3rd curia, the township-level electoral meetings were coordinated by peace mediators and other local officials.

²⁵ See *PSZ* (Series II, Vol. 39, No. 40457, Clause 35, 1864). According to Mamulova (1962), the percentage of peasants elected by the first curia increased from 5.6% to 7.2% between 1865 and 1886 in the 24 provinces that had *zemstva* operating continuously over the period.

²⁶ The provincial governor could veto representatives to district *zemstva* assemblies chosen in each township-level primary. On the election process, see McKenzie (1982, pp. 40-41). Engelgardt provides a fascinating description of a 1st curia primary in Smolensk province, where the main activity was eating and drinking (1993, pp. 49-50).

²⁷ See *PSZ* (Series II, Vol. 39, No. 40457, Clause 33, 1864). At a first approximation, the original statutes set district assembly representation for the 3rd curia was one per township (or 3000 male peasants). In contrast, the 1st curia saw

mechanism that translated these variables into the distribution of electoral shares remains obscure, but it was an outcome of the debate that occurred in the lead-up to the 1864 law. Moreover, inadequate numbers in one or more curia may have affected the electoral structure in a number of districts. Although no one curia was supposed to have an absolute majority, the 3rd curia had a plurality in 69 districts clustered in northern and western provinces where eligible voters in the first two curiae were few. Scholars have labeled these districts “peasant *zemstva*” and argued that they were especially active in the provision of public goods and services.²⁸

The district assemblymen chosen by the three curiae voted among themselves for the provincial *zemstvo* assembly. Representation to the provincial *zemstvo* assembly was proportional to the size of each district’s assembly.²⁹ District assemblies also elected district executive boards (including the executive secretary) and representatives to various non-*zemstvo* bodies, such as the local school council. All of these elected positions were usually for three-year terms. Executive electoral outcomes were subject to ratification by either the district marshal of the nobility or the provincial governor, but, as the case of Filipp Mikhailovich suggests, peasants could and did rise up in the hierarchy.³⁰

approximately one assemblyman elected per 30 eligible voters (Atkinson, 1982, p. 83). Central government agencies with property holdings (including the Tsar’s personal property office) and specific interests in *zemstvo* activities were also allocated specific representation in district and provincial assemblies (*PSZ*, Series II, Vol. 39, No. 40457, Clauses 40 and 55, 1864).

²⁸ For discussions of the peasant *zemstva*, see Atkinson (1982, pps. 119-121) and Pape (1979). Atkinson (citing Veselovskii – who coined the term) states that the 3rd curia had absolute majorities in 50 district *zemstva* under the 1864 law and in 32 under the 1890 law. In contrast, McKenzie (1982, p. 40) asserts that 72 district *zemstva* had 3rd curia pluralities under the 1864 law. I find that the 3rd curia had an absolute majority of seats in three districts (two in Olonets and one in Perm). Why Atkinson’s, McKenzie’s and my own numbers (computed from the original statutes) differ is not clear. Veselovskii (Vol. 4, 1911, pp. 196-200) provides some limited evidence that the peasant *zemstva* had higher levels of expenditures, especially in education. I return to this below.

²⁹ See *PSZ* (Series II, Vol. 39, No. 40457, Clause 52, 1864).

³⁰ For the 3-year term 1883 to 1886, members of the 3rd curia held 436 (34.5%) of the 1263 positions on district executive boards, but only 7 (5.3%) of the 133 seats on the provincial boards (*Sbornik*, 1890, p. 49). Provincial assemblies elected executive boards and secretaries in a similar fashion as in the districts.

Only executive board positions received salaries, which were set at levels chosen by the assemblies.³¹ Not only were assemblymen unpaid, but they were explicitly prohibited from using their positions to “gain occupational advantages or salaries.”³² Moreover, the high opportunity costs of attending *zemstvo* elections and assembly meetings may have disproportionately discouraged participation by the peasantry, thereby leaving *de facto* control of the institution to those who could afford to take part. However, some limited empirical evidence suggests that peasant participation in 3rd curia elections was actually greater than private landowner involvement in their own sessions.³³

Significant changes in *zemstvo* electoral rules were enacted in 1890. The reform of the *zemstvo* law shifted electoral rights away from the 3rd curia and towards the first curia.³⁴ This reflected a shift away from property and toward social class as the basis for curia membership. Peasants and other groups (Jews, clergy, etc.) were banned from the 1st or 2nd curiae, even if they fulfilled the property qualifications. The reform increased the power of the provincial governor to pick assemblymen of the 3rd curia directly from candidate lists in the township meetings (rather than peasants electing the assemblymen at those meetings). In many districts, the law reduced the minimum size of land-holdings needed for voting privileges in the 1st curia in an effort to involve a greater portion of the (numerically) shrinking land-owning nobility.³⁵

³¹ See *PSZ* (Series II, Vol. 39, No. 40457, Clause 49, 1864).

³² See *ibid.*, (Series II, Vol. 39, No. 40457, Clause 39, 1864).

³³ Atkinson (1982, p. 85) and Eklof (1986, p. 60) argue that participation by peasant representative in the *zemstvo* was discouraged because of the high costs. However, in district *zemstvo* elections across the 34 provinces for the 1883-86 term, only 15,359 (20.8%) out of the 73,857 eligible private landowners participated in the 1st curia's primaries, while 157,352 (80.0%) of 196,773 rural societies sent representatives to the township-level primaries for the 3rd curia (*Sbornik*, 1890, p. 48). Fallows (1982, p. 201) notes that despite problems of absenteeism among all curiae, “electoral disputes demonstrate that *zemstvo* elections could still be hotly contested.”

³⁴ This was part of the series of conservative reforms enacted under Tsar Alexander III. On the 1890 reform and the political changes it entailed for the *zemstvo* structure, see Zakharova (1968). Veselovskii notes that the reform of 1890 changed the democratic structure of the institution but did little to revise the scale or scope of *zemstvo* activity (Vol. 3, p. 368). Below, I discuss some of the non-electoral changes in the *zemstvo* stemming from the 1890 law.

³⁵ Peasants comprised approximately 5% of the fully qualified property owners for the first curia by the mid-1880s, which created fears of unrest at the center (Zakharova, 1968, p. 145). See McKenzie (1982, pp. 41-44) and

The 1890 reform resulted in the reduction of the number of assemblymen at both levels of the *zemstvo* from 13,196 in districts (2284 in provincial assemblies) to 10,236 (1618), with most of the reduction coming from the 3rd curia share (Table 1).³⁶ Under the 1864 law, 3rd curia electoral shares were highly correlated with the peasant share of the population in the district (taken from the 1897 National Census). This suggests that the statutes were drawn up with some form of proportionality in mind. Voting shares under the 1890 law showed a substantially lower correlation with peasant population share. Figure 2 shows the effects of the reform on the distribution of peasant voting shares. The dramatic leftward shift in the mass of the distribution confirms the means presented in Table 1.³⁷ Similar kernel density plots (not shown) of the electoral shares for the 1st and 2nd curiae show the expected (opposite) rightward shifts.³⁸

Did the *de jure* change in peasant *zemstvo* electoral rights actually translate into different electoral compositions at the district and/or provincial levels? Table 2 presents rare information on who was actually voted into district assemblies (Panel A) and district executive boards (Panel B) before and after the 1890 reform. In both cases, the nobility gained at the expense of the urban classes and the peasantry (with the nobility likely gaining seats through urban property holdings as well). Peasants failed to gain as many executive positions as their assembly representation would imply, both before and after 1890.³⁹

Zakharova (1968) on the shift from property to class as a basis for the *zemstvo* electoral structure. These authors comment upon the other changes the reform of 1890 entailed.

³⁶ Clause 116 of the 1890 law also allowed assemblymen to elect non-assemblymen to executive positions, as long as they were eligible *zemstvo* voters (McKenzie, 1982, p. 53). The new law also made executive positions a formal part of the state service system, which created requirements that were often difficult for peasant assemblymen to achieve.

³⁷ The concentration of the 1890 density around 33% suggests that this norm was mandated in the reform statutes. However, I have yet to find any evidence that this was actually the case.

³⁸ I am drawing exclusively on the published electoral allocations in the 1864 and 1890 laws. A number of districts experienced slight adjustments to their electoral compositions in separate legislation. For example, a decree of 1902 (*PSZ*, Series III, Vol. 22, No. 22286) affected Kherson, Taurida, Viatka, Novgorod, and St. Petersburg *zemstva* (McKenzie, 1982, p. 72). Future work will incorporate these changes into the empirical framework below.

³⁹ Other data (Atkinson, 1982, Table 4.2) suggest that peasant shares of assembly seats and executive positions increased slightly between the 1890s and the early 1900s. This may have resulted from a 1906 legal change that

Clause 2 of the 1864 *zemstvo* law outlined fourteen objectives of the new institution.⁴⁰ These functions are often divided into two categories: obligatory support for military activities and other local government institutions (supported primarily out of pre-existing property levies, or *zemskie sbory*) and non-obligatory responsibilities. These latter functions included various public goods and services, which were often undertaken in concert with other government institutions and financed by new taxes or remaining funds.⁴¹ Over time, many obligatory functions were taken over by central government ministries, and *zemstva* were granted additional authority to expand programs and levy taxes. This freed up funds for non-obligatory expenditures, including health, education, and other public goods.⁴²

The executive boards set the agendas for the annual assembly meetings at both the district and provincial levels. These meetings – which lasted for up to two weeks by the 1910s – heard reports on dozens of large and small issues, granted or denied funding to ongoing or planned projects, and gave final approval to the proposed budget for the coming year. Clause 89 of the 1864 law mandated majority voting on any agenda item in the assembly meetings (or the executive boards), with ties broken by assembly chairmen or executive secretaries. The statutes

returned direct elections to the 3rd curia, eased requirements for holding executive positions, and allowed peasants with private landholdings the right to participate in the 2nd curia.

⁴⁰ These fourteen objectives were: oversight of *zemstvo* property and assets, maintenance of *zemstvo* property, public food security, management of charitable and social welfare programs, administration of property insurance, the development of local trade and industry, oversight and support of public education and health (and prisons), measures against livestock disease and crop damage from insects, collection of other state taxes, setting and collecting additional taxes for local needs, transfer of information and petitions regarding local needs to higher authorities, holding elections for local government institutions and financing these bodies, and other matters imposed by future legislation (*PSZ, Series II, Vol. 39, No. 40457, Clause 2* [author's translation], 1864). Other laws flushed out details of these duties. I discuss a select number of these below.

⁴¹ See Veselovskii, (vol. 1, 1909, pp. 235-264) for a longer discussion.

⁴² An 1895 road law freed the *zemstvo* from obligatory expenditures on road upkeep, and the military reform of 1874 ended *zemstvo* responsibilities for quartering troops. These are just two examples of a series of laws between the 1870s and 1900s that relieved the provincial and district *zemstva* of many obligatory expenditures (Fallows, 1982).

also called for open voting on all issues except for the firing of *zemstvo* executives and complaints against assemblymen or board members.⁴³

Any assembly member could propose new projects or amendments to budget plans, but most *zemstvo* activities centered on the programs in Clause 2 or occurred as part of larger intergovernmental efforts.⁴⁴ Much of the actual work of the *zemstvo* took place in standing subcommittees or specially elected commissions that met outside of the general meeting. These bodies carried out the planning and spending of funds appropriated in the general budget under the oversight of the executive boards.⁴⁵ Thus, in theory, the very presence of assemblymen with particular preferences could influence a *zemstvo*'s activities, although executive board members and heads of special commissions held especially powerful positions.

After the formulation of budgets and programs, assemblies approved these and forwarded them to the governor (or sometimes the Ministry of Internal Affairs) for final ratification.⁴⁶ The governor was endowed with veto rights, which he could employ if *zemstvo* plans violated the law, if they were financially unsound, or if they impinged upon another government agency.⁴⁷

Statutes from the 1864 law onwards (including the 1890 reform) slowly expanded the *zemstvo*'s

⁴³ See *PSZ* (Series II, Vol. 39, No. 40457, Clauses 88 and 89, 1864). Open voting did not automatically generate unanimity. For example, in balloting for the 1874 *zemstvo* executive board in Byiskii district of Kostroma province, no candidate was unanimously approved and three were voted down by the assembly (*Zhurnaly Byiskago*, p. 11)

⁴⁴ For example, primary school legislation in May, 1874 revised the system of rural education to include *zemstvo* involvement in the district school councils and to create mechanisms where *zemstvo* funds could be used for financing existing schools or building new ones (Brooks, 1982, pp. 250-255). Clause 83 of the 1864 law allowed any private citizen to propose a topic for discussion at a *zemstvo* assembly meeting. Assembly chairmen were then responsible for coordinating the agenda for the meeting, subject to guidelines dictated by the assembly, the governor, and the Ministry of the Interior (*PSZ*, Series II, Vol. 39, No. 40457, Clauses 56 and 81-87, 1864).

⁴⁵ Especially important were preparatory committees, which were elected and then met concurrently with the assembly. These committees considered how to execute proposals for programming. Their recommendations were voted on by the assembly, which then passed the plan to the executive boards for execution.

⁴⁶ Boards were required to produce summary reports and accounting materials for the assembly meetings. These described ongoing projects, issues carried over from previous meetings, and budget estimates for the next year. Clause 71 of the 1864 statutes mandated that each *zemstvo* elect auditing commissions to check the proposed and executed budgets.

⁴⁷ See *PSZ* (Series II, Vol. 39, No. 40457, Clauses 90-91, 1864). In practice, this may have limited autonomy of the *zemstvo*. The 1864 law set up a system of appeal in the event that the provincial governor vetoed some budgetary item or planned program (Clauses 94-98). Clause 87 of the 1890 reform law strengthened the governor's position by allowing him to veto *zemstvo* activities if he found them not "useful" or against the interests of the local population.

right to make its programs and policy decisions binding for the local population (although also subject to approval by the governor's office).⁴⁸ However, police powers were never granted to the *zemstvo*, which limited the application of this authority.

Once budget estimates were approved, operations were undertaken by purchases or contracting carried out in public auctions, by commissioning specialists, or by directly employing workers and professionals.⁴⁹ Contracts for road work were frequently made with construction or maintenance crews to carry out specific projects. With school-building and upkeep, the district *zemstvo* typically allocated funds to community leaders or the local school council. Teachers were often directly paid salaries and frequently worked as formal employees of the *zemstvo*. Agronomy programs, veterinary systems, and rural healthcare networks were generally staffed by employees of the *zemstva*.⁵⁰

Where did the funds to undertake *zemstvo* programs come from? The 1864 law – along with separate rules on *zemstvo* taxation – transferred rights to about 20% of state revenues to the new institution (pre-existing provincial and state taxes, or *zemskie sbory*) while endowing the *zemstva* with a substantial amount of fiscal autonomy.⁵¹ *Zemstva* also collected fees for issuing various sorts of trade and commercial documents, for issuing passports, and for goods and services (such as seed grains or medical services). Revenues were also generated from renting *zemstvo* property and from interest payments on various assets and accounts (for example,

⁴⁸ The 1890 law still allowed the *zemstvo* to appeal decisions by the governor to the Senate but it also gave private citizens the right to file suit against *zemstvo* actions. The reform also established Provincial Offices on *Zemstvo* Affairs under the Ministry of the Interior in order to monitor *zemstvo* activities. See Fallows (1982), McKenzie (1982), and Zakharova (1968) for additional discussion of these issues.

⁴⁹ See *PSZ* (Series II, Vol. 39, No. 40457, Clauses 60 and 102-107, 1864). Public auctions were to be organized by the executive boards and held in *zemstvo* spaces (Clause 104).

⁵⁰ Some provincial *zemstva* had thousands of employees by the early 20th century.

⁵¹ These supplementary tax rules (*PSZ* Series II, Vol. 39, No. 40458, 1864) were meant to be temporary but remained essentially unchanged into the twentieth century. See Atkinson (1982, p. 97). Collecting taxes – *zemstvo* and other – was a key reason for why the *zemstva* were set up in the first place (Starr, 1972, pp. 193-194). The 1864 law made the district *zemstva* responsible for distributing all central and provincial government obligations to different groups in their jurisdictions (Clause 64). The *zemstva* were also granted the right to continue collecting so-called “natural” obligations from their constituents. These were soon converted to monetary payments.

zemstvo bank accounts, funds held as “road capital”, and funds held as part of the food security system). Significantly, *zemstva* were allowed to install new taxes to support their non-obligatory functions.⁵² These taxes could be levied on various forms of “immovable property,” including housing, factory buildings, commercial establishments, and both private and communal land. Tax rates were supposed to be functions of yearly property income (differentiated for the various types of property), and both provincial and district had the right to set their own rates. These rates were adjusted to reflect changes in assessment norms or in the value of taxable property.⁵³ Table 3 provides evidence that peasant allotment land was taxed at a higher rate than privately held land in both 1890 and 1913. Averaged across districts in 1890, peasants paid about 4 kopeks more per *desiatina* (2.7 acres) than did private landowners. This gap apparently widened by 1913.⁵⁴ Although year-to-year arrears were often substantial, intra-governmental transfers and borrowing apparently kept most *zemstva* solvent.⁵⁵

⁵² Tax collection was undertaken by a combination of *zemstvo* employees and the local police. All collected fees and taxes were then to be submitted to district treasuries, which forwarded on revenues claimed by the central government and held onto to *zemstvo* funds until a ratified budget authorized their expenditure. The role of the district treasuries was similar in the pre-1864 period. Under an 1867 law, the *zemstvo* was only guaranteed 12% of local tax collections unless all other claimants were satisfied. This 12% approximated the *zemstvo*'s share at the time, but as the state turned more towards indirect taxation in the late nineteenth century, the *zemstvo*'s needs outgrew this percentage. In 1903, the *zemstvo* was made the first claimant on all direct taxes. The Senate forbade *zemstva* from awarding police for tax collection. See Veselovskii (Vol. 1, 1909, pp. 190-193).

⁵³ See *PSZ* (Series II, Vol. 39, No. 40457, Clauses 68 and 70, 1864). Clause 74 noted that only assemblies (and not executive boards) could issue new or revised taxes. Overall, the 1864 law was relatively vague when it came to the *zemstvo*'s right to tax, but the supplementary rules and later legislation were more specific. The supplementary rules specified that land taxes could only be levied on *udobnaya*, or utilizable, land. A law of November 1866 prohibited the *zemstvo* from taxing industrial production or “turnover” (see Atkinson, 1982, pp. 99-101; and Fallows, 1982, p. 206). In 1900, *zemstva* were limited to annual increases in property taxes of at most 3% (McKenzie, 1982, p. 46). Throughout the period, *zemstva* engaged in substantial research programs to assess property values (and associated incomes) in their jurisdictions.

⁵⁴ Overall, tax rates ranged from 2 to 29% of the value of land output across districts at the turn of the century (Diadchenko, 1906; cited in Atkinson, 1982, p. 103). However, these numbers and those in the text (and Table 3) may just reflect differences in the quality of land held in different districts or by peasants compared to private landowners. Atkinson (ibid.) cites some contemporary literature arguing that peasant land was typically classified as higher quality. She and Fallows (1982) both describe examples of peasant protests over *zemstvo* taxes.

⁵⁵ On financial constraints facing *zemstva*, see Veselovskii (Vol. 1, 1909). Assembly meeting minutes and executive board reports contain numerous debates over outstanding or potential loans from financial institutions, other *zemstvo*, and private citizens. For some examples of these, see the collected accounts of Elisavetgradskii district *zemstvo* in Kherson province, which borrowed hundreds of thousands of rubles in the 1880s and 1890s (Borisov, 1895, pp. 172-174). The Ministry of the Interior had final approval of loans for more than two years of tax revenues

District and provincial *zemstvo* boards and assemblies faced similar but distinct responsibilities. The rule-of-thumb was that the provincial bodies oversaw all initiatives affecting more than one district.⁵⁶ The legislation of 1890 did not change what the overall *zemstvo* system did to any great extent, but it did centralize some activities (see below). Legislation throughout the period strictly limited *zemstvo* cooperation across provinces due to Tsarist fears of coordinated political opposition. It was only with the onset of World War I that serious discussion of a Russia-wide *zemstvo* system began. Such a structure was implemented in a limited way (including the creation of a new township-level *zemstvo*) in 1917.

1.3 *Zemstvo* Activity and the Tsarist Political System

What was the relationship of the *zemstvo* with the rest of the Russian public sector in the late-Tsarist period? Reforms over the period tied the institution closer to other parts government by incorporating *zemstvo* leaders into the empire's bureaucracy and by revising the mechanisms governors and other outside authorities had to intervene in programs and budgets.⁵⁷ New rural authorities were established under the Ministry of Internal Affairs during this period. These included "peace mediators" (*mirovye posredniki*), provincial and district boards for peasant affairs, and land captains (*zemskie nachal'niki*). These all interacted with the *zemstvo* by

(PSZ, Series II, Vol. 39, No. 40457, Clauses 92, 1864). *Zemstva* assemblies could impose fines for non-payment, but collecting was costly.

⁵⁶ The law of 1864 was somewhat vague on the division of labor between district and provincial *zemstva*, but the relevant categories are spelled out in Clauses 62 and 64. Provincial hospitals, agronomy training, highway maintenance, and trade fairs impacted multiple districts and so fell under the supervision of the provincial *zemstvo*. The district *zemstva* were responsible for all local affairs, especially in the allocation of funds to educational matters or healthcare. Primary schools and rural doctor networks were often smaller in scope and typically fell within a single district. Clause 66 gave the provincial assembly the right to issue directives to the districts. For more on the distinction between provincial and district *zemstvo* activities, see Fallows (1982) and McKenzie (1982).

⁵⁷ The structure of the central government was similar to that of the pre-reform period: various high-level governing councils (notably the Senate), ministries that had offices in the provinces, and provincial governors who wielded immense power over local government institutions, including the *zemstvo*.

monitoring elections, by evaluating how programs affected the peasantry, or by directly participating in assembly meetings.⁵⁸

The central government took an increasingly active interest in the provision of local public goods, especially after 1890.⁵⁹ Legislative measures and institutional reforms were enacted which revised the types of local levies that could take place and shifted obligations for particular public services between different elements of the public sector.⁶⁰ The state granted substantial autonomy regarding medical care and the monitoring of local sanitary conditions to the *zemstvo*.⁶¹ Roadwork and other infrastructure improvements (including many private railroads) were eventually taken over by the state, as was the coordination of local food relief efforts after the famine of 1891-1892. The Ministry of Education took an increasingly active role in supervising the system of primary education (including a school inspection system after 1874). This culminated in a 1908 law that committed the state to the idea of universal primary education.⁶² The trend toward state regulation reduced much of the supervisory role of the *zemstvo*, but the institution remained an important source of financing for all types of rural schools – church, *zemstvo*, Ministry of Education, etc. – in the provinces where it existed.⁶³

⁵⁸ On the non-*zemstvo* institutions of local government in post-emancipation Russia, see Bower (1990), Gaudin (2007), McKenzie (1982), (Robbins, 1987), and Starr (1972). Peace mediators were established to manage the process of peasant emancipation, while land captains were a conservative attempt to reinforce central authority over peasant communities after 1889. Fallows (1982) documents the legal relationship between the *zemstvo* and the state bureaucracy over the period. After 1890, *zemstvo* executive board members were included in the Table of Ranks if they fulfilled minimum education requirements.

⁵⁹ See Eklof (1986) and Gaudin (2007) for more detail. This greater involvement was at least partly motivated by the state's financial commitment to the land redemption process that accompanied peasant emancipation. Following the famine of 1891-1892, and amid perceptions of a growing rural economic crisis, the central ministries saw many *zemstva* as fiscally insolvent and moved to intervene in a number of ways (Fallows, 1982, pp. 216-217).

⁶⁰ The state treasury became increasingly reliant on indirect taxation over the period, which left the bulk of direct tax revenues in the hands of local authorities (Zakharov et al., 2006). These changes included the cessation of the soul tax in 1886 and the reduction and eventual end to peasant land redemption payments.

⁶¹ There were some limited attempts at installing a common system of provincial healthcare across the empire (especially in the 1890s), but overall, the central government spent very little on public health (Frieden, 1982).

⁶² This measure required district *zemstva* to submit plans for achieving universal enrollment in their jurisdictions plans. In return, they received various subsidies and loans from the Ministry of Education.

⁶³ Growing state intervention in local educational matters came in a succession of ministerial decrees and reforms from 1867, where the Ministry of Education took over supervision but not funding of all schools, to the 1908 law.

Other reforms over the period expanded city, township, and communal “self-government” and integrated these institutional structures into the larger state apparatus. Besides playing a role in *zemstvo* elections, these bodies continued to provide some public goods and services, although this role diminished as *zemstvo* activities expanded.⁶⁴ These peasant institutions may have competed with the *zemstvo* for the loyalties and the tax dollars of the rural population as this process occurred.⁶⁵

How large was the *zemstvo* “sector” in comparison to other components of the Tsarist political system? Table 4 summarizes overall spending amounts by the different components of Russia’s political structure in the late-Tsarist period. These nominal numbers should be interpreted cautiously, for the scope of activity by each element of the public sector changed over time, the numbers are not net of transfers, and the impact of inflation may have differed across these groupings. Total *zemstva* spending rose from 4.4% of central government spending in 1874 to just over 8% in 1913. These expenditures were increasingly concentrated in healthcare and education (see below), which meant that the *zemstvo* played an important part in any increase in the provision of public goods in European Russia.⁶⁶

Eklof (1986) is the best source on the *zemstvo*-state relationship in primary education. Brooks (1982) notes that the Church actively expanded its parish school network apart from (but occasionally financed by) the *zemstvo*/state system schools before giving way to Ministry control under the 1908 law.

⁶⁴ The township and communal organization of the state peasantry was adopted to include all peasants as part of the Great Reforms. Often these bodies did not exactly match the customary communal institutions of the peasants.

⁶⁵ Atkinson (1982, pp. 98-99, 112-113, and 122-123) argues for the existence of fiscal and political conflict between the townships/communes and the *zemstva*. According to data from 1881 (*Mirskie*, 1883), township and communal authorities spent approximate 26.5 million rubles in the provinces with *zemstvo*. Almost 43% of these funds (11.4 million rubles) went to the salaries of peasant officials. Only 685,000 rubles were noted to have been spent by township authorities on school, healthcare, and other welfare measures (and 121, 218 rubles on infrastructure). However, these numbers do not include spending by the lower-level commune governments, where spending on these public goods may have gone unrecorded. According to Brooks (1982, p. 268 – citing Ministry of Education survey statistics), 27% of funding for rural schools in 1879 came from peasant communes versus 54% from the *zemstvo*. By 1910, only 7% of funding came from communes.

⁶⁶ Between 1885 and 1913, central government spending on education and health care rose from 23 million to 154 million rubles, or 2.7 to 4.6% of total spending. Military spending stayed relatively constant at 27-29% of overall expenditures throughout the period (Gregory, 1982, p. 256). According to Eklof’s tabulations (1986, p. 91), central government spending on primary education rose from only 0.3% of the budget in 1862 to 2.225% (or approximately 76 million rubles) in 1913. By 1913, *zemstva* spending on education – mostly primary – reached approximately 88

2: *Zemstvo* Provision of Public Goods and Services: The Evidence

The political and organizational structure of the *zemstvo* supported a substantial expansion of the institution's activities between 1864 and World War I. The scale and scope of these activities are identifiable from two particularly rich sources of information on the *zemstvo*. In a pioneering work of history, Veselovskii (*Istoriia*, 1906-1911) provides several cross-sections of information on district and provincial budgets and basic measures of the impact of *zemstvo* spending.⁶⁷ For 1903, Veselovskii seems to have relied on a comprehensive compilation of *zemstvo* budget data. This source - *Dokhody i raskhody zemstv 34-kh gubernii* (1908-1915) – offers detailed information on revenues and expenditures from all *zemstvo* for a number of years.⁶⁸ Together, these two sources describe the geographic and temporal variation in *zemstvo* revenue sources, expenditure allocations, and programs.

Table 5 summarizes the revenue and expenditure totals (provincial and district) for the *zemstva* in select years. Total revenues and the corresponding expenditure levels rose dramatically over the period, far exceeding the rate of population growth (even in real terms). Revenues were primarily derived from property taxation. The portion of *zemstvo* spending going to education and healthcare rose from about 18% in 1871 to over 63% in 1913.⁶⁹ As various

million rubles (*Dokhody* 1915). Eklof (*ibid.*, p. 89) provides other evidence that central government contributions to rural primary schooling rose from 11.3% of all funding in 1879 to 45% in 1910, while *zemstvo* support fell from 43.4% to 29.6% over the same period. Some of these contributions took the form of subsidies and loans to *zemstva* to supplement existing or planned programs.

⁶⁷ Veselovskii gives little detail on his sources for specific statistics, although Volume 4 includes an extensive bibliography of *zemstvo* publications and secondary works. Much of his data appear to have been derived from published and unpublished *zemstvo* budgetary materials. Veselovskii's presentation of these data roughly distinguishes between information from planned budgets (*smety*), collected revenues (*postuplenie sbory*), and completed expenditures (*raskhody*). I treat these data equivalently in the empirical work presented below.

⁶⁸ Digitization of the data in *Dokhody* is ongoing. The results presented below take advantage of only a small set of the published data. Cross sections are also available for 1896, 1910, and 1911 and will be subject to future analysis.

⁶⁹ Healthcare and education were only 8.6 and 4.9% of *zemstvo* expenditures in 1868. By 1913, the percentages were 25.1 and 31.4, respectively (Karavaev, 1914, pp. 167-170). These latter two percentages differ from the total

obligatory expenditures were taken over by the central government, *zemstvo* funds played a vital role in the expansion of rural education, healthcare, and other public services after 1864. Even activities such as road maintenance – an absolute necessity given the horrors of travel in rural Russia – which did exist before the Great Reforms, were dramatically reorganized and often expanded under the supervision of the *zemstvo*.⁷⁰ The central government played a growing role in the provision of public goods and services to the rural population of the empire after 1900, but even then it was the *zemstvo* that formed the underlying institutional structure.

Figure 3 compares district and provincial expenditures per capita across provinces at two points in time: 1877 and 1903. I focus on these two years due to the availability of data on population. Three observations stand out. First, Panels A and B show the increase in overall *zemstvo* expenditures per capita over the period. Second, the centralization of *zemstvo* activity is evident in the growth of provincial expenditures as a share of overall expenditures.⁷¹ Third, there was considerable geographic variation in both years. Total expenditures per capita ranged from less than 18 kopeks per capita in Tul'a to over 2.3 rubles per capita in St. Petersburg province in 1877. In 1903, the range was 1 ruble (Penza) to over 4.3 rubles per capita (Olonets). Some of the high-expenditure provinces such as Olonets were economic backwaters, while a number of richer provinces like Voronezh had *zemstva* that spent relatively little (< 2 rubles per capita in 1903).

This variation over space (and time) motivates the empirical analysis below.

percentage provided in Table 4 due to the inclusion of the six provinces with new *zemstvo* in Karavaev's calculations.

⁷⁰ There exists little data or scholarship on local transportation improvements in Tsarist Russia. Although the primary focus in this paper is the *zemstvo*'s involvement in education and healthcare. I do present some limited findings on road expenditures below. For the sake of space, I do not discuss other public goods and services provided by the *zemstvo*, such as agronomy, veterinary care, famine relief, and various economic initiatives.

⁷¹ In 1903, provincial *zemstva* spent an average of 57 kopeks (100 to a ruble) per person, versus a mean of 1.19 rubles by the districts. The corresponding averages (unweighted by population) were 16 and 62 kopeks in 1877. Provincial *zemstvo* spent 20.9% of total expenditures in 1877 and 32.3% in 1903 (this latter number differs slightly from Veselovskii's – see Vol. 1, p. 27). The correlation coefficient between provincial and district spending is 0.64.

Information in *Dokhody* enables a detailed decomposition of revenues and expenditures for 1903. Figure 4 summarizes the revenue sources for the provincial and district *zemstvo*. District *zemstvo* revenues were overwhelmingly drawn from property taxation (79.2% of total revenues), which also provided half of all funds at the provincial level. The provincial *zemstvo* also received a large percentage of revenues in the form of property taxes earmarked for accounts supporting roadwork (17.3%). Both levels of the *zemstvo* received substantial funding from fees for services provided (especially medical), tolls on the local transportation network, donations by private citizens, or transfers originating from other state actors and often tied to specific local purposes.⁷²

Figure 5 breaks down the 1903 cross-section of expenditures. Although administrative costs were significant, they were trending downward as a portion of all expenditures. Both levels of the *zemstvo* spent more funds on healthcare than any other category – 32% of district and 28% of provincial expenditures. Education – a public good with mostly local spillovers – was primarily the responsibility of district *zemstvo*. Roadwork remained a predominantly provincial category.⁷³ Debt obligations averaged below 10% of all expenditures, and the other spending categories were relatively small.⁷⁴

The growing role of the *zemstva* in the provision of health care was reinforced by laws of 1879 and 1890, which gave *zemstva* the power to pass sanitation laws and inspect health conditions in factories and urban areas. *Zemstvo* spending over the period included both

⁷² This last category rose to 24.2% of all (district + provincial) *zemstvo* revenues by 1913, when there were 40 provinces with *zemstvo*. That year saw 61.9% of the 286 million rubles in revenues originate in property taxes (*Dokhody*, 1915). Eklof (1986, pp. 92-93) overemphasizes the role of central government transfers in *zemstvo* budgets after 1900. I focus mostly on the 1903 cross-section for data reasons.

⁷³ Between 1877 and 1903, the portion of total spending undertaken by the provincial *zemstvo* (rather than district) rose from 20.8% to 34.5% (Veselovskii, vol. 1, p. 27).

⁷⁴ Debt payments remained 7.2% of the 286 million rubles in total (district + provincial) expenditures in 1913. Education (30.7%), healthcare (24.6%), *zemstvo* administrative costs (7.8%), and various economic development initiatives (7.4%) were the other large expenditure categories in 1913. See *Dokhody* (1915).

preventative measures, such as vaccinations and monitoring of diseases, and curative efforts in the form of hospitals, traveling doctor networks, and rural *feldshers*, or trained medics. Most services were provided free to local residents – a remarkable innovation at the time.⁷⁵ The resulting expansion of healthcare in the provinces with *zemstvo* was significant, although the overall level of services remained low. Growing district *zemstvo* medical employment improved coverage from 95,000 people per doctor in 1870 to 28,000 per doctor in 1910. At any one time after 1870, the institution employed over 15% of all medical professionals in the empire. According to historians of 19th-century Russian medicine, the reputation of *zemstvo* healthcare was very high by the end of the period.⁷⁶

In education, the *zemstva* were mainly involved in efforts to expand rural primary education. Although they rarely ran schools directly, the *zemstvo* provided funds to support school construction, to pay for books and supplies, and (especially) to provide teacher salaries.⁷⁷ The growth of *zemstvo*-financed primary schooling substantially improved access to schools for the rural population. Between 1877 and 1898, the total population served by a *zemstvo* school (excluding other types of schools) fell by approximately 15%, from 5346 to 4660 people per school in the provinces where the institution existed.⁷⁸ Some scholars have argued that this simply reflected the formalization of existing schools, rather than a true expansion. Even if this

⁷⁵ Free healthcare was seen as a necessity given the poverty of the Russian peasantry and the need to assuage fears of the population regarding modern medicine. Fees were accepted for medicine and some types of hospital stays (Ramer, 1982, p. 281).

⁷⁶ These numbers are taken from Ramer (1982, Table 8.1 – citing research by Z.G. Frenkel) and Frieden (1982). For more on *zemstvo* medicine, see Frieden (1975), Krug (1976), and Veselovskii (Vol. 1, pp. 267-446). Even after improvements were made, Russia lagged well behind other European countries in the numbers of doctors and hospital beds per capita.

⁷⁷ These funds were generally channeled through communal authorities, but occasionally Church or Ministry of Education-run schools were recipients.

⁷⁸ These data are derived from Veselovskii (Vol. 1 [Appendix], 1909) and the population sources described below. According to data summarized by Eklof (1986, Table 13), the density of primary schooling throughout the empire improved from 1 per 7762 people in 1856 to 1 per 1499 people in 1911. Enrollment statistics were consistently better in *zemstvo* provinces: by 1911, 53% of 8 to 11 year-olds were enrolled in the thirty-four *zemstvo* provinces, as opposed to 44.2% over the entire empire (Ibid., Table 12).

was so, the increased resources supplied by the *zemstvo* (and inspections mandated by the Ministry of Education) likely improved the quality of previously informal schools.⁷⁹

Furthermore, *zemstvo* assemblies were granted representation on district and provincial school boards, which approved new construction, certified teachers, revised curricula, and set salary levels. Finally, many provincial *zemstva* supported trade schools, teacher training, and provided some resources for secondary education.⁸⁰ Primary and other types of schooling remained undersupplied at the outbreak of World War I (especially in comparative terms), but enrollment and literacy rates showed improvement over the previous fifty years.⁸¹

By the beginning of the 20th century, *zemstvo* spending shifted away from obligatory duties towards public goods like education and healthcare. However, the allocations and levels of expenditures showed considerable variation across the empire. What drove these differences? Was it spatial variation in income and population characteristics? Or did the geographic pattern of expenditures correspond to variation in the electoral rights of specific groups in the population? Specifically, did representation granted to the recently emancipated peasantry actually influence how *zemstva* spent their resources? Developing a better understanding of how the *zemstvo* functioned also provides insights into several important questions on the role of political institutions on the provision of public goods in developing countries.

⁷⁹ Eklof (Ibid., Chp. 3) asserts that the *zemstvo* played a relatively “meager” role in the expansion of rural education before the 1890s and argues that such expansion was just a formalization of peasant-initiated schools. His argument is a little thin on evidence, and he underplays the institution’s role in mobilizing and channeling resources to support schools of all types (officially *zemstvo* schools and others). Available resources would certainly have been lower in the absence of the *zemstvo*. This would have negatively affected the quantity and quality of rural primary schools.

⁸⁰ *Zemstvo* involvement in primary schooling was governed by laws passed in 1864 and 1874. These both gave the *zemstvo* representation on school district boards and allowed for *zemstvo* financing of state, church, and peasant(-managed) schools. According to Eklof (1986, Chp. 3), the early decades saw considerable *zemstvo* emphasis on secondary schooling, which disproportionately benefited the gentry.

⁸¹ According to the calculations of Mironov (1991, Table 3), literacy rates of rural males older than 9 years rose from approximately 18% in 1860 to over 50% by World War I. Eklof (1986) provides evidence on rising primary school enrollment rates. Chaudhary (2008) notes that less than 10% of India’s population was literate in 1911. She also discusses comparative data on primary school enrollment rates that show Russia ahead of India but well behind Western Europe.

3: Democracy and Local Public Good Provision under the *Zemstvo*

The *zemstvo* was created as a rural institution of local self-government that included formal representation from all social classes. The nature of the electoral process and the growing interference of the central government in the institution's affairs (especially in the 1890 reform) have led many scholars to doubt whether the peasant majority had any influence on *zemstvo* activities.⁸² Evidence indicates that the *zemstvo* was a significant source of funding and organization for the provision of rural public goods and services aimed, but was this simply a way for the elite to “bribe” the local population? Or were the peasants actually able to exercise some influence on spending and revenue decisions through their representatives? Answers to these questions are vital for understanding the role of the *zemstvo* in the process of rural economic development in Tsarist Russia.

3.1 Decentralization, Local Government, and Public Good Provision

The provision of public goods in poor economics is a critical part of the development process, but there is a striking amount of variation in public sector outcomes across space and over time.⁸³ A key factor behind this variation is the different relationships that may exist between local governments and central authorities. Recently, economists have focused on the conditions under which the “decentralization” of government affects the quality and quantity of public goods and services when central governments are absent, corrupt, or unresponsive to their

⁸² Atkinson (1982, p. 115) asserts that, “on the whole the role of the peasants in the *zemstvos* appears to have been quite limited.” This is also the conclusion of Eklof (1986).

⁸³ Variation in access to public goods within and across developing societies is described in Banerjee et al. (2007).

citizens.⁸⁴ Decentralization may take a number of different forms: democratic reforms that give the population influence over local politicians, the granting of tax autonomy to lower levels of government, or the transfer of control over public programs to local institutions.⁸⁵ Whether political or fiscal decentralization has a positive effect on the provision of public goods and services depends crucially on the structure of local political institutions.

If local politicians are not accountable – either through competitive elections or other types of sanctions – then they may enact policies that generate rents for themselves rather than benefits for the public. This implies that the structure of elections and the organization of legislative bodies matter crucially for whether local elites may “capture” public programs.⁸⁶ Are local elections competitive, thereby allowing “bad” politicians to be turned out? Do information asymmetries create opportunities for moral hazard by elected representatives? These problems are smaller in environments with a functioning media and an educated electorate that is able to perceive when officials are misbehaving. Also necessary is a structure that translates votes into seats so that the electorate is “democratically” represented in the local governing body.⁸⁷ It is insufficient to just expand the franchise if the institutional framework fails to hold politicians accountable for corruption or bad policies.⁸⁸

⁸⁴ With informational advantages and social ties, locally elected officials may bring policies more in line with constituent interests than bureaucrats at the center. This process is enhanced in the presence of Tiebout-type sorting, where households vote for their policy preferences by moving. In such contexts, political decentralization should lead to more efficient levels of public good production if benefit or cost spillovers across jurisdictions are small. However, if decentralization goes too far, then local governments may be too small to internalize externalities from public goods and will under-produce them. Besley and Coate (2003) argue that centralization may lead to an inefficient provision of public goods across districts because costs are typically shared equally (through taxation), while differences in preferences over public spending may vary widely.

⁸⁵ See the discussions in Oates (1993) and the examples in Bird and Vaillancourt, eds. (1998).

⁸⁶ On the local capture of public projects by elites, see Bardhan and Mookerjee (2006). In their model, the overall effect of decentralization depends crucially on exactly how public services are financed.

⁸⁷ “Democratic” means that each group in the electorate is represented according to their weight in some social welfare function.

⁸⁸ Acemoglu and Robinson (2008) argue that apparent improvements in political institutions may not lead to better economic outcomes if elites can make investments to maintain *de facto* power. Their model may apply to the case of the *zemstvo* reform if the local landed elite utilized the institution to “bribe” the peasant population.

Accountable local authorities should be responsive to variation in the preferences of their constituents for different public goods.⁸⁹ For example, different communities within a locality may express divergent demands for education. A school district board that recognizes this will enact an appropriate policy to take such preference variation into account. In other words, the political “voice” of all groups in a society – not just the elite – should be heard and taken into account when formulating policy. Each group in the electorate may be viewed as corresponding to a “party” in the elected body that represents their interests. Translating constituent preferences into policy then requires that legislative agendas be open to proposals from all representatives and not limited to a sub-group of governing elites. Moreover, localizing revenues (by granting tax autonomy, for example) may force local government budget constraints to reflect the constituent preferences over the costs and benefits of various public programs.⁹⁰

Was the *zemstvo* a well-functioning institution of local government equipped to provide the public services required by constituents? The *zemstvo* electoral system was an innovation that drew upon the self-governing structures of the state peasantry, the assemblies of the nobility, and the urban communal system. These bodies had some mechanisms in place to elect officials, but none of them had the formal voting structure of the *zemstvo*. In theory, this structure allowed the three curiae to hold representatives accountable by voting them in and out of power.⁹¹ However, the curia primary elections were not open to all constituents and were often viewed as arenas where local elites could push aside more representative candidates. This was true even in the peasant curia primaries, which were typically attended by communal elites and not by other

⁸⁹ This “accountability” and “responsiveness” framework relies on Bardhan and Mookherjee (2006).

⁹⁰ See the discussion in the introduction to Bird and Vaillancourt, eds. (1998). Rosenzweig and Goster (2006) consider the effects of revenue decentralization in a model of local public goods for India. They find that local taxes are frequently regressive so that the poor also pay more for the goods that benefit them the most. This may be relevant for the Russian case, as the different tax rates on peasant and private land would imply.

⁹¹ In some provinces, *zemstvo* primary elections were supposed to operate under a closed ballot after 1874. See the short discussion for the case of Tver in Veselovskii, ed. (1914, p. 28).

township residents.⁹² Moreover, representatives from the 3rd curia were subject to government approval or, after 1890, were selected by governors off of nomination lists. Once assemblymen were seated in the assemblies, their three-year terms, the power of the indirectly elected executive board, the (generally) closed sessions of the yearly meetings, and the high costs of travel and communication in the countryside made it hard for constituents to monitor the behavior of their representatives.⁹³ This all suggests that accountability of *zemstvo* representatives could rarely be enforced.

The *zemstvo* was a dramatic departure – at least formally – from an earlier trend towards the centralization of local tax revenues and public good spending decisions. The subject and rates of *zemstvo* taxation were broadly regulated by the central government, but the institution did achieve a fair amount of fiscal autonomy.⁹⁴ Any member of a *zemstvo* assembly could propose an item for the yearly meetings, and the activities of the executive boards were supposed to be monitored by the elected assemblymen.⁹⁵ The statutes laid out a sensible division between provincial and district *zemstvo* responsibilities that reflected the types of spillovers each category of public spending entailed. These institutional features suggest that it was possible for the provision of public goods to match to the preferences of district residents.

⁹² Eklof (1986, p. 58) asks, “Whom did the *zemstvos* represent, and who determined the direction and set the pace of *zemstvo* activities?” He answers this (p. 60) by asserting that the *zemstvo* “represented only the elite and not the people.” According to an observer of the Viatka *zemstvo*, peasant executive board and assembly members, “[were] not ordinary peasants, but commercial and industrial ones, well-to-do, literate, and so on” (quoted in Pape, 1979, p. 509).

⁹³ It is noteworthy that the *zemstvo* laws did require the publication of meeting minutes, yearly budgets, and other reports. Provincial newspapers did actively cover what the activities of the *zemstvo*, but it is unclear how widely this was disseminated.

⁹⁴ Property taxes, such as those employed by the *zemstva*, are often considered “good” taxes in the sense that property owners are typically local and interested in fostering local economic development. See Oates (1993). Minutes of *zemstvo* meetings record numerous debates over whether to approve external borrowing, suggesting that this was a contentious issue. After 1890, the central government was more involved in monitoring *zemstvo* finances, but the extent of any active intervention is unknown.

⁹⁵ In Buisinskii district (Kostroma province) in 1874, the assembly heard proposals from peasant township administrators, individual assemblymen, outsiders such as the Ministry of Internal Affairs, and the preparatory commission nominated at the beginning of the year’s assembly. The executive board had to report on how each item from the previous year’s agenda was executed (*Zhurnaly Byiskago*, 1875)

However, there were a number of mitigating factors that likely limited the responsiveness of the *zemstvo* to demands by the peasant majority. The costs of travel and participation in assembly meetings and special committees may have deterred peasant assemblymen from attending or even running for election in the first place. Voting on programs and budgets was by majority, which allowed the overrepresented 1st and 2nd curiae to often overcome the 3rd curia in any vote, including votes in elections for executive board positions. Finally, a number of commentators have remarked on the passivity of peasant participants in assembly meetings.⁹⁶ If the 3rd curia's representatives were unwilling or unable to accurately voice the preferences of their constituents, then the *zemstvo* would not have been fully responsive to the peasantry's demands for public goods and services.⁹⁷

Despite problems of accountability and responsiveness, the *zemstvo* did expand the franchise for local government. In general, the impact of such a shift towards “democracy” depends on whether particular groups are explicitly granted political “voice.”⁹⁸ In the *zemstvo*, peasants were allocated a political mechanism that gave them a quota of assemblymen in each district. In contrast, recent political reforms in India mandated that local governments provide a certain amount of leadership positions exclusively to women or lower caste groups. These political reservations resulted in the allocation of more funds towards public goods preferred by

⁹⁶ This is the conclusion of Atkinson (1982) and Eklof (1986). However, Atkinson (1982, pp. 120-121) notes that in the peasant *zemstvo*, 3rd curia representatives were more free to pursue programs that benefited their constituents. Donald Mackenzie Wallace, a Scottish traveler in the 1870s, spent time visiting a district *zemstvo* in Novgorod province and described the peasants at the assembly meetings as very active participants in the proceedings (Wallace, Vol. 2, 1878, pp. 12-13).

⁹⁷ In commenting on an early proposal for the *zemstvo* electoral system, the main Soviet authority on the origins of the *zemstvo* argues that one would be mistaken to see peasant representation as a sign of local democracy in Tsarist Russia (Garmiza, 1957). In a speech to the Riazan provincial *zemstvo* meeting in 1879, one A.I. Koshelev stated that, “I know how strongly outside influences press upon our peasants and how few assemblymen actually represent the social views and interests of the majority of the peasants” (quoted in Gradovskii, 2001 [1884]).

⁹⁸ Go and Lindert (2007) credit the growing political “voice” of residents of small-town America with improving the supply of locally-provided (and funded) public schooling in the mid-19th century.

these groups.⁹⁹ Did mandating a share of assembly seats – but not necessarily any political authority – to peasants actually give them a say in *zemstvo* spending and revenue decisions?¹⁰⁰

The district-level budget data allow me to test whether the 3rd curia's share of assembly representation was related to how *zemstva* collected and spent money. This approach lumps together the issues of accountability and responsiveness and considers whether *zemstvo* activities were correlated with one element of the institution's political structure. In this context, what should *a priori* assumptions be regarding peasant preferences over public goods? Veselovskii, Pape, and others emphasize that the “peasant *zemstva*” spent more than the *zemstvo* did in other districts and spent this extra amount primarily on education (see above). More generally, *zemstva* focus on rural primary education catered overwhelmingly to the peasantry (who could pass the costs on to property owners in other curiae).¹⁰¹ Other public goods – medical care, roads, famine relief, agronomy, etc. – produced more diverse benefits, which may have limited their relative appeal to the peasantry.¹⁰²

This view of a unique “peasant *zemstvo*” serves as starting point for the empirical work below, but I leave open the possibility that peasants (through their elected representatives) favored less total spending or spending on other public goods and services. Such an approach, by

⁹⁹ See Besley et al. (2004), Chattopadhyay and Duflo (2004), and Pande (2003). These studies take advantage of the experimental structure of the Indian reforms, where villages and districts were randomly chosen to have a leader from one of the previously underrepresented groups.

¹⁰⁰ A related literature focuses on how ethnic or religious diversity might affect the provision of local public goods due to variation in preferences, an inability to compromise, or a lack of credible intra-community enforcement mechanisms. In Chaudhary's (2006) recent study of public good spending in colonial India, she finds that in districts with greater social heterogeneity or a larger population of the high Brahmin caste, local governments shifted funds away from education (with benefits accruing mostly to lower classes) and towards infrastructure (with more diverse benefits). Preliminary tests of whether district population heterogeneity affected *zemstvo* spending were inconclusive, primarily because the 34 *zemstvo* provinces offered little ethnic or religious diversity (as measured in the 1897 National Census). The estimated relationships between spending per capita and measures of local diversity were generally negative, although the coefficients were rarely statistically significant.

¹⁰¹ Gentry and urban property holders relied more on private education and urban schools. See the data on primary enrollments by social class reported in *Odnodnevnaia* (1914).

¹⁰² For example, peasants comprised less than 50% of the patients admitted to the Vladimir provincial *zemstvo* hospital in 1884, although they were more than 90% of the population (*Otchet*, 1884, p. 45).

focusing on the peasantry and the 3rd curia of assemblymen, sets aside the other curiae for now. In future work, I hope to separately identify the impact of the non-peasant constituencies on *zemstvo* activities.

For this paper, I focus on testing whether peasant representation actually had an identifiable effect on the margin. An additional representative in the *zemstvo* assembly might matter if it pushed the 3rd curia into a majority position, but there were few of districts with such electoral compositions. Therefore, we may not expect much of an impact from a marginal increase in electoral share on overall spending or on spending for any particular type of public good. However, if log-rolling or vote-trading occurred, then a larger 3rd curia could play a pivotal role in swinging a particular vote in exchange for winning on some issue the peasantry preferred.¹⁰³ Given these qualifications, the empirical question proposed here is modest – was the peasant’s share of assembly seats correlated with *zemstvo* practices?

2.2 Data and Baseline Econometric Methodology

I adapt the empirical framework of several recent studies that test for an effect of granting political power to a disadvantaged social class – the peasant curia in my case – on local government activity.¹⁰⁴ I combine expenditure and revenue data from Veselovskii and *Dokhody* with additional information at the district level. Due to the availability of these other variables (especially in the 1897 national census), I focus on the 1903 cross-section of district-level budget information and employ other years of data in several of the extensions. All variables discussed below are summarized in Table 6, which also includes more detail on how each one was defined.

¹⁰³ Similar failures of the marginal voter theorem could occur under a variety of other electoral models.

¹⁰⁴ See the studies by Pande (2003) and Chaudhary (2006) in particular.

One ancillary outcome of this effort is the first (panel) dataset in Russian economic history that covers a significant geographic area of the empire.

I begin with the following model, where Y_i is the natural log of total per capita *zemstvo* expenditures or per capita spending in a particular category in district i in 1903 (in kopeks):¹⁰⁵

$$Y_i = \beta_0 + \beta_1 \times 3rdCuriaShare_i + \beta_2 \times PeasantPopShare_i + \beta_3 \times CommunalLandShare_i + \bar{\beta}_4 \times X_i + p_j + \varepsilon_i \quad (1)$$

3rdCuriaShare is the portion of district assemblymen allocated to peasant communes according to the 1890 law. Of course, this is NOT the actual share of peasant assemblymen, which could differ if the 3rd curia's electorate voted for representatives from other curia. This measure likely overestimates the total political “voice” of the peasantry, especially considering the limitations on the peasant curia's electoral rights in the reform of 1890.¹⁰⁶ Here, I include just the share of votes in the 3rd curia rather than all three curia shares separately, because there were a number of districts where the 1st and 2nd curia were unified into one. By including peasant population share and the portion of land held in private (non-communal) property in the model, I test whether electoral shares had an additional effect on spending, given that population and property holdings were stated determinants of the original 1864 seat allotments.¹⁰⁷

There could have been other mechanisms linking peasant population share to *zemstvo* spending. A larger share of peasant population share may have meant greater demand for rural public goods (or higher returns to investment in these goods). Or if elites in the 1st and 2nd curia were simply employing the *zemstvo* as a way to bribe the rural population not to revolt, then the

¹⁰⁵ I also estimate versions of Equation 1 with shares of spending allocated to different categories as the dependent variable. I comment briefly on these results below. The population totals in the denominators of the dependent variables are taken from the 1897 national census (Troinitskii, 1905). I consider variation in revenue sources below.

¹⁰⁶ A reminder – the 1890 reform gave the final choice of 3rd curia assemblymen to the governor, who selected them off lists supplied by the township electoral colleges. After 1890, with the curiae based on social estate rather than property ownership, only the 3rd curia could elect peasant representatives to the district *zemstvo*.

¹⁰⁷ This is similar to the approach in Pande (2003). These regressions estimate a variant of what are sometimes referred to as seat-vote curves in the political science literature.

peasant population share may be positively correlated with spending levels. These last two mechanisms don't necessarily imply anything about a correlation between the peasant *electoral* share and the *zemstvo* practices.

In estimating Equation 1, I need to control for other factors – the X_i vector – that plausibly influenced either the level or the allocation of *zemstvo* funds. The key components of this vector are variables describing the level of economic development in the district. On the one hand, richer districts could afford higher taxes to pay for *zemstvo* expenditures. However, in the presence of private substitutes for the public goods provided by the *zemstvo* (or lower returns to public investment), the income effect may have been small or even negative (at least for some of the goods). To proxy for the level of development, I include the average male agricultural (planting) wage for the period 1884 to 1900, the share of peasant land under cultivation (in 1885), and the share of the adult male population occupied primarily in agricultural work from the 1897 census. Besides a possible income effect, more agricultural districts may have benefited less from school spending than districts where job opportunities offered higher returns to education. Experimenting with other indicators of the level of economic development did not appreciably change the findings below.¹⁰⁸

Migration was limited in this period due to passport requirements, residential restrictions, and high transportation costs. Therefore, I am not overly worried about Tiebout sorting as a source of endogeneity bias in estimating Equation 1. Just to be certain, I do control for the share of the population in the district born in another province in 1897. Since some provinces with

¹⁰⁸These measures included the share of the population with work off the farm, other wage variables, and the number of railroad stations in the district (in 1875). I also experimented with including the share of male 20-29 who were recorded as literate in the 1897 census to proxy for the level of human capital. This variable was likely endogenous to *zemstvo* spending, especially on education. It was never significant and I dropped it from the specifications reported in Table 7.

zemstva were only recently incorporated into the Empire, the share of migrants also proxies for the higher demand for public goods that might have existed in frontier areas.

The provision of public goods and services may have had scale effects. I measure *zemstvo* spending in per capita terms, and so including population density directly into the model would introduce spurious correlations. Rather, I control for scale effects by including the total land area of the district, the number of communes in each district, and the portion of the population residing in urban areas in 1897. More densely populated areas may have required lower per capita spending if consumption of *zemstvo*-provided services was non-rival, or if there were economies of scale in producing public goods. Alternatively, in districts with larger numbers of communities (“rural societies” in Table 6), the costs of coordinating a given level of public services may have been higher. This may have caused *zemstvo* spending to be higher or lower.¹⁰⁹ The portion of the population in urban areas may also be an indicator of the presence of city governments that also provided public goods and services. Urban property holders did receive representation in the *zemstvo* assemblies, but most spending was intended for rural areas. Thus, in districts with a highly urban population, demand for *zemstvo* spending may have been reduced. The clearest case of this was in those districts where the provincial capitals were located. Urban governments in provincial centers funded their own public services that catered to the entire province (especially hospitals), and the central government also concentrated its spending in those cities. I also include a dummy variable equal to one if the provincial capital was in the district.

¹⁰⁹ Furthermore, since each rural society generally received a vote in the 3rd curia primaries, more societies may have made affected the quality of elected representatives from the peasantry. In contrast, the direct relationship between the number of *townships* and the number of assemblymen from the 3rd curia may serve to identify variation in peasant electoral shares. This is a component of the IV approach below.

Provincial *zemstvo* spending may have substituted for district expenditures.¹¹⁰

Responsibilities were divided by the laws of 1864 and 1890, but the different levels of the *zemstvo* spent considerable funds on the same types of public goods and services. Including provincial fixed effects in estimating Equation 1 (the p_j term) takes into account this possibility. This strategy also helps control for the province-level unobserved determinants of *zemstvo* activities that are not captured by the other variables in the model.

2.3 Results of Estimating the Baseline Models of *Zemstvo* Spending

I estimate the coefficients of Equation 1 by OLS with robust standard errors clustered by province in case of any correlation of the residuals across districts. The dependent variables and non-percentage explanatory variables (except the provincial capital indicator and the fixed effects) are converted to logs.¹¹¹ Table 7 reports the regression estimates for five dependent variables: total per capita expenditures and per capita expenditures on education, medical programs, roadwork, and *zemstvo* administrative costs (this last variable does not include expenses on other state institutions).¹¹² If the peasantry was interested in maximizing benefits from *zemstvo* spending, then we might expect a small or even negative relationship between 3rd curia electoral share and the level of administrative expenditures.

The results provide some support for the “peasant *zemstvo*” hypothesis that greater peasant representation mattered for how the *zemstvo* spent funds. For all five models, greater 3rd curia electoral shares were positively associated with the amount of spending per capita. The

¹¹⁰ However, the correlation between the two types of spending was positive and significant (see above).

¹¹¹ Several of these dependent variables include values of zero. For these, I first add one before taking the log. The percentage change in the dependent variable from a one unit (1%) change in those independent variables that are defined as percentage points is equal to $100 \times (e^\beta - 1)$.

¹¹² Models of spending in other categories that are mentioned in Figure 4 were estimated but are not reported here due to space constraints. Because the vector of explanatory variables in each equation is the same, there are no efficiency gains by estimating these models in a SUR framework (Wooldridge, 2002, pp. 164-165).

coefficients are larger for total spending, spending on education, and road expenditures than they are for medical care or administrative expenses.¹¹³ District *zemstva* with larger representation from the 3rd curia showed higher expenditures in 1903 on spending categories that were especially beneficial to the peasantry. These findings are repeated when the dependent variables are redefined to be shares of total expenditures (not shown) – 3rd curia electoral share has a positive and significant effect on the education share but a negative effect on both medical and administrative spending.¹¹⁴ These results are weaker but still evident if the specific “peasant” provinces mentioned by Veselovskii and others (Perm, Olonets, Viatka, and Vologoda) are excluded from the regressions. Political representation, rather than peasant population share, affected spending, although some offsetting effects from greater private landownership are evident.¹¹⁵ Representation in the *zemstvo* assembly, regardless of whether this actually created a majority or near-majority position, gave the peasantry a political “voice,” one they apparently chose to use in advocating for more spending on the goods that benefited them the most.

The estimated coefficients on the other explanatory variables are broadly consistent with the hypotheses put forward above. The share of peasant land in grain crops and the share of migrants in the population were mostly unrelated to spending, but the mean wage (positively) and the portion of males working in agriculture (negatively) were weakly associated with

¹¹³ A one percent increase in the 3rd curia electoral share was associated with 0.56% more spending per capita and 0.9% more spending per capita on education. These were small numbers in per capita terms (no more than a few kopeks), but when aggregated over the populations of the districts, these numbers would have entailed the hiring of several teachers.

¹¹⁴ The effect of the 3rd curia electoral share on the share of *zemstvo* expenditures going towards roads is positive but not statistically significant.

¹¹⁵ These were the two acknowledged factors in how the electoral shares were set. While the peasant population share in 1897 only approaches significance for education expenditures, the share of privately owned land in 1877 is negatively associated with overall spending and spending on roads. Districts with high values of this variables were likely those where the landed gentry retained more political sway, through the *zemstvo* or otherwise.

spending in the expected directions.¹¹⁶ Districts with provincial capitals showed lower spending on medical care (which corresponds to a substitution story) and higher administrative spending, which may reflect a cost of living different. The number of rural societies was negatively – albeit mostly insignificantly – correlated with spending. This is consistent with public “competition” between the *zemstvo* and the other self-governing bodies of the peasantry, but it might also reflect the difficulties of providing goods and services across many communities. If the size of the district was highly correlated with total population, then the estimated negative relationship with spending per capita may simply be mechanical. However, the correlation between those two variables was only 0.48. It seems that there were some negative geographic scale effects for *zemstvo* spending.

Thus, the marginal variation in 3rd curia electoral shares seems to have influenced *zemstvo* spending. How exactly this occurred in assembly meetings, executive boards, and special committees remains to be studied.¹¹⁷ One possible set of clues as to whether these findings reflect the expression of peasant preferences by 3rd curia representatives is to consider how variation in the amount and source of *zemstvo* revenues were related to electoral shares. In a regression model of total per capita revenues in 1903 (not reported here), the estimated coefficient on peasant electoral share was almost identical to the result in the first column of Table 7.¹¹⁸ Those districts with greater 3rd curia representation were associated with relatively more revenue from property taxes (correlation of 0.3), and districts with greater property revenues spent more overall per capita (correlation of 0.29) and more on both education (0.47)

¹¹⁶ The large and significant coefficient on the log of the wage in the administrative expenditures model may be due to the higher costs of workers facing the *zemstvo* in those districts.

¹¹⁷ I am currently looking into using newspaper accounts and both stenographic records and actual vote totals of decisions made in *zemstvo* meetings to better understand how this process occurred.

¹¹⁸ These reassuring results are available upon request. Note that the estimated coefficient of the representation share in a model of per capita *property tax* revenues is also positive and significant. The (negative) significance of the percent of private landownership goes away in this model, which may indicate that the gentry did not mind seeing higher property tax revenues extracted (relative to other sources of revenues that fell more upon them).

and healthcare (0.38). These correlations do not control for other factors, but they suggest that the 3rd curia representatives were willing to extract revenues from taxes that were relatively more burdensome for the peasantry and then turn around and spend the funds on more public goods.¹¹⁹

2.4 Unobservables and Endogeneity

The results presented in Table 7 are consistent with a relationship between peasant electoral power and *zemstvo* activity. Here, I explore the robustness of this finding in a number of ways. One key issue is the validity of (implicitly) assuming that the peasant representation share is uncorrelated with unobservable factors that might have affected *zemstvo* spending decisions. To partly address the possibility of such endogeneity, the regressions in Table 7 control for many other plausible determinants of spending and include provincial fixed effects. It still could be the case that something in the residual term of these regressions remains correlated with why certain districts had larger peasant assembly shares. According to one scholar, the assignment of 3rd curia electoral shares under the 1890 law was largely “arbitrary.”¹²⁰ Table 1 and Figure 2 would seem to confirm that the distribution of electoral shares after 1890 was narrower and less correlated with peasant population shares than before. However, endogeneity along some other dimension may still be a concern.

A second way to address such an endogeneity problem is to control for part of the residual that remains correlated with the peasant electoral share. I first do this by taking advantage of the multiple cross-sections of data available on *zemstvo* budgets and other variables to introduce *district*-level fixed effects into the models of *zemstvo* spending. I merge data on 1877 *zemstvo* expenditures and other variables from that time period with the 1903 cross-section

¹¹⁹ I focus here on the expenditure side as a more natural avenue for thinking about welfare outcomes from public goods and services, which will be the subject of future work.

¹²⁰ See Eklof (1986, p. 58 and Footnote 23).

to create a panel dataset.¹²¹ This explicitly controls for additional *unobserved* local conditions that were constant over time, might have influenced *zemstvo* spending, and were correlated with the peasant voting shares. Since many of the variables employed in the specifications above were only available in the cross-section (around the 1903 *zemstvo* data), the fixed effects wipe these out, and I am left with the following model:

$$Y_{it} = \beta_0 + \beta_1 \times 3rdCuriaShare_{it} + \beta_2 \times X_{it} + \lambda_t + p_d + \varepsilon_{it} \quad (2)$$

Where t is the year, the λ_t is a year dummy (= 1 in 1903), the p_d are district effects (dummies), and the X_{it} vector includes variables available for both time periods. This specification takes advantage of the change in the 3rd curia's electoral share between the 1864 and 1890 laws. The other district-level information that changes over time includes population and the share of land held as private property. To include population, I redefine the dependent variables as total expenditures rather than per capita spending to avoid spurious correlations. I do this and present the results in Table 8.

The results in Table 8 provide qualified support for an effect of peasant electoral share on *zemstvo* expenditures. The coefficients on the year dummy and population variables are all significant and exhibit the expected signs. The estimated coefficient on the electoral share variable is positive and significant for total spending but not for the specific categories. Moreover, the expected signs on education and medical spending are switched in both sets of specifications. Estimating the model under the different specifications and other functional forms of the variables did not appreciably change the results.¹²²

There are at least two concerns with the findings in Table 8. First, the short panel means that there are effectively only two observations identifying the coefficients of interest. If either

¹²¹ All the variables are defined in the notes to Table 6.

¹²² The results are the same under first-differencing or when working in other forms of the variables.

cross-section is measured with non-random error, the variation would not accurately identify the partial correlation between peasant electoral share and *zemstvo* spending.¹²³ Second, this panel data approach is an imperfect solution to the endogeneity problem if the *change* in electoral rights is possibly correlated with unobservable factors driving the *change* in *zemstvo* expenditures. Those districts targeted for adjustments in electoral shares might have differed along some other dimension that influenced *zemstvo* practices.

It may be possible to take a different approach to the 1903 cross-section that addresses the endogeneity concern. The different curia electoral shares were originally set in 1864 according to some unknown formula that took population, land distribution, and other factors into account. That is why a cross-sectional study of *zemstvo* expenditures in 1877 likely suffers from even larger endogeneity concerns than the regressions reported in Table 7.¹²⁴ The 1890 peasant electoral share variable was supposedly set in an “arbitrary” fashion to a level around 33% (as reflected in Figure 2), irrespective of district characteristics. However, there may have been factors that drove the decision to set the 1890 electoral shares that were possibly linked with the 1864 shares. This suggests that an instrumental variable approach may be applicable.

What factors determined the electoral shares? In Table 9, I report the results from OLS regressions with provincial fixed effects that relate the electoral shares in 1864 and 1890 to a number of “pre-determined” variables (all summarized in Table 6). Except for one variable, these are all pieces of information available to the reformers who set down the original 1864 law. Data on the distribution of population by social estate (or curia) in 1864 is not yet available, and

¹²³ The 1877 cross section provided by Veselovskii (Vol. 1, 1909) does present issues, for the author does not provide sources for the data and the spending totals are based not on actual expenditures but on budgeted amounts.

¹²⁴ That does not mean a model of 1877 expenditures cannot be estimated. Detailed spending data are not available for 1877, and the set of possible other explanatory variables are different for the earlier cross-section (so the results are not directly comparable). However, total, education, and medical per capita expenditures in kopeks can still be derived and similar models as Equation 1 estimated. The coefficient estimates from such an exercise (available upon request) are similar to those in Table 7. Future work will aim at incorporating additional data to investigate whether there were significant changes between the 1870s and 1900s in the factors driving how the *zemstva* spent money.

so I include the 1897 peasant population share as a proxy. In two of the specifications, I include the share of district land held as allotments by peasant communes in 1877, which closely corresponds to the original distribution of property granted under the emancipation land settlements.¹²⁵ The electoral structure set up in the 1860s supposedly assigned one 3rd curia assemblyman to each township, while the 2nd curia's share of seats may have been correlated with the local urban population share or whether the provincial capital was located in the district. I include the number of townships, the urban population share (in 1857!), and a dummy for the provincial capital district in the specifications.¹²⁶ Scholarship on the founding of the *zemstvo* argues that the establishment of local self-government was a tactic to head off unrest by the newly emancipated peasantry.¹²⁷ If that was the case, then the electoral structure of the institution may have been adapted to make sure that the peasants most likely to create problems – the former serfs – were not endowed with too much local political power. This leads me to include the percentage of the population who were serfs in 1857 as a possible determinant of the 3rd curia electoral shares. Finally, for the 1890 regressions, I include the 1864 peasant electoral share as a proxy for other unobservable factors that possibly influenced the allocation of political representation.

The results reported in Table 9 suggest that even for the supposedly arbitrary curia shares under the 1890 law, there were underlying causes for how electoral rights were fixed. Although

¹²⁵ I am still collecting data on this variable from a number of provinces, which is why I only include the communal land share in two of the specifications. The share of land held by communes in 1877 is a good proxy for the original property allocation because any additional land acquired by peasants in the period 1864 to 1877 (from the landed gentry) would qualify them to participate in the 1st curia. Atkinson (1982, p. 83) notes that if communities had yet to enter into redemption for the land received in the emancipation settlements, the property was counted for the previous owner's membership in the 1st curia. However, most communities had begun redemption by 1877, and the correlation between communal land share in 1877 and 1905 is 0.93 (using data from *Statistika*, 1906).

¹²⁶ Data on the urban population share was taken from the final tax census in 1857. Provincial capital districts may have had significantly more urban and private property, which would have possibly lowered the 3rd curia electoral share.

¹²⁷ This possibility is suggested by Garmiza (1957) and Veselovskii (1909-1911). I am also searching for other information to quantify the local government conditions before the *zemstvo* reforms.

the number of townships has a puzzling sign and is generally insignificant, and the coefficient on the communal land share variable was insignificant, the portion of the population residing in urban areas in 1857 was negatively related to peasant representation under the 1890 law.¹²⁸ Peasant population share mattered much more for the 1864 law than the 1890 one. The coefficient on the 3rd curia electoral share from 1864 has a positive sign in the last specification, but is not precisely estimated. Finally, the strongest partial correlation in Table 9 is between the portion of serfs in 1857 and the electoral shares. The relationship is significant (at least at the 10% level) and negative. This suggests the possibility using the serf variable as an instrument in estimating a model such as Equation 1.¹²⁹

Table 10 reports the findings from a fixed-effect, instrumental variable models of several versions of Equation 1. I utilize the number of townships, the portion of the population in urban areas in 1857, and the portion of the population enserfed in 1857 as excludable instruments for the 3rd curia electoral share in the 1903 cross-sectional model.¹³⁰ The results are preliminary and should be interpreted extremely cautiously. The estimates likely suffer from weak instrument bias, as the F-statistic (reported in Table 10) only rejects the null that the instruments jointly have no effect in the first-stage regression at the 10% level.¹³¹ A larger concern is the validity of these instruments – should they be excluded from the second stage regressions? I report the p-values implied from the Hansen J-statistic (which gives an overidentification test) under the regression

¹²⁸ A possible explanation for the imprecision of the township variable coefficient may be that the 1st curia received an assembly seat in correspondence with each township. This possibility is suggested by McKenzie (1982).

¹²⁹ It should be noted that the coefficients on the portion of serf variable, while precisely estimated in all specifications, implies a very small relationship between these two variables. The elasticity hovers between 0.3 and 0.1 percent.

¹³⁰ Including the 1864 3rd curia share as an instrument does not change the findings below and may still be correlated with unobservable factors. I do not report results for road work, but these are available.

¹³¹ Different specifications of the first-stage suggest that the instruments – even the portion of serfs in 1857 – are frequently not strongly correlated with the endogenous peasant electoral share. This is true if the 1864 3rd curia share is included or if any of the other three instruments are dropped.

results. The high values in three of the four models imply that I cannot reject the null that the instruments are valid (i.e. excludable).¹³²

The results provide only very limited support for the notion that the 3rd curia electoral shares had a positive impact on overall *zemstvo* spending and on spending for education. The coefficients on the instrumented electoral share variable are positive, somewhat large than in Table 7 (as is typical with instrumental variables), but are insignificant across the board. The coefficients on other variables are approximately the same size and have the similar signs as the earlier findings, but many of the earlier findings of significance are lost.¹³³

2.5 Preliminary Investigations of the Mechanisms

The regression coefficients in Table 7 imply that the addition of one more peasant representative in the *zemstvo* assemblies had a statistically significant positive effect on overall spending, on spending for education programs, and, in some cases, on other types of expenditures. What does this result mean if the 3rd curia representatives held far less than a majority of the assembly seats, even with an additional assemblyman? I define a dummy variable equal to one if the 3rd curia had a portion of the seats near the majority (for example, between 40 and 50% of the total seats). If I include an interaction term between the 1890 peasant electoral share variable and this dummy variable and re-estimate the models of Table 7, I can test for whether the positive coefficient estimates are driven by the peasant electoral share crossing the

¹³² However, this statistic assumes that at least one instrument is valid. If this assumption is violated (as it would be if the portion of serfs was correlated with some unobservable determinant of *zemstvo* activity), then the second-stage coefficient estimates will still be biased. As a non-rigorous check, I re-estimated the regressions in Table 7 while including the serf population share, the urban share in 1857, and the number of townships (all in logs). None of these variables were significant, although this is not a fully valid test if other regressors are endogenous. In other work, I conclude that the characteristics of former serf villages differed from those in former state peasant villages by the end of the 19th century (Nafziger, 2006). This may have implications for the validity of this instrument and will be explored in future work. The search for other plausible instruments for the electoral share is ongoing.

¹³³ The estimated coefficients on the 1897 urban share are little different between Tables 7 and 10, even with the inclusion of the 1857 urban share. The two variables are highly correlated (0.9).

majority threshold – i.e. that the new assemblyman would have acted as a “swing voter.” The results of this exercise (not reported here) give zero support to this possibility. There is no additional effect for this sub-group of districts. Thus, the effects of electoral rights are more diffuse across the distribution of assembly seat shares.¹³⁴ Several mechanisms – logrolling, multi-stage voting, etc. – imply that a non-median voter might see his preferences influence policy outcomes.

The findings of Tables 7 and 8 suggest that *zemstvo* spending was responsive to local demands and characteristics of constituent populations. Peasants likely benefited more than other groups from the types of spending undertaken by the *zemstvo*, and their representatives seem to have been able to give some political voice to these demands. However, without direct evidence on peasant preferences for public spending, these links are tenuous. Were 3rd curia assemblymen able to express preferences over particular configurations of public budgets, or did the expenditure and revenue patterns reflect the interests of the local elite with the real authority? Additional analysis of the electoral process, the internal budget politics of the *zemstvo*, and the identities of the assemblymen are natural next steps in thinking about the mechanisms behind these correlations.

Part 3: Concluding Thoughts – Future Extensions

This paper makes an initial foray into investigating one of the most important and least explored institutions in 19th century Russian economic history – the *zemstvo*. In contrast to standard conceptualizations of Tsarist Russia as completely centralized, the story emphasized

¹³⁴ Changing the bounds on what might have denoted a “marginal” voter did not change the results, which are available upon request. Besley (2007) briefly describes some criticisms of the median voter model, which this extension implicitly assumes.

here is one that involves local self-government and a unique form of decentralized decision-making over public goods and services. Not only was the *zemstvo* extensively involved in local public services – from schooling and medical care, to agronomy and road maintenance – but it was an arena where the newly emancipated peasantry could actually give voice to their concerns. I find evidence consistent with this story – peasant electoral power in the *zemstvo* was positively associated with spending per capita, especially on education. These findings contribute to recent works on political representation and local public goods in India and other developing societies.

There are a number of issues that must be dealt with to develop a more complete understanding of the effects of the *zemstva*. Research into exactly what determined the voting shares of the *zemstvo* must be undertaken before the exogeneity assumptions behind the findings in Table 7 can be conclusively addressed. This may require archival work on the legislative commissions that generated the laws of 1864 and 1890. Also necessary is a more detailed account of exactly how an assembly seat might affect *zemstvo* budget and program decisions. I am currently studying a variety of *zemstvo* meeting minutes and budget accounts in the hope that they will help unveil more details about the political economy of spending and income decisions. A more comprehensive analysis of all the different activities of the *zemstva* is another natural step forward – minutes, executive board reports, and published sources such as the *Dokhody* volumes offer incredibly detailed accounts of where every ruble went. This paper focuses mostly on the spending side of the ledger, but data are available to analyze *zemstvo* revenues. This will enable a richer account of how local public finance worked in the post-emancipation period.

Finally, it is worth noting that the long-run objective of this research project is to look at welfare outcomes. Did *zemstvo* expenditures, or even the extra bit of spending encouraged by peasant assemblymen, actually have a measureable impact on the rural population of what was

very much a developing society? The surprisingly plentiful data available for Russia between the emancipation of the serfs and the Bolshevik Revolution will hopefully help shed light on how political institutions should be structured for the adequate provision of public goods and services in developing countries today.

Works Cited

- Acemoglu, Daron, and James A. Robinson. "Persistence of Power, Elites, and Institutions." *The American Economic Review* 98, no. 1 (2008): 267-293.
- Alesina, Alberto and Eliana La Ferrara. "Ethnic Diversity and Economic Performance." *Journal of Economic Literature* 43 (2005): 762-800.
- Atkinson, Dorothy. "The Zemstvo and the Peasantry." In *The Zemstvo in Russia: An Experiment in Local Self-Government*, edited by Terence Emmons and Wayne S. Vucinich, 79-132. Cambridge: Cambridge University Press, 1982.
- Banerjee, Abhijit, Lakshmi Iyer, and Rohini Somanathan. "Public Action for Public Goods." Bureau for Research and Economic Analysis of Development (Bread), 2007.
- Bardhan, Pranab, and Dilip Mookherjee. "The Rise of Local Governments: An Overview." In *Decentralization and Local Governance in Developing Countries*, edited by Pranab Bardhan and Dilip Mookherjee, 1-52. Cambridge, MA: The MIT Press, 2006.
- , et al. "Desentralisation and Accountability in Infrastructure Delivery in Developing Countries." *The Economic Journal* 116 (2006): 101-127.
- Besley, Timothy. "The New Political Economy." *The Economic Journal* 117 (2007): F570-F587.
- , and Stephen Coate. "Central Versus Local Provision of Public Goods: A Political Economy Analysis." *Journal of Public Economics* 87, no. 4 (2003): 2611-2637.
- , et al. "The Politics of Public Good Provision: Evidence from Indian Local Governments." *Journal of the European Economic Association* 2, no. 2-3 (2004): 416-426.
- Bird, Richard M., and Francois Vaillancourt, eds. *Fiscal Decentralization in Developing Countries*. Cambridge, England: Cambridge University Press, 1998.
- Borisov, E.I., ed. *Sistematicheskii Svod Postanovlenii Elisavetgradskago Uezdnoago Zemskago Sobraniia Za 1865-1895 Gody*. Elisavetgrad, Russia: Elisavetgradskoe uezdnoe zemstvo, 1895.
- Brooks, Jeffrey. "The Zemstvo and the Education of the People." In *The Zemstvo in Russia: An Experiment in Local Self-Government*, edited by Terence Emmons and Wayne S. Vucinich, 243-278. Cambridge: Cambridge University Press, 1982.
- Brower, Daniel R. *The Russian City between Tradition and Modernity, 1850-1900*. Berkeley, CA: University of California Press, 1990.
- Chattopadhyay, Raghavendra, and Esther Duflo. "Women as Policy Makers: Evidence from a Randomized Policy Experiment in India." *Econometrica* 72, no. 5 (2004): 1409-1443.
- Chaudhary, Latika. "Determinants of Primary Schooling in British India." Working paper, Stanford University, 2008.
- , et al. "Social Divisions and Public Good Provision: Evidence from Colonial India." Working paper, Stanford University, 2006.
- Chekhov, Anton. "The Muzhiks." In *The Kiss and Other Stories*. New York: Frederick A. Stokes Company, 1915.
- Dennison, Tracy K. "Economy and Society in Rural Russia: The Serf Estate of Voshchazhnikovo, 1750-1860." D. Phil dissertation, Cambridge University, 2004.
- Dokhody I Raskhody Zemstv 34-Kh Gubernii Po Smetam Na 1903 [, 1906, and 1913]*. multiple vols. St. Petersburg: Statisticheskoe Otdelenie, Departament Okladnykh Sborov, 1908-1915.
- Eklof, Benjamin. *Russian Peasant Schools: Officialdom, Village Culture, and Popular Pedagogy, 1861-1914*. Berkeley, CA: University of California Press, 1986.

- Engelgardt, Aleksandr N. *Letters from the Countryside, 1872-1887*. Translated by Cathy A. Frierson. Edited by Cathy A. Frierson. New York: Oxford University Press, 1993.
- Ershov, G., ed. *Pozemel'naia Sobstvennost' Evropeiskoi Rossii 1877-1878 gg.* Vol. 10, *Statisticheskii Vremennik Rossiiskoi Imperii, Series III*. St. Petersburg, Russia, 1886.
- Fallows, Thomas. "The *Zemstvo* and the Bureaucracy, 1890-1914." In *The Zemstvo in Russia: An Experiment in Local Self-Government*, edited by Terence Emmons and Wayne S. Vucinich, 177-241. Cambridge, England: Cambridge University Press, 1982.
- Frieden, Nancy M. "Physicians in Pre-Revolutionary Russia: Professionals or Servants of the State?" *Bulletin of the History of Medicine* 49, no. 1 (1975): 20-29.
- , "The Politics of *Zemstvo* Medicine." In *The Zemstvo in Russia: An Experiment in Self-Government*, edited by Terence Emmons and Wayne S. Vucinich, 315-342. Cambridge: Cambridge University Press, 1982.
- Go, Sun, and Peter H. Lindert. "The Curious Dawn of American Public Schools." NBER Working Paper No. 13335, 2007.
- Garmiza, V. V. *Podgotovka Zemskoi Reformy 1864 Goda*. Moscow: Moscow University, 1957.
- Gaudin, Corinne. *Ruling Peasants: Village and State in Late Imperial Russia*. DeKalb, IL: Northern Illinois University Press, 2007.
- Gradovskii, A. D. "Krest'ianskie Vybory v Glasnye Uezdnykh Zemskikh Sobranii." In *Institut Vyborov v Istorii Rossii*, edited by Iu. A. Vedeneev, I. V. Zaitsev and V. V. Lugovoi. Moscow: Norma, 2001 [originally 1884].
- Gregory, Paul R. *Russian National Income, 1885-1913*. Cambridge: Cambridge University Press, 1982.
- Hamburg, Gary. *Politics of the Russian Nobility, 1881-1905*. New Brunswick, NJ: Rutgers University Press, 1984.
- Hartley, Janet. "Provincial and Local Government." In *The Cambridge History of Russia, Volume 3: Imperial Russia, 1689-1917*, edited by Dominic Lieven, 449-467. Cambridge: Cambridge University Press, 2006.
- Hoch, Steven. *Serfdom and Social Control in Russia: Petrovskoe, a Village in Tambov*. Chicago: The University of Chicago Press, 1986.
- Karavaev, V.F. "Zemskii Smety i Raskladki." In *Iubileinyi Zemskii Sbornik, 1864-1914*, edited by Boris Veselovskii and Z. G. Frenkel', 155-179. St. Petersburg, Russia, 1914.
- Korolenko, S.A., ed. *Sel'skokhoziaistvennyi i statisticheskiia svedeniia po materialam poluchennym ot khoziaev*. Issue V. 1892
- Krug, Peter F. "The Debate over the Delivery of Health Care in Rural Russia: The Moscow *Zemstvo*, 1864-1878." *Bulletin of the History of Medicine* 50, no. 2 (1976): 226-241.
- Leroy-Beaulieu, Anatole. *The Empire of the Tsars and the Russians*. Translated by Zenade Ragozin. 3 vols. New York: G.P. Putnam, 1893-1896.
- Mamulova, L.G. "Sotsial'nyi Sostav Uezdnykh Zemskikh Sobranii v 1865-1886 Godakh." *Vestnik Moskovskogo universiteta, Serii 9: Istorii*, no. 6 (1962): 32-48.
- McKenzie, Kermit E. "Zemstvo Organization and Role within the Administrative Structure." In *The Zemstvo in Russia: An Experiment in Local Self-Government*, edited by Terence Emmons and Wayne S. Vucinich, 31-78. Cambridge: Cambridge University Press, 1982.
- Mironov, Boris. "Bureaucratic- or Self-Government: The Early Nineteenth Century Russian City." *Slavic Review* 52, no. 2 (1993): 233-255.
- , "The Development of Literacy in Russia and the USSR from the Tenth to the Twentieth Centuries." *History of Education Quarterly* 31, no. 2 (1991): 229-252.

- Mirskie raskhody krest'ian za 1881 god. Statisticheskii vremennik Rossiiskoi imperii*, Series III, issue 13. St. Petersburg: TsSK-MVD, 1886.
- Moon, David. *The Russian Peasantry 1600-1930: The World the Peasants Made*. London: Longman, 1999.
- Nafziger, Steven. "Communal Institutions, Resource Allocation, and Russian Economic Development." Ph.D. Dissertation, Yale University, 2006.
- Oates, Wallace. "Fiscal Decentralization and Economic Development." *National Tax Journal* 46, no. 2 (1993): 237-243.
- Otchety I Smety Vladimirskoi Gubernskoi Zemskoi Upravy Ocherednomy Gubernskomu Zemskomu Sobraniuu, Xix-I Sessii*. Vladimir na Kliaz'me, Russia: Gubernskaia zemskaia uprava, 1884.
- Odnodnevnaia Perepis' Nachal'nykh Shkol V Imperii*. Edited by V.I. Prokrovskii. 15 vols. St. Petersburg, Russia: Ministerstvo narodnago prosveshcheniia, 1913.
- Pande, Rohini. "Can Mandated Political Representation Increase Policy Influence for Disadvantaged Minorities? Theory and Evidence from India." *The American Economic Review* 93, no. 4 (2003): 1131-1152.
- Pape, Carsten. "The 'Peasant Zemstva': Popular Education in Vjatka Gubernija, 1867-1905." *Jahrbücher für Geschichte Osteuropas* 27 (1979): 498-519.
- Polnoe Sobranie Zakonov Rossiskoi Imperii*, Series II. Vol. 39 (1864). St. Petersburg, Russia, 1867.
- Porter, Thomas Earl. *The Zemstvo and the Emergence of Civil Society in Late Imperial Russia 1864-1917*. Distinguished Dissertations Series Vol. 18. San Francisco: Mellen Research University Press, 1991.
- Ramer, Samuel C. "The *Zemstvo* and Public Health." In *The Zemstvo in Russia: An Experiment in Self-Government*, edited by Terence Emmons and Wayne S. Vucinich, 279-314. Cambridge: Cambridge University Press, 1982.
- Robbins, Richard G. *Famine in Russia, 1891-1892*. New York: Columbia University Press, 1975.
- *The Tsar's Viceroys: Russian Provincial Governors in the Last Years of the Empire*. Ithaca, NY: Cornell University Press, 1987.
- Rosenzweig, Mark R., and Andrew Foster. "Democratization, Decentralization, and the Distribution of Local Public Goods in a Poor Rural Economy." BREAD Working Paper, No. 010, 2003.
- Sbornik Svedenii Po Rossii, 1890*. Vol. X, *Statistika Rossiiskoi Imperii*. St. Petersburg, Russia: Central Statistical Committee, Ministry of the Interior, 1890.
- Shakibi, Zhand P. "Central Government." In *The Cambridge History of Russia, Volume 3: Imperial Russia, 1689-1917*, edited by Dominic Lieven, 429-448. Cambridge: Cambridge University Press, 2006.
- Starr, S. Frederick. *Decentralization and Self-Government in Russia, 1830-1870*. Princeton, NJ: Princeton University Press, 1972.
- "Local Initiative in Russia before the *Zemstvo*." In *The Zemstvo in Russia: An Experiment in Local Self-Government*, edited by Terence Emmons and Wayne S. Vucinich, 5-30. Cambridge: Cambridge University Press, 1982.
- Statisticheskii Vremennik Rossiiskoi Imperii*. Multiple volumes. St. Petersburg, Russia: Central Statistical Agency, Ministry of Internal Affairs.

- Statistika Zemliavladeniiia 1905 G.* multiple vols. St. Petersburg, Russia, 1906.
- Troinitskii, N.A., ed. Multiple vols, *Pervaia Vseobshchaia Perepis' Naseleniia Rossiiskoi Imperii, 1897 G.* St. Petersburg, Russia: Central Statistical Committee, Ministry of the Interior (TsSK, MVD), 1905.
- Veselovskii, Boris. *Istoriia Zemstva Za Sorok Let.* 4 vols. St. Petersburg: O.H. Popova, 1909-1911.
- , ed. *Istoricheskii Ocherk Deiatel'nosti Zemskikh Uchrezhdenii Tverskoi Gubernii (1864 - 1913 g.g.)*. Tver: Tver zemstvo printer, 1914.
- Walker, Franklin A. "Popular Reactions to Public Education in the Reign of Tsar Alexander I (1801-1825)." *History of Education Quarterly* 24, no. 4 (1984): 527-543.
- Wallace, Donald Mackenzie. *Russia.* 3 vols. Leipzig, Germany: Bernhard Tauchnitz, 1878.
- Weeks, Theodore W. *Nation and State in Late Imperial Russia.* DeKalb, IL: Northern Illinois University Press, 1996.
- Wirtschafter, Elise. *Social Identity in Imperial Russia.* DeKalb, IL: Northern Illinois University Press, 1997.
- Wooldridge, Jeffrey M. *Econometric Analysis of Cross Section and Panel Data.* Cambridge, MA: The MIT Press, 2002.
- Zakharova, Larissa. *Zemskaiia Kontrreforma 1890 Goda.* Moscow, 1968.
- Zemskie Raskhody, Naznachennye Po Smetam I Deistvitel'no Proizvedennye V 1896 Godu.* St. Petersburg, Russia: Tsentral'nyi statisticheskii komitet, MVD, 1896.
- Zhurnaly Byiskago Uezdnoago Zemskago Sobraniia. Ocherenaia Sessiia 18-23 Marta 1874 Goda.* Kostroma, Russia: Uezdnaia zemskaiia uprava, 1875.
- Zhurnaly Ardatovskago Uezdnoago Zemskago Sobraniia Simbirskoi Gubernii. Ocherednoi Sessii 1883 G. I Ekstrennykh Sozyvov Na 11 Ianvaria I 12 Iunia 1883 Goda.* Nizhii Novgorod, Russia: Roiskii and Dushin, 1884.

Figure 1: Russian Provinces with *Zemstvo*, c. 1900



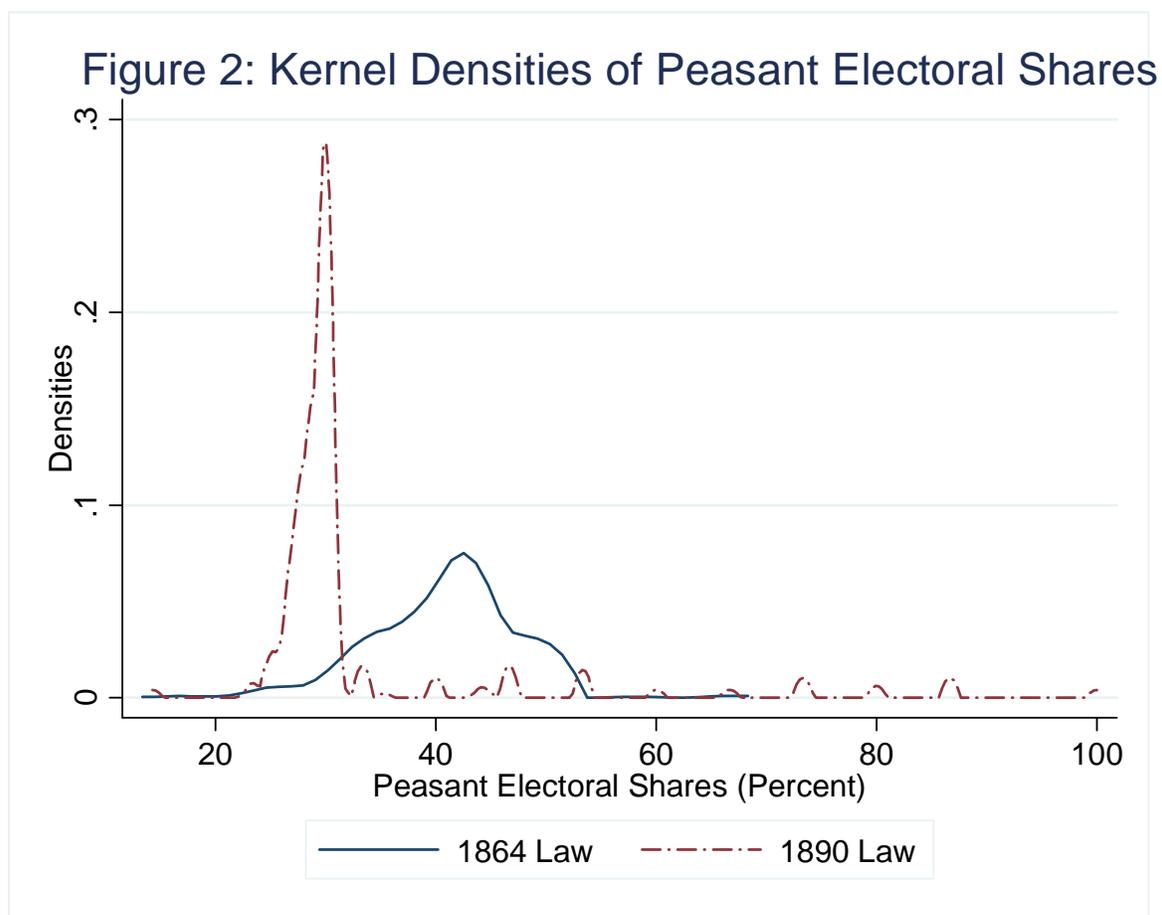
Source: Robbins (1997)

Table 1: Mean Curia Shares of District <i>Zemstvo</i> Voting Rights			
N = 351	1 st Curia (Private Landowners)	2 nd Curia (Urban Property Owners)	3 rd Curia (Peasant Communities)
1864 Law	46.1	13.0	40.9
1890 Law	52.6	14.6	32.8

Correlations

3 rd Curia Share (1864) and Peasant Share of Population (1897) = 0.60
3 rd Curia Share (1890) and Peasant Share of Population (1897) = 0.25

Sources: *PSZ* (Series II, Vol. 39, Issue 3 [Appendices], 1867), Voevodskii and Ikskul' (1890, pp. 49-62), and Troinistikii, ed. (multiple vols., 1905).



Note: The electoral share data comes from the *zemstvo* laws of 1864 and 1890 in appendices to the relevant volumes of *PSZ*. The density is estimated using the Epanechnikov kernel with N = 50.

A: Assemblies				
	Nobility	Merchants / Urban Classes	Clergy	Peasants
1883-1885	5595 (42.4%)	2223 (16.9%)	305 (2.2%)	5073 (38.5%)
1890-1893	5697 (55.2%)	1415 (13.8%)	0 (0.0%)	3174 (31.0%)
B: Executive Boards (portions)				
	Nobility	Other	Peasants	
1886	55.5%	13.6%	30.9%	
1903	71.9%	9.8%	18.9%	

Note: In 1883-1885, 86.4% (N = 4635) of 3rd curia representatives were peasants. Sources: Veselovskii (Vol. 3, 1911, pp. 433-434 and 674-676) and Sbornik (1890, pp. 226-233).

1 <i>desiatina</i> = 2.7 acres	Mean	SD	N
1890 Tax assessment per <i>desiatina</i> of peasant allotment land (districts)	18.8	7.4	340
1890 Tax assessment per <i>desiatina</i> of non-peasant land (districts)	14.5	7.9	340
1913 Tax assessment per <i>desiatina</i> of peasant allotment land (across provincial and district <i>zemstva</i>)	62.7	-	-
1913 Tax assessment per <i>desiatina</i> of any land type (across provincial and district <i>zemstva</i>)	50.8	-	-

Sources: 1890 data from Veselovskii (Vol. 1 [Appendix VII], pp. 648-652). 1913 data derived from Dokhody (1915). The 1913 data are averages of all taxes across all types of land and refer to all 40 provinces with *zemstva* at that time. There are 100 kopeks in a ruble.

Table 4: Expenditures by Different Levels of Government (millions of current rubles)

	Central Government	Urban Governments	Township and Rural Societies	District and Provincial <i>Zemstva</i>
1874	609	NA	NA	27
1885	866	30	26	43 (1886)
1896	1361	42	40	60
1903	2072	72	45	99
1913	3383	162	53	286

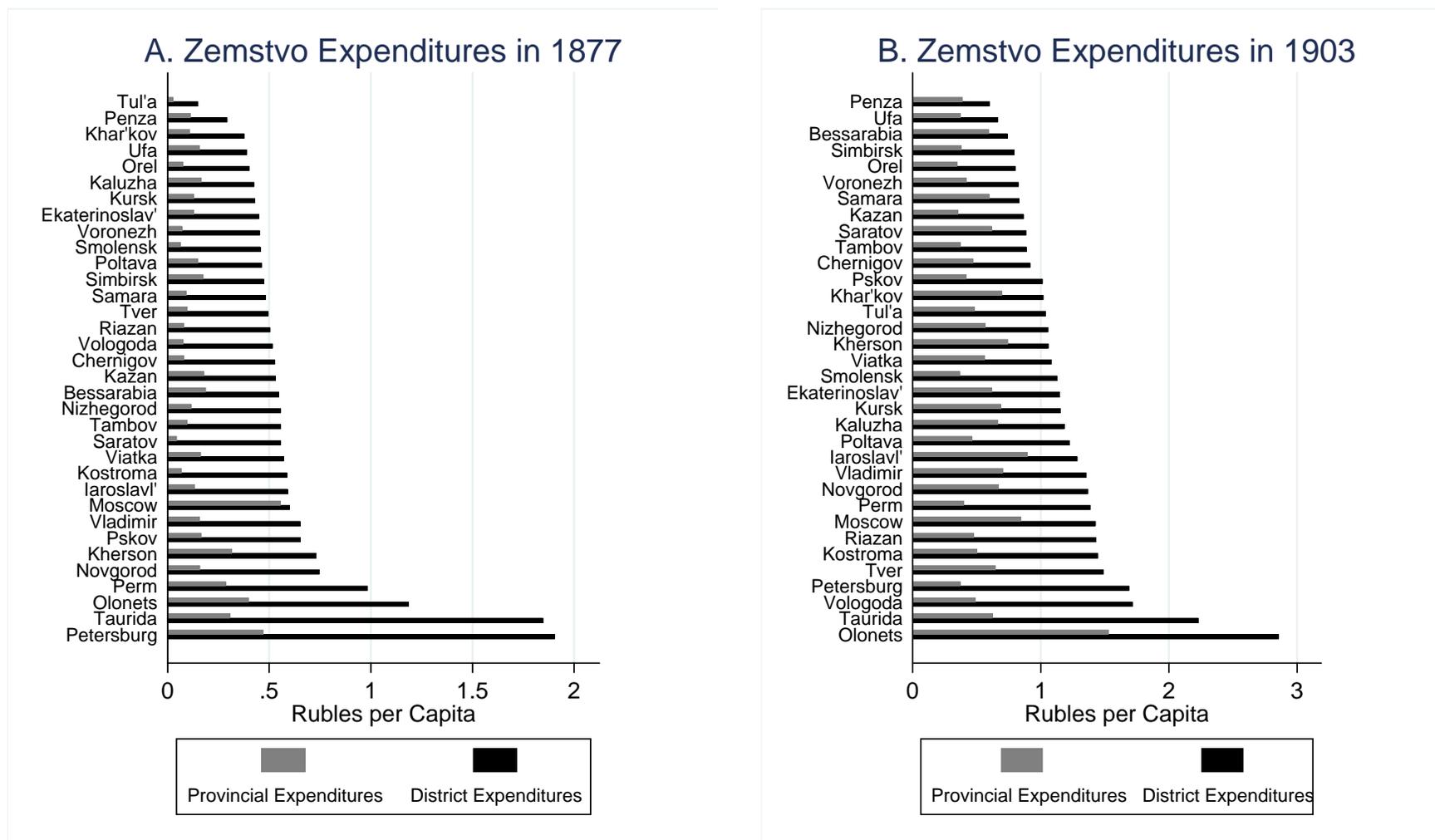
Note: NA – Not available. These figures should only be considered approximate, as several types of intergovernmental transfers may have resulted in double-counting. Capital expenditures and debt payments were not clearly defined. Moreover, the central government spent money in the Polish provinces, which are not included in the other categories. The 1913 *zemstva* total includes all 40 provinces with *zemstva* in that year. Inflation was relatively low (Gregory’s government expenditure deflator increases approximately 25% from 1885 to 1913), but there may have been a differential effect across the categories. Sources: *Dokhody* (1908 and 1915), Gregory (1982, Appendices F and G), *Sbornik* (1890, pp. 192-197 and 226-242), *Zemskie* (1896), *Statisticheskii* (1886), and Veselovskii (Vol. 1, 1909, p. 15).

Table 5: Total *Zemstvo* Income and Expenditures, Select Years (millions of current rubles)

	<u>Income</u>			<u>Expenditures</u>			
	Property Taxes	% of total	Total	Education	Healthcare	% of total	Total
1871	15.6	72.7	21.5	1.6	2.1	18.1	20.7
1880	26.8	73.7	36.3	5.0	6.4	32.6	35.1
1886	28.1	67.8	41.5	6.7	9.2	36.7	43.4
1896	42.3	70.4	60.1	9.9	18.3	46.3	60.9
1903	64.6	64.9	99.5	19.1	30.2	49.6	99.5
1906	83.4	67.1	124.2	25.3	35.9	49.3	124.2
1913	155.4	62.3	249.4	87.7	70.2	63.3	249.5

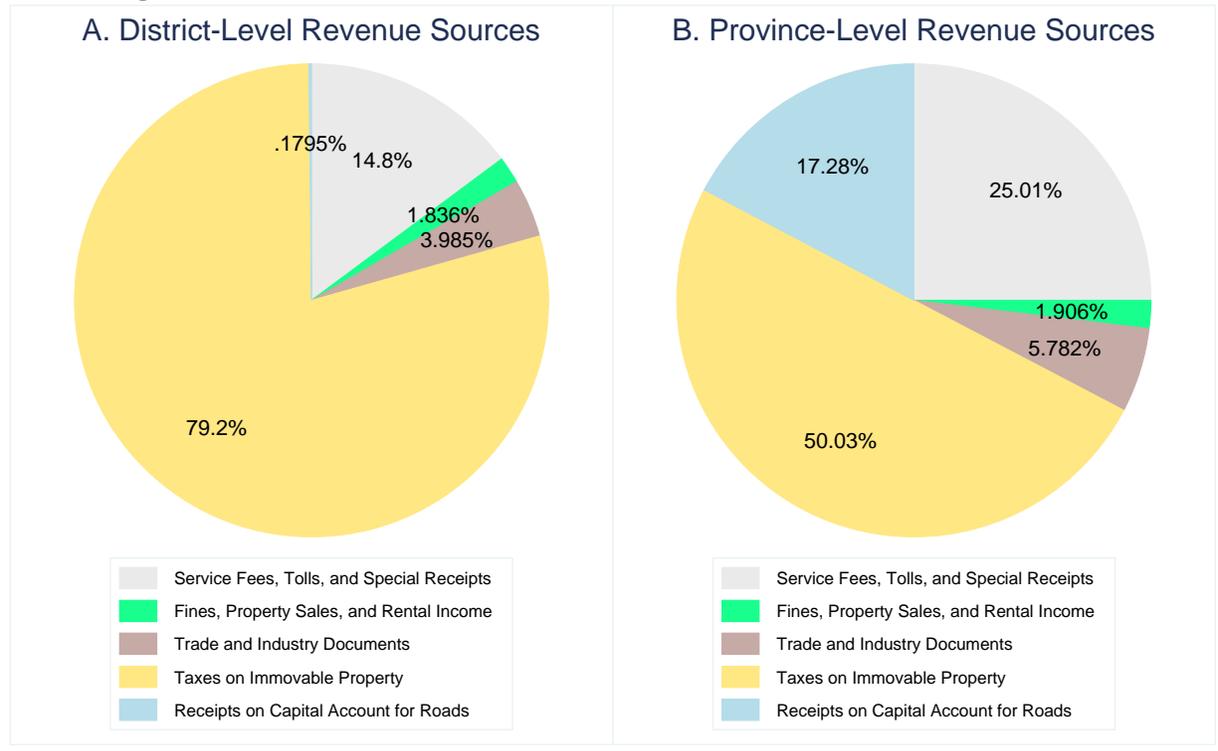
Note: Numbers refer to the sum of district and provincial revenues and expenditures for just the 34 provinces with *zemstva* in 1903. The spending totals for 1871 and 1880 do not include Samara province (hence the differences between total income and expenditures). Property tax income in 1871 and 1880 is defined slightly more broadly than the years that follow (hence, the larger portion of total income). Data for 1871 and 1880 are budgeted rather than actual totals. Finally, the difference in total spending and income for 1913 reflects extra expenditures on items budgeted in 1912. Sources: 1871 and 1880 are taken from Veselovskii (Vol. 1, 1909), 1886 is from *Sbornik* (1890, pp. 226-233), 1896 is from *Zemskie* (1896), and 1903-1913 are from *Dokhody* (1908, 1909, and 1915).

Figure 3: Provincial and District *Zemstvo* Expenditures Per Capita in 1877 and 1903



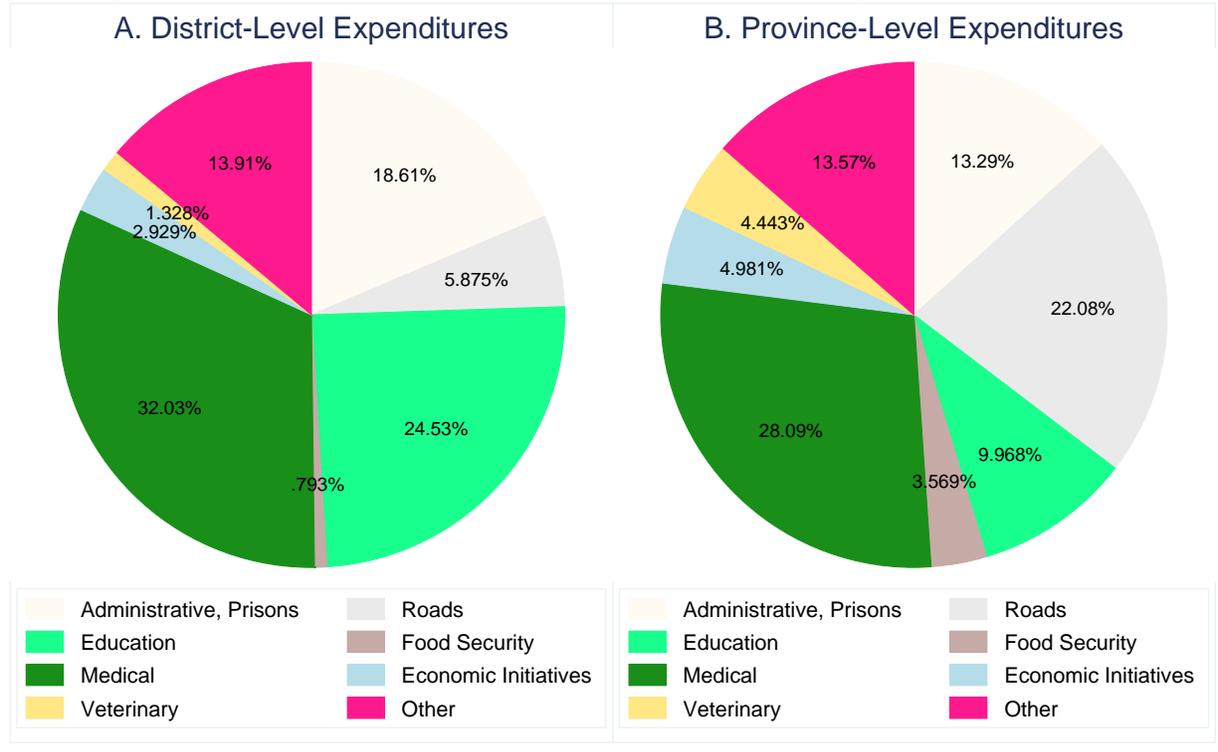
Note: These figures were produced from *zemstvo* data in *Dokhody* (1908) and Veselovskii (Vol. 1, 1909). Population totals for 1881 are from *Mirskie* (1886) and matched to 1877. Population totals for 1897 are from Troinitskii, ed. (1905) and matched to 1903. District totals are unweighted averages across districts in each province but closely match the weighted (by population) averages.

Figure 4: District and Provincial Zemstvo Revenues, 1903



Note: Data come from *Dokhody* (1908). The categories reflect the divisions given in the original source. “Service Fees, Tolls, and Special Receipts” includes court fees, highway and bridge tolls, transfers from the state and urban governments, private donations, and fees for medicine and medical treatment. “Fines, Property Sales, and Rental Income” includes revenues generated from *zemstvo*-owned property and various fines and overpayments made. “Trade and Industry Documents” includes various trade and production permit fees and some revenues remitted from the state’s alcohol trade. “Taxes on Immovable Property” includes taxes on land, forests, manufacturing fixed capital, urban property, and certain kinds of housing. “Receipts on Capital Account for Roads” includes specially earmarked taxes on immovable property in these same categories.

Figure 5: District and Provincial Zemstvo Expenditures, 1903



Note: Data come from *Dokhody* (1908). The categories match those provided in the original source with a few exceptions. “Administrative, Prisons” includes obligatory expenditures on state institutions, on *zemstvo* administration, and on prison upkeep. “Economic Initiatives” includes agronomy, spending on fairs and trade promotion, and support for local industrial production. “Other” includes debt payments and capital depreciation. State expenditures through the *zemstvo* and inter-*zemstvo* transfers are not included.

Table 6: Summary Statistics for District (*Uezd*)-Level Data

	Mean	SD	N
1. Per capita zemstvo expenditures, 1903 (rubles)	1.18	0.6	359
2. Per capita zemstvo expenditures, 1877 (rubles)	0.62	0.45	352
3. <i>Zemstvo</i> education expenditures per capita, 1903 (kopeks)	26.18	16.02	359
4. <i>Zemstvo</i> medical expenditures per capita, 1903 (kopeks)	35.20	16.68	359
5. <i>Zemstvo</i> roadwork expenditures per capita, 1903 (kopeks)	7.31	10.65	359
6. <i>Zemstvo</i> administrative expenditures per capita, 1903 (kopeks)	10.11	4.90	359
7. <i>Zemstvo</i> education expenditures per capita, 1877	10.62	15.15	337
8. <i>Zemstvo</i> medical expenditures per capita, 1877	13.20	14.29	358
9. Per capita <i>zemstvo</i> revenues (all sources), 1903 (rubles)	1.04	0.52	359
10. Number of <i>sel'skoe obshchestvo</i> ("rural societies"), 1881	251.68	127.06	359
11. Number of <i>volosti</i> (townships), 1881	21.13	9.80	359
12. Portion of peasant allotment land in grain cultivation, 1885	41.51	14.58	358
13. Total population, 1881	126474.6	61054.4	359
14. Total population, 1897	182643.6	123556.8	359
15. Size of the district in <i>desiatina</i> (= 2.7 acres)	257151.4	232550.3	359
16. Portion of the population that were serfs in 1857	39.62	23.79	349
17. Portion of all land owned communally by peasantry, 1877	47.38	16.77	359
18. Portion of all land in private property, 1877	36.99	16.93	359
19. Portion of the population in urban areas, 1857	8.50	10.19	349
20. Portion of the population in urban areas, 1897	9.40	11.62	359
21. Portion of population born outside province, 1897	5.40	6.48	359
22. Portion of males primarily in agriculture, 1897	72.69	15.48	359
23. Portion of population in peasant class, 1897	92.86	6.5	359
24. Mean male daily planting wage, 1884-1900 (kopeks)	43.1	9.9	358
25. "Contestable" = 1 if 45 < % peasant curia votes < 55, 1864	0.264	--	359

Sources: 1, 3-7, and 9 from *Dokhody i raskhody* (1908); 2 and 7-8 from Veselovskii (Vol. 1 [Appendix], 1909); 10, 11, 13, and 15 from *Mirskie raskhody* (1886); 12 from Korolenko, ed. (1892); 16 and 19 from *Statisticheskii* (1866); 17 and 18 are from *Statistika* (multiple vols., 1906) and Ershov (1886); 24 from *Svod* (1903); and all others derived from the census data in Troinitskii, ed. (multiple vols., 1905). "Portion" or "Share" indicates that the variable is a percent (41= 41%). 1877 expenditures per capita draw on 1881 population numbers, while the 1903 expenditures per capita rely on the 1897 national census numbers.

Table 7: Determinants of District *Zemstvo* Expenditures, 1903 –
Baseline Model

Dependent Variables (All in logs of kopeks spent per capita):	Total Spending	Medical Care	Education	Roadwork	Admin. Expenses
% Peasant electoral share, 1890	0.00560*** (0.000783)	0.00236** (0.000975)	0.00900*** (0.00164)	0.0108* (0.00620)	0.00285*** (0.000986)
% Peasant population, 1897	0.00202 (0.00864)	0.000634 (0.00919)	0.0143 (0.00974)	-0.0148 (0.0155)	-0.00469 (0.00577)
% Land in private property, 1877	-0.00297** (0.00128)	-0.00179 (0.00148)	-0.00111 (0.00159)	-0.00965*** (0.00251)	-0.00173 (0.00131)
Ln (Mean male daily ag. wage (kopeks), 1884-1900)	0.124 (0.180)	0.120 (0.169)	0.324 (0.278)	0.161 (0.389)	0.325** (0.125)
% Peasant land in grain cultivation, 1885	-0.00347 (0.00218)	-0.00636*** (0.00230)	0.0000669 (0.00385)	-0.00709 (0.00688)	-0.00138 (0.00118)
% Males working in agriculture, 1897	-0.00246* (0.00125)	-0.000759 (0.00163)	-0.00540*** (0.00192)	-0.0103** (0.00435)	0.000598 (0.000957)
% Population born outside province	-0.00611 (0.00595)	-0.00351 (0.00640)	-0.0103 (0.00969)	-0.0292** (0.0110)	-0.00170 (0.00497)
% Population in urban areas	-0.00272 (0.00512)	-0.00475 (0.00511)	0.00416 (0.00766)	0.000652 (0.00962)	-0.00767** (0.00298)
Ln (Size of the district (in <i>desiatina</i> = 2.7 acres))	-0.197*** (0.0411)	-0.171*** (0.0415)	-0.0890 (0.0583)	-0.281*** (0.0972)	-0.279*** (0.0466)
Contains provincial capital (1 if yes)	-0.00679 (0.0890)	-0.171* (0.0935)	0.0453 (0.133)	0.113 (0.176)	0.0895* (0.0528)
Ln (Number of rural societies)	-0.0232 (0.0297)	-0.0235 (0.0305)	-0.0478 (0.0416)	0.0160 (0.0926)	-0.0894** (0.0377)
Constant	0.00560*** (0.000783)	0.00236** (0.000975)	0.00900*** (0.00164)	0.0108* (0.00620)	0.00285*** (0.000986)
Observations	357	357	357	357	357
Provincial Fixed Effects?	Yes	Yes	Yes	Yes	Yes
R ²	0.169	0.200	0.099	0.126	0.345

Note: *** p<0.01, ** p<0.05, * p<0.1 Regressions are estimated by OLS with provincial fixed effects. Robust and clustered (by province) standard errors are in parentheses. The explanatory variables are described in the text and summarized in Table 6. All “%” variables are in percentage points – i.e. 80% = 80. Two districts were missing observations.

Table 8: Panel Analysis of District *Zemstvo* Expenditures, 1877 and 1903

Dependent Variables:	Log (Total expenditures)	Log (Medical expenditures)	Log (Education expenditures)
% Peasant electoral share	0.00420** (0.00202)	0.00329 (0.00294)	-0.00130 (0.00310)
Year (1 if 1903, 0 if 1877)	1.010*** (0.0329)	1.398*** (0.0545)	1.488*** (0.0585)
Ln (Population)	0.215*** (0.0471)	0.383*** (0.111)	0.247*** (0.0698)
% Land in private property	-0.00291 (0.00405)	-0.00744 (0.00565)	-0.00733 (0.00762)
Constant	8.449*** (0.583)	5.020*** (1.290)	6.347*** (0.876)
Observations	664	663	642
R ²	359	358	354
District fixed effects?	0.898	0.903	0.831

Note: *** p<0.01, ** p<0.05, * p<0.1 Observations come from 1877 and 1903. See Table 6 for the relevant source information. Regressions are OLS with district fixed effects. Robust and clustered (by district) standard errors are in parentheses. There are some missing observations from 1877 for education and medical spending and from 1905 for the portion of land in private property.

Table 9: Determinants of 3rd Curia Electoral Shares, 1864 and 1890

	Log (3 rd curia electoral share, 1864)	Log (3 rd curia electoral share, 1890)		
% Population serfs in 1857	-0.0962*** (0.0176)	-0.144** (0.0611)	-0.131** (0.0612)	-0.131* (0.0743)
% Peasant population, 1897	0.792*** (0.196)	0.238* (0.130)	0.118 (0.120)	0.119 (0.109)
Number of townships	-0.00128 (0.0483)	-0.146 (0.0902)	-0.148 (0.0887)	-0.148 (0.0880)
% Population in urban areas, 1857	0.142 (0.0940)	-0.0599 (0.0444)	-0.0892* (0.0466)	-0.0893 (0.0532)
Contains provincial capital (1 if yes)	-2.524* (1.368)	-0.396 (1.378)	-0.0568 (1.559)	-0.0467 (1.613)
% 3 rd curia share, 1864			0.148 (0.142)	0.148 (0.141)
% District land held by communes				-0.00109 (0.0865)
Constant	-29.94 (18.98)	19.96* (11.37)	24.87** (10.12)	24.85** (9.614)
Observations	343	349	343	343
Provincial FE?	32	33	32	32
R ²	0.357	0.096	0.103	0.103

Note: *** p<0.01, ** p<0.05, * p<0. The variables are summarized in Table 6 and the specifications are discussed in the text. The variable % District land held by communes is missing observations from several provinces, the 1857 variables are missing from two, and the 1864 electoral share does not apply to Bessarabia province.

Table 10: Fixed-Effect, IV Models of *Zemstvo* Expenditure, 1903

Dependent Variables (In logs of kopek spent per capita):	Total Spending	Medical Care	Education	Administrative
% Peasant electoral share, 1890	0.158 (0.282)	0.0906 (0.167)	0.177 (0.313)	0.0260 (0.0689)
% Peasant population, 1897	-0.00697 (0.0259)	-0.00539 (0.0180)	0.00643 (0.0276)	-0.00753 (0.00806)
% Land in private property, 1877	0.0371 (0.0755)	0.0214 (0.0447)	0.0434 (0.0836)	0.00439 (0.0184)
Log (Mean male daily ag. wage (kopeks), 1884-1900)	-0.0189 (0.749)	0.0368 (0.456)	0.254 (0.824)	0.283* (0.158)
% Peasant land in grain cultivation, 1885	0.000905 (0.00955)	-0.00363 (0.00597)	0.00446 (0.0105)	-0.000881 (0.00229)
% Males working in agriculture, 1897	-0.0171 (0.0283)	-0.00912 (0.0168)	-0.0212 (0.0312)	-0.00135 (0.00675)
% Population born outside province	0.00773 (0.0387)	0.00458 (0.0238)	0.00405 (0.0426)	0.00153 (0.00887)
% Population in urban areas	-0.00336 (0.0167)	-0.00535 (0.0109)	0.00459 (0.0190)	-0.00869** (0.00411)
Log (Size of the district (in <i>desiatina</i> = 2.7 acres))	-0.00478 (0.430)	-0.0577 (0.257)	0.137 (0.485)	-0.251** (0.110)
Contains provincial capital (1 if yes)	0.111 (0.391)	-0.109 (0.234)	0.167 (0.432)	0.109 (0.0936)
Log(Number of rural societies)	0.369 (0.578)	0.197 (0.350)	0.387 (0.651)	-0.0239 (0.149)
Observations	348	348	348	348
Provincial fixed effects?	33	33	33	33
Hansen J-statistics, p-value	0.63	0.24	0.72	0.03

First-stage instruments (all in logs): share of serfs in population (1857), number of townships in district, and the share of urban population (1857)

F-statistic on excluded instruments in the first stage regression = 2.36

Note: *** p<0.01, ** p<0.05, * p<0. The variables are summarized in Table 6 and the specifications are discussed in the text. R²'s are not defined and constants terms not identified for FE-IV regressions. There are missing data from two provinces for the 1857 instruments.