

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

Steven Nafziger, Department of Economics, Williams College¹

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VERY Preliminary – All suggestions and comments are welcome!

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 vital role in expanding the provision of public goods such as primary education and rural healthcare in the half century leading up to the Russian Revolution. In this paper, I outline the structure of the *zemstvo*, its sources of revenue, and the various services and programs it spent money on. I draw on newly collected data from several years of spending and revenue decisions by district *zemstva* and match these data 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 elected representatives to this political institution, were peasants able to voice their preferences over spending levels and funding for specific initiatives? I find evidence that is consistent with the *zemstvo* acting responsively to the demands of the peasant population majority. This study initiates a broader research agenda into the *zemstvo*'s place in Russian economic history and contributes to the growing literature on the political economy of public good provision in developing societies.

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In 1864, as part of a larger effort to modernize Russia after its defeat in the Crimean War, Tsar Alexander II announced the *Statute on Provincial and District Zemstvo Institutions*.² This act established a new local government institution – the *zemstvo* – in 34 of the 50 provinces of European Russia. These *zemstva* (pl.) were founded to carry out administrative functions at the local level and to provide some level of public services to the rural population.³ The initial act granted the *zemstva* 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. Besides these obligatory responsibilities, the founding statutes called on the *zemstva* to undertake programs to support “the local economic and welfare needs of each province.”⁴ With this mandate, *zemstva* came to be involved in the expansion of rural education and health care, in the support of local artisans and craftsmen, in encouraging credit and cooperative organizations, and in providing veterinary and agronomic services to farmers. The supply of these public goods remained low in rural Russia through the Bolshevik Revolution of 1917, but the progress that was made stems largely from the activities of the *zemstva*.

What makes the *zemstva* an especially intriguing institution to study is that they were structured to include representation from all social classes. Assemblies were elected at the district level by three curiae of voters: private landowners, urban property holders, 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). At both the district and provincial levels, programs and expenditures were first proposed (often by the executive bodies) and then ratified by a simple majority in the assemblies. Although conservative reforms of the 1890s winnowed away their electoral power, former serfs and state peasants retained seats in the *zemstvo* assemblies and the possibility of real local authority. As a result, rather than simply passing local fiscal and administrative authority to the

² *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.

³ In this way, the *zemstva* were a response to what one historian has called the “problem of provincial under-institutionalization” (Robbins, 1987, p. 16). In 1857, Tsar 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 (Starr, 1972). This eventually led to the creation of the *zemstvo*.

⁴ PSZ (Series II, Vol. 39, No. 40457, Clause 1, 1867).

land-owning nobility – as had been the case under serfdom – local governments under the *zemstvo* system possessed at least some nominally democratic characteristics.

Did the decentralized, democratic structure of the *zemstva* influence the provision of public goods in Tsarist Russia, especially for the “disadvantaged” peasant majority? According to most historians of the *zemstvo*, the institution was either an arena for the local landed elite to exercise seigniorial authority under a new guise, or simply an extension of the Tsarist bureaucracy.⁵ However, there have been no empirical studies into whether local concerns or peasant interests were important determinants of *zemstvo* programming and spending. The first part of the paper provided details on the structure of the *zemstva*, their budgetary process, and the institution’s responsibilities relative to other parts of the Tsarist government. The second section first describes 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. Utilizing these data, I summarize some basic empirical characteristics of *zemstvo* activity around the turn of the century. Drawing on a recent literature on the political economy of local public good provision in developing societies, I propose a number of questions and testable hypotheses regarding the determinants of *zemstvo* expenditures. I 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 paper concludes by identifying some questions that remain to be explored.

Section 1: The *Zemstvo* as 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 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 executive board on the planned budget for 1884. The budget contained 81,481.64 rubles of expected expenditures, including 31,756.96 for health care (including the salaries and expenses for four doctor salaries and three hospitals) and 12,139.30 for education (including 5160 rubles of salaries for 35 teachers). The proposed budget foresaw

⁵ For example, see Atkinson (1982), Garmiza (1957), Hamburg, (1983), and Porter (1991). This was also the view of Lenin.

⁶ The longer working version of this paper substantially expands on this section and includes a number of examples.

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

81,521.15 rubles in income for the calendar year of 1884, 65140.68 of which derived from a flat tax of 12.08% on the estimated income generated by land of various types. Finally, after the budget was approved, the assembly voted on positions for the next electoral period of 1883-1886. These included a new executive committee secretary, new executive committee members, two *zemstvo* representatives to the district school council, and nine representatives to the Simbirsk provincial *zemstvo* assembly. Almost all of the newly elected members of the *zemstvo* administration were from the landed gentry, but one – Filipp Mikhailovich Mikhailov – was a peasant from the village of Kurmachkas and was elected as a representative to the provincial assembly. Twenty-two years after the end of serfdom, Filipp Mikhailovich's rise within the *zemstvo* was indicative of the expanding – albeit still limited – role of the peasant majority in local government.⁸

Similar meetings of elected representatives took place across European Russia beginning in early 1865 and continuing through World War I. Between the late 1870s and 1911, 34 provinces and 358 out of the districts in those provinces had *zemstva*. *Zemstva* were not initially established in the western Byelorussian provinces, in the Baltics, or in the sparsely populated provinces of the far north and far southeast. These provinces did not originally receive the new institutions of local government either because special governing bodies already existed (the southeast), or because no amount of electoral rigging could guarantee that Orthodox Russians would predominate in the *zemstva* hierarchies.⁹

As put forth in the 1864 *zemstvo* act, the assemblies in each district were made up of 20-100 representatives elected by three 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 and former serf-owners, although anyone having the minimum amount of land as private property was eligible under the 1864 law.¹⁰ The second curia included district residents with merchant status or those holding urban or industrial property of at least a minimum value (3000 or 6000 rubles). The final curia was comprised of

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 (Moon, 1999).

⁹ The power of German elites was feared in the Baltic provinces, while the Polish landowners and Jewish middle classes caused worry in the Byelorussian provinces. See McKenzie (1982) and Weeks (1996). After 1911, *zemstva* were established in nine additional Byelorussian and southeastern provinces.

¹⁰ These minimum land holdings ranged from 100 to 800 *desiatina* (1 *desiatina* = 2.74 acres), depending on the district. Private property owners with smaller amounts of land were grouped together and counted as single landowners. The 1890 *zemstvo* reform lowered minimum land-holdings in an effort to involve a greater number of the noble class. By the mid-1880s, peasants comprised approximately 5% of the fully qualified property owners for the first curia (Zakharova, 1968, p. 145). 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).

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 (generically referred to as communes). Following this, the *zemstvo* statutes allowed one vote per commune in township-level “primaries” that elected the district assemblymen for the curia.¹¹ Each of the three curiae could elect whomever it chose, but the 1st and 2nd curiae rarely chose representatives from the peasantry.¹²

The division of electoral shares among the three curiae was defined loosely by population. The 3rd curia was supposed to have one assemblyman per 3000 male tax units (souls). The 1st curia was meant to receive a matching number of assemblymen. The 2nd curia was supposed to receive approximately one district representative per thousand urban residents, up to a certain portion of the assemblymen from the 3rd curia. No one curia was supposed to have an absolute majority. However, for reasons that remain obscure, the breakdown of electoral shares defined in this way did not exactly hold in practice. Likely, this stems from the complicated bargaining and debate that occurred in the lead-up to the 1864 law.¹³

The district assemblymen chosen by the three curiae voted amongst themselves for the provincial *zemstvo* assembly, the district executive board (including the executive secretary), and other affiliated positions such as the local school council. The *zemstvo* statutes fixed the number of provincial representatives from each district and laid out additional conditions for exactly who could be elected from the lower assembly. These decisions were all 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.¹⁴

The 1864 law set forth the number of representatives to be elected from each curia, but a counter reform of 1890 shifted electoral rights away from the 3rd curia and towards the other

¹¹ 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 had approximately one representative for every 300 peasants. From the lists of potential representatives to district *zemstva* chosen at each township meeting, the provincial governor actually had final say on exactly who would be elected from the 3rd curia. In the 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).

¹² 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.

¹³ Garmiza (1857) discusses the process that led to the issuing of the 1864 statutes. Some of the departures from these exact electoral ratios stemmed from an insufficient number of qualified landowners or urban representatives. Assemblymen had to be literate and at least 25 years old, with the requisite property holdings.

¹⁴ 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).

two.¹⁵ Historians have viewed these changes as moving the *zemstvo* electoral structure away from property-based voting to a system grounded in social estates. This reform restricted peasants from being elected by the other curia, and it increased the power of the provincial governor to pick assemblymen of the 3rd curia directly from candidate lists in the township meetings (rather than the meetings electing assemblymen directly). The overall number of district and provincial assemblymen was reduced, with the reduction primarily coming from the 3rd curia's share (Zakharova, 1968). This change in *zemstvo* voting is indicated in Table 1, which summarizes the average electoral shares across the districts under the two laws. 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). However, voting shares in the 1890 law showed a substantially lower correlation with peasant population share.

What did these provincial and district *zemstva* actually do? Clause 2 of the 1864 law outlined fourteen objectives of the new institution, while other laws added additional duties such as road maintenance and the financing local courts.¹⁶ Historians have divided these functions into two categories: obligatory support for military activities and other local government institutions (primarily based on the continuation of pre-existing property levies, or *zemskie sbory*) and non-obligatory responsibilities, often undertaken in concert with other government institutions (and financed by additional taxes or left-over funds).¹⁷ 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 intended for the rural population.

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 (including the current budget), granted or denied funding to ongoing or planned projects, and gave final approval to the proposed budget for the

¹⁵ This was part of the series of conservative reforms enacted under Tsar Alexander III. On the 1890 reform and a discussion of the political changes it entailed for the *zemstvo* structure, see Zakharova (1968). The eligible voters for the 2nd curia was revised substantially at this time. 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).

¹⁶ These 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], 1867).

¹⁷ See Veselovskii, (Vol. 1, 1909, pp. 235-264).

coming year. 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.¹⁸ Much of the actual work of the *zemstvo* took place in standing subcommittees or specially elected commissions that met outside of the general meeting. With the oversight of the executive committees, these bodies carried out the planning and spending of funds appropriated in the general budget. Thus, the very presence of assemblymen with particular preferences could influence a *zemstvo*'s agenda, while executive board members and heads of special commissions held especially powerful positions.

Depending on the exact program and how it was coordinated in the *zemstva*, expenditures and managerial oversight could take a variety of forms. For road work, contracts 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). Agronomy programs, veterinary systems, and rural healthcare networks were generally staffed by employees of the *zemstva*.¹⁹

Where did these funds come from? The 1864 statutes transferred rights to about 20% of existing state income to the new institution, primarily in the form of land-based taxes, while allowing them to collect additional taxes and fees of various sorts.²⁰ On top of the pre-existing provincial and state taxes (*zemskie sbory*), which were intended to fulfill obligatory expenditures, the *zemstva* were allowed to levy new taxes to support their non-obligatory functions. Taxes could be levied on various forms of “immovable property” in addition to land, including urban housing, factory buildings, and commercial establishments. Tax rates were intended to be functions of yearly property income (differentiated for various types of land), but each *zemstvo* had the right to set its own rates.²¹ Tax collection was undertaken by a combination of *zemstvo* employees and the local police. In addition to these property taxes, *zemstva* were granted the right to collect fees for issuing various sorts of trade and commercial documents, for issuing passports, and for goods and services provided (as with seed grains or medicines). Finally,

¹⁸ For example, primary school legislation in May, 1874 revised the system of rural education to include *zemstvo* involvement in the district school councils and mechanisms where *zemstvo* funds could be used for financing existing schools or building new ones (Brooks, 1982, pp. 250-255).

¹⁹ Some provincial *zemstva* had thousands of employees by the early 20th century.

²⁰ See Atkinson (1982, p. 97). Collecting these and additional state taxes was a key reason for why they were set up in the first place (Starr, 1972, pp. 193-194). The *zemstva* were also granted to the right to continue collecting so-called “natural” obligations from their peasant constituents. These obligations existed prior to emancipation in 1861 and took the form of payments in cash and in labor or kind (often for military use or road maintenance). I only consider monetary obligations, to which all natural obligations were to be eventually converted.

²¹ Land taxes were supposed to only be levied on *udobnaya*, or utilizable, land. *Zemstva* engaged in substantial research programs to establish the property values (and associated incomes) in their jurisdictions. See Atkinson (1982, pp. 97-105) for more on *zemstvo* property taxes.

income was also generated by *zemstvo* property holdings and in the form of interest on various accounts (for example, *zemstvo* bank accounts, funds held as “road capital”, and funds held as part of the food security system). Although year-to-year arrears were often substantial, intragovernmental transfers and borrowing apparently kept most *zemstva* solvent (although possibly constrained – see Veselovskii, vol. 1, 1909).

The responsibilities of the district and provincial *zemstva* differed.²² Initiatives such as hospital or doctor networks, agronomy training, and provincial trade fairs affected multiple districts and so fell under the supervision of the provincial *zemstvo*. Roads or markets that catered to residents of multiple districts were also under provincial oversight. The district *zemstva* were responsible for all local affairs, especially in the allocation of funds to educational matters or local health clinics. The legislation of 1890 did not change what the *zemstvo* system did to any great extent, but it did centralize some of the *zemstva* activities (McKenzie, 1982). Due to Tsarist political fears, legislation throughout the period strictly limited *zemstvo* cooperation across provinces. It was only with the onset of World War I that serious discussion of a Russia-wide *zemstvo* system began.

Finally, it is worth considering the place of the *zemstvo* in what constituted the Russian public sector of the late-Tsarist period. After the reforms of the 1860s, government included the military and central ministries (especially the gubernatorial system), as well as several levels of local government besides the *zemstva*. In the post-emancipation period, municipal and peasant reforms expanded city, township, and communal “self-government.”²³ Table 2 documents spending by these different components of Russia’s government. Total *zemstva* spending rose from about 5% of central government spending to just over 8% between 1885 and 1913. Spending by the 34 original *zemstvo* provinces rose in nominal terms from 35 million rubles to 262 million rubles, or 7.3% per year.²⁴ As *zemstvo* expenditures were increasingly concentrated in healthcare and education, the growing expenditure share of the institution was a major part of the increase in the provision of public goods in European Russia.²⁵

Section 2: Empirical Evidence on the *Zemstva*

²² 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. See the evidence below.

²³ On the non-*zemstvo* institutions of local government in Tsarist Russia, see Bower (1990) and Gaudin (2007).

²⁴ *Zemstvo* spending information comes from *Sbornik* (1890) and *Dokhody* (1915).

²⁵ 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). By 1913, *zemstva* spending on health care and education reached 160 million rubles (*Dokhody* 1915).

In order to get a clearer idea of what the district and provincial *zemstva* actually did across European Russia, I have turned to two different sources of data on incomes and expenditures. In a pioneering work of history, Veselovskii (1906-1911) produced what is still the authoritative account of the *zemstvo*. In appendices to the main volumes, Veselovskii provides several cross-sections of information on district and provincial budgets and basic measures of the impact of *zemstvo* spending.²⁶ He includes data primarily from planned budgets (*smety*), as opposed to actual collected incomes (*postuplenie sbory*) or expenditures (*raskhody*). For 1903, Veselovskii apparently relied on a detailed compilation of *zemstvo* budget data. This second source - *Dokhody i raskhody zemstv 34-kh gubernii* (1908, 1909, and 1915) – offers far more detailed information on actual income and expenditures from all *zemstvo* in 1903, 1906, and 1913.²⁷ For now, I focus on both planned budgets and actual totals, as they do closely.

What can these data tell us about the activities of the *zemstva*? Table 3 summarizes this income and expenditure totals for the *zemstva* in select years. As noted before, income was primarily derived from property taxes.²⁸ Table 4 summarizes evidence from 1890 and 1913 that this property tax rate was on average higher for peasant land than for private property holders, a finding which may reflect differences in land quality. Table 3 also shows that expenditures rose dramatically over the period, far exceeding inflation over this period. Figure 1 breaks down the 1903 cross-section of expenditures further. The two levels are similar, with the district *zemstvo* incurring greater expenditures on healthcare and education, and the provincial *zemstvo* responsible more for roads.²⁹

The composition of *zemstvo* expenditures changed substantially over time. In part, this was due to the central government taking over many of the obligatory duties of the *zemstva*. As the prerogatives of the *zemstva* became clearer over time, or were refocused through additional legislation, the institution increasingly took up the provision of public services like education and healthcare. The growing role of the *zemstva* in the provision of health care was well known by contemporaries and was reflected in legislation, such as a law of 1879 that gave *zemstva* the power to pass sanitation laws. *Zemstvo* spending included both preventative measures, such as

²⁶ In this paper, I am concentrating on spending patterns. Future work will look in detail on the measurable impact of these expenditures across a variety of outcomes.

²⁷ Volumes covering 1910 and 1911 are also available and may be analyzed in future work.

²⁸ In 1903, provincial *zemstva* generated relatively more revenue through fees and returns on certain expenditures. This may reflect the greater role played by the provincial *zemstva* in promoting trade fairs and local craftwork. The provincial *zemstva* also relied more on interest income and rental payments from *zemstvo* property. In contrast, over 72% of district *zemstva* income came from property taxes, most of which were levied upon land (*Dokhody*, 1908).

²⁹ 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).

vaccinations and monitoring of diseases, and curative efforts in the form of hospitals, traveling doctor networks, and systems of rural *feldshers*, or trained medics. According to historians of 19th-century Russian medicine, the reputation of *zemstvo* healthcare was very high, and the institution employed over 15% of all medical professionals in the empire by the early 20th century.³⁰

In education, the *zemstva* were mainly involved in efforts to expand rural primary education. The *zemstva* were granted seats on district school boards, which approved new construction, certified teachers, revised curricula, and set salary levels. The *zemstvo* channeled funds to support school construction, to pay for books and supplies, and to provide teacher salaries. The *zemstva* also supported trade schools, teaching training, and the provided some limited resources for secondary education. The growth of *zemstvo*-financed primary schools substantially improved access for the rural population. Between 1877 and 1898, the total population served by a *zemstvo* school fell by approximately 15%, from 5346 to 4660 people per school in the provinces where the institution existed.³¹

In terms of spending per capita, a rough calculation is possible based on population totals from the 1897 National Census. Provincial *zemstva* spent an average of 57 kopeks (100 to a ruble) per person, versus a mean of 1.19 rubles by the districts (an unweighted average). There was considerable geographic variation, as relatively backward provinces like Olonets in the far north showed high spending levels (> 4 rubles per capita), while seemingly richer provinces like black-earth Voronezh spent relatively little (< 2 rubles per capita). This variation drives the empirical analysis below.³²

By the beginning of the 20th century, spending had shifted away from obligatory expenditures towards public goods like education and healthcare. However, *zemstvo* activities and expenditures showed considerable variation across the empire. Did this variation reflect the preferences of the local population? Given the political structure of the *zemstvo*, did this variation correspond to different electoral rights of specific groups in the population? Specifically, did the recently emancipated peasantry actually influence how these local funds were spent? With newly collected data, it is possible to investigate these questions. At the same

³⁰ See Frieden (1975) and Krug (1976).

³¹ See Veselovskii (vol. 1 [Appendix], 1909). Schools do not appear to have become smaller over the period. After 1900, the Ministry of Education took an increasingly active role in expanding the supply of education and formalizing the system of primary education (Eklof, 1984). Although this abrogated much of the supervisory role of the *zemstvo*, the institution remained active financially in supporting the majority of primary schools in the provinces where it existed.

³² The correlation coefficient between provincial and district spending is 0.64.

time, developing a better understanding of how the *zemstvo* functioned provides insights into several broader questions on the political economy of economic development.

Section 3: Democracy, Decentralization, and Local Public Goods Provision

The provision of public goods in poor rural areas is a critical part of the development process. A growing literature in development economics considers the implications of devolving control over government revenues and spending – especially on public goods – to local institutions and communities. “Fiscal decentralization” has been a mantra of development policymakers concerned with the inefficiencies and corruption of central planning and resource allocation.³³ In environments where central governments are inadequate, corrupt, or simply lacking, the design of appropriate mechanisms for local governance is of paramount concern for the delivery of adequate public goods and services. On the one hand, control by locally elected officials should bring policies more in line with median constituent interests than in the case when decisions are made by bureaucrats at the center. This process is enhanced in the presence of Tiebout-type sorting, where households vote for their policy preferences by moving. These processes will lead to more efficient levels of public good production, as long as benefit or cost spillovers across jurisdictions are small.³⁴

At the same time, local government in developing societies may fall under the influence of elites who are unmonitored and perhaps unwilling to adequately provide the efficient level of public goods. The extent of these problems could be one reason why the level of decentralized public services may vary widely within a society, even if the underlying institutional structure is identical.³⁵ Local elites hold informational rents that they may exploit to capture resources transferred from the center. Thus, scholars of fiscal decentralization argue that a key element of incentivizing adequate behavior by local elites is making funding locally determined. Revenue decentralization will only lead to adequate public good provision if those with local political power benefit in some way (electorally or otherwise) from providing public goods.³⁶ In a case

³³ See the discussions in Oates (1993) and the examples in Bird and Vaillancourt, eds. (1998).

³⁴ 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. Their model embeds the issue of spillovers in benefits, but it really applies to situations where total revenues are pooled and then reallocated out to districts.

³⁵ The variation in access to public goods within and across developing societies is described in Banerjee et al. (2007). For a model that attempts to describe the possibility of 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.

³⁶ See the discussion in the introduction to Bird and Vaillancourt, eds. (1998). Rosenzweig and Foster (2003) formulate a 2-party democratic model of local public good provision that relates changes in the share of the landless – who prefer certain types of public goods over others – to changes in local political control over the allocation of resources towards roads, irrigation, or schools. They test their model with panel data from India and find that higher

such as the *zemstvo*, where services were primarily produced out of local property taxation, intra-governmental rents may be less of an issue.³⁷ However, the *zemstva* were able to borrow from other government authorities, from private individuals, and from local financial institutions. Minutes of *zemstvo* meetings record numerous debates over whether to approve external borrowing, suggesting that this was a contentious issue.

Regardless of whether revenue is “captured,” local policy decisions over public goods may not reflect constituent interests if particular groups have no political “voice.”³⁸ Studies by Besley et al. (2004), Chattopadhyay and Duflo (2004), and Pande (2003) have considered how recent political reforms in India, which mandated local government representation for women and lower caste groups, have impacted public good provision. These studies find that in villages or localities where members of these groups were given leadership positions in local councils, the allocation of funds towards public goods shifted in directions preferred by these previously underrepresented groups. These studies take advantage of the natural experiment offered by the randomized structure of the Indian reform (villages were randomly reserved representation by underrepresented groups), but it is worth exploring whether such effects can be found in other historical examples, such as with peasant representation in the *zemstva* of Tsarist Russia. Scattered accounts of *zemstvo* decision-making tend to emphasize the marginalization of peasant assemblymen.³⁹ However, as other the descriptive evidence provided above suggests, peasant representatives did advance to executive positions (and were even elected by other curiae before 1890). Did mandating a share of assembly seats to peasants actually endow them with a say in spending or revenue decisions, either through electing responsive executives or via voting on budgetary or program legislation?

percentages of landless lead to an increase in the supply of public goods that offer higher returns for this group (controlling for general equilibrium effects for the returns to these public goods). They also consider the effects of revenue decentralization and find for their context that local taxes are regressive so that the poor also pay more for these goods. This may be relevant for the Russian case, as the different tax rates on peasant vs. private land would imply.

³⁷ Whether the *zemstva* were perceived as credible borrowers, the extent to which they did borrow, and the terms under which they received credit are issues that remain to be explored. Moreover, exactly how the *zemstva* collected revenues in practice deserves further attention. Oates (1993) emphasizes that property taxes, such as those employed by the *zemstva*, are “good” local taxes in that property owners are typically local and interested in fostering local economic development.

³⁸ 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.

³⁹ 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 the allowance of 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]).

Finally, scholars have recently focused on how ethnic or religious diversity might hinder the provision of local public goods due to variation in preferences or an inability to compromise or provide credible intra-community enforcement mechanisms. In Chaudhary's (2006) recent study of public good spending in colonial India, she tests whether "diversity" (religious or caste heterogeneity in her context) influenced spending decisions by district governments. She finds that in districts with greater social inequality or a larger presence 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). Heterogeneity only lowered spending on public goods if it occurred among those with political power.

In what follows below, I do not focus on diversity as a possible determinant of local government spending, as the *zemstvo* provinces were relatively homogenous places.⁴⁰ However, I do extend Chaudhary's basic empirical framework to directly incorporate political power of a disadvantaged social class – the peasantry – into an analysis of the determinants of *zemstvo* expenditures. The *zemstvo* reform is an example of fiscal devolution, although the *status quo* had been little to no provision of any sort of government by the Tsarist regime. Analyzing the overall welfare/efficiency gains or losses from the *zemstvo* reform is beyond the scope of this paper. The current question of inquiry is more modest – did the *zemstvo* function in ways that reflected local interest, especially those of the peasant who now actually had a mechanism for voicing political concerns.

Section 4: Data and Econometric Specifications

The creation of the *zemstva* as a representative form of local government is a test case for examining some of the key questions in this literature on decentralization and public good provision. I focus here on two issues in particular. Did the particular political structure embedded in the *zemstva* influence the pattern and level of expenditures by mandating representation of the peasant majority (historically underrepresented politically, to say the least)? What other factors affected the amount and distributions of district *zemstvo* spending? To address these questions, I combine the expenditure and income data from Veselovskii (vol. 1, 1909) and *Dokhody* (1908-1915) with additional information at the district level (all variables mentioned below are summarized in Table 5). Due to the availability of these other variables for specific time periods,

⁴⁰ For more on population diversity and public goods, see Alesina and La Ferrara (2005). 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. Future work will aim at studying this issue utilizing data from more diverse provinces of the empire and non-*zemstvo* measures of public good provisioning.

I focus on the 1903 cross-section of district-level budget information and employ 1877-1881 data in the final dynamic analysis. The data collection process is ongoing, but one ancillary outcome of this effort is the first (panel) dataset in Russian economic history that covers a substantial geographic part of the empire.

The focus of this paper is on the determinants of both the level and the allocation of *zemstvo* spending. Thus, I begin with the following model simple linear model, where Y_i is either per capita *zemstvo* expenditures in district i , or the share of expenditures (in percentage points) on a particular category in district i :

$$Y_i = \beta_0 + \beta_1 \times 3rdCuriaShare_i + \beta_2 \times PeasantPopShare_i + \bar{\beta}_3 \times X_i + p_j + \varepsilon_i \quad (1)$$

3rdCuriaShare is the portion of district assemblymen allocated to peasant communes according to the 1890 law. Of course, this is NOT the actually electoral shares, which could differ if meetings of the 3rd curia voted for representatives from other curia.⁴¹ 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*. Thus, this measure likely overestimates the total political “voice” of the peasantry, especially if representatives from the 3rd curia were relatively unlikely to be elected to executive positions. By including peasant population share as well, I am testing for whether electoral rights had an additional effect on the level and pattern of spending, given that population was one of the determinants of the original 1864 assemblymen totals (see above).⁴² *Ex-ante*, one might assume that because the *zemstva* were intended as a form of rural self-government and were supposed to supply public services to rural areas, peasant representatives would be more willing to spend money, especially if some of the costs were spread to other property owners in the district. But did areas where the peasantry possessed a large voting share relative to their population share spend money differently than those areas where most of the power resided in the noble or urban classes?

In order to make a convincing case that the peasantry’s political rights influenced spending by the *zemstva*, I need to control for other factors – the X_i vector in Equation 1 – that

⁴¹ Of course, having data on the actual elected representatives for each district for each 3-year term would be optimal. I am currently collecting this information from individual *zemstvo* accounts and other sources. Here, I consider just the share of votes in the 3rd curia, rather than all three curia shares, because there were a number of districts where the 1st and 2nd curia were unified into one.

⁴² Other regressions (not shown) control for the relative shares of arable land held by the nobility and the peasantry (in the form of communal ownership) in 1905, since property ownership remained a key component of the electoral structure after 1890. However, the data for constructing this and similar land-related variables (which comes from the 1905 land statistics) is not readily available for every province, at least in the United States. The results with this reduced sample show little correlation between land ownership and *zemstvo* spending. These variables may serve as the basis for an IV strategy in future work (see below).

plausibly influenced either the level or the allocation of funds. The key components of this vector are variables describing the level of economic development in the district. Richer districts could afford higher taxes to endow greater funds for distribution by the *zemstva*. To proxy for income levels in this primarily agricultural society, I include the average male agricultural (planting) wage for the period 1884 to 1900, as well as the share of peasant land under cultivation (in 1885 – see Table 5). These are not a perfect measure by any means, but other possibilities are few. Experimenting with various other measures (*zemstvo* tax revenues and rates or other wage data) did not change the findings below. Besides income, spending patterns might vary according to the availability of non-agricultural opportunities, as more agricultural districts may have benefited less from school spending than districts where job opportunities offered higher returns to education. Thus, I include the share of the adult male population occupied primarily in agricultural work from the 1897 census (Troinitskii, ed., 1905). I also include the share of male 20-29 who were literate according to the census. Different levels of human capital may have influenced the allocation of funds and may also help proxy for income levels.⁴³

Migration was limited in this period due to passport and residential restrictions and high transportation costs, and so I am not overly worried about Tiebout sorting as a source of endogeneity. I do control for the share of the population in the district born in another province as of 1897 to control for this possibility. Given that some provinces with *zemstva* were only recently incorporated into the Empire, the share of migrants also controls for the higher demand for public goods that might have existed in frontier areas. To test for the possibility of scale effects in the provision of public goods, I include population density (people per acre). More densely populated areas may have required lower per capita spending if consumption of *zemstvo*-provided services was non-rival to some extent. In districts with larger numbers of communities (here, “rural societies”), the costs of coordinating public good provision may have been higher, which may have caused spending to rise or fall in response.⁴⁴ In districts where the provincial capitals were located, urban governments may have created substitutes for the public services offered by the *zemstva*, thereby lessening the demand for high levels of *zemstvo* spending (hospitals, for example). I include a dummy variable equal to one if the capital was in the district. Finally, in an effort to control for remaining unobservable factors that affected district *zemstvo*

⁴³ I also experimented with including the share of the population in urban areas in 1897 as a proxy for the level of development, but this measure was highly collinear with population density and a dummy whether the district contained the provincial capital – two measures I do include for other reasons.

⁴⁴ Moreover, the structure of 3rd-curia voting gave each rural society a say in who made the list for election to the district assembly. More societies may have made it difficult to arrive at a qualified representative of the peasants.

spending, I include provincial fixed effects in some of the regressions. This strategy also helps take care of the interrelationship between provincial-level and district-level *zemstvo* activities.

The results for estimating the basic model of Equation 1 (with robust standard errors clustered at the provincial level) across the districts with non-missing values are reported in Table 6. However, this approach must be extended in at least two directions. First, underlying the regressions in Table 6 is the assumption that the peasant representation share is uncorrelated with unobservable factors that might have driven *zemstvo* spending decisions. To partly address this possible omitted variable/endogeneity concern, I have controlled for as many plausible determinants of spending as possible with the district-level data available. But it still could be the case that something in the residual term remains correlated with the underlying motivations for why certain districts had larger peasant assembly shares. A second way I can at least partially allay this concern is by taking advantage of the multiple cross-sections of data available on *zemstvo* budgets and other variables. I merge the data on 1877 *zemstvo* expenditures with the 1903 cross-section to create a panel dataset. By including district fixed effects, I explicitly control 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, the fixed effects wipe these out. I am left with the following linear 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} variables include the few pieces of information available for both time periods (In Table 7, just population).⁴⁵ This specification takes advantage of the change in the 3rd curia's electoral share from the 1890 reform. If we think about Equation 2 in first-differences and with respect to per capita expenditures, then a positive β_1 means that those districts that retained a greater share of peasant electoral power spent more in 1903. This is an imperfect solution to the endogeneity problem mentioned above, especially if the *change* in electoral rights is possibly correlated with unobservable factors driving the *change* in *zemstvo* expenditures. Until appropriate instruments for the share of voting rights can be devised, the findings from this panel approach should be interpreted cautiously.

Finally, I extend the model of Equation 2 in another direction. If we think of the assembly votes in a median-voter framework, then the share of assembly seats held by the peasant curia

⁴⁵ I experimented with several other variables, including *zemstvo* property tax rates and various measures of landholdings by different social groups. These results are available in the longer working version of this paper.

should only matter if these votes are marginal in some sense. Perhaps only then will the constituent preferences represented by these assemblymen actually matter in the settling of the *zemstvo*'s agenda (most votes in *zemstvo* assemblies were majority-wins). To evaluate this possibility, I re-estimate Equation 2 and include an interaction term between the peasant vote share and a dummy variable that equals one if the 1864 peasant vote share was between 45 and 55% of the total.⁴⁶ The test here is whether peasant voting rights only “mattered” in the event that they represented swing votes. The results from estimating both versions of Equation 2 for spending levels and shares are reported in Table 7.

Section 5: Discussion of the Econometric Results

What do I find in estimating these simple models of *zemstvo* spending? Table 6 reports the cross-sectional model for 1903.⁴⁷ While several of the hypothesized relationships are either absent or only weakly significant, interesting findings do stand out. Districts with provincial capitals show lower overall spending levels (considerably lower relative to mean spending) and a emphasis on educational spending over spending on healthcare. This supports the notion that these urban centers likely had other providers of public goods, especially hospitals and sanitation. Being more urbanized districts, returns to human capital may have been higher, leading to relatively greater demand for educational spending by the *zemstvo* in the rural areas of the district. However, Table 6 also provides evidence that spending was lower in more agricultural areas, possibly an effect of lower incomes (we do see that districts with relatively more cultivatable land spent relatively more on education). While male literacy and the share of migrants in the population were uncorrelated with spending outcomes, the number of rural societies (weakly) and the population density (strongly) were associated with lower spending. These results are consistent with some sort of economies of scale in public service provision.

The most intriguing findings in Table 6 come from the peasant assemblymen share and peasant population variables. The coefficient on the latter is statistically insignificant in all specifications, while the former is strongly associated with higher spending per capita, greater spending on education, and less spending on healthcare. Even though much *zemstvo* spending was often aimed precisely at the ill-serviced peasant population, it was NOT population itself that mattered. Peasants residing in districts where they were relatively (to other districts)

⁴⁶ Changing the bounds on what might have denoted a “marginal” voter did not dramatically change the results. Besley (2007) briefly describes some criticisms of the median voter model. Scholars have proposed several mechanisms – logrolling, multi-stage voting, etc. – through which a non-median voter might actually see her preferences influence policy outcomes.

⁴⁷ Models of the spending for other types of public goods and services were estimated but are not reported here due to space constraints. They are discussed in the longer working version of this paper.

overrepresented on the *zemstvo* assemblies were those that saw more money spent by the institution of self-government – approximately 1.25 kopeks per capita for each percentage point increase in the peasant voting share. This was the case even though the shares themselves were partly determined, at least in theory, by relative population size. This result indicates that the *zemstvo* grant the peasantry a political “voice,” one they chose to use in advocating for schooling.⁴⁸

In turning to Table 7, the strong growth in *zemstvo* spending across the board is immediately evident from the coefficients on the year dummy. Moreover, we again see the negative relationship between population density and spending levels. The strong correlations between peasant voting shares and the shares of spending on education and healthcare are no longer evident, as any effect is washed away from the overall increase in the spending shares of these two categories over the period. However, the effect of greater peasant electoral shares on spending *levels* is still evident, although slightly weaker (the first column). When dialing in to consider exactly where the peasant voting share might have mattered, I do find evidence that it was when the peasant-elected assemblymen fell into the “swing voter” category. Although not individually statistically significant, the coefficient estimates on the peasant voting share and the interaction term in the model of column two are both positive and are jointly significant. This is consistent with any political power of the peasant curia having the most “pull” when these assemblymen could provide a critical vote.

Overall, these results suggest that *zemstvo* spending was responsive to local demands and characteristics of constituent populations. As they likely benefited to a greater degree than other groups did from the types of spending undertaken by the *zemstvo*, the peasants (via their representatives) were able to give political voice to their demands. Additional analyses of actual votes and the identities of the assemblymen are natural next steps in thinking about what this mechanism behind these correlations entailed.

Section 6: 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

⁴⁸ This finding is consistent with the argument of Eklof (1984) that the rise of primary schooling in 19th-century rural Russia resulted from growing peasant demands. Moreover, given the persistence of folk beliefs and the possibly poor quality of much medicine at the time, it is perhaps unsurprising that peasant assemblymen may not have pushed for higher healthcare spending. Finally, while 1.25 kopeks was not large by 1903, aggregated over the populations of the districts, this number would have enabled the building of several extra schools.

here is one that involved local self-government and a unique form of decentralized decision-making over public services. Not only was the *zemstvo* a large provider of public goods – 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 empirical evidence consistent with this story, but there are a number of issues that must be dealt with before a fuller understanding of the effects of the *zemstva* for Russian economic development may be achieved.

Further research into exactly what determined the voting shares of the *zemstvo* must be undertaken before the implicit exogeneity assumptions behind Tables 6 and 7 can be conclusively addressed. Moreover, ongoing study of yearly district and provincial *zemstvo* meeting minutes will hopefully 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 – meeting minutes and published sources such as the *Dokhody* volumes offer incredibly detailed accounts of where every ruble went. And although this paper focuses on the spending side of the ledger, data are available to analyze *zemstvo* revenues and other, broader issues of rural taxation in late-Tsarist Russia.

Finally, it is well-worth noting that the long-run objective of this research project is to look at socio-economic or welfare outcomes. Did *zemstvo* expenditures, or even this 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? Education and health outcomes are the focus of current research that considers both district-level variation and finer degrees of aggregation. The surprisingly plentiful data available for Russia between the emancipation of the serfs and the Bolshevik Revolution will hopefully make it possible to speak to the debate over the provision of public goods and services in developing countries today.

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Table 1: Mean Shares of District *Zemstvo* Voting Rights By Curia

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

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

3rd 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).

**Table 2: Expenditures by Different Levels of Government
(millions of current rubles)**

	Central Government	Urban Governments	Township and Rural Societies	District and Provincial <i>Zemstva</i>
1885	866	30	26	43 (1886)
1903	2072	72	45	99
1913	3383	162	53	245

Note: Gregory's government expenditure deflator increases by approximately 25% from 1885 to 1913. These figures should only be considered approximate, as several types of intergovernmental transfers (including military subsidies) may have resulted in double-counting, and capital expenditures are not clearly defined. Moreover, the central government spent money in the Polish provinces, which are not included in the other categories. The 1913 total for the *zemstva* includes all 40 provinces with *zemstva* in that year. **Sources:** *Dokhody* (1908 and 1915), Gregory (1982, Appendices F and G), and *Sbornik* (1890, pp. 192-197 and 226-242).

**Table 3: 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
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 income and expenditures in the 34 provinces with *zemstva* in 1903, except for the spending totals for 1871 and 1880, which 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), and 1903-1913 are from *Dokhody* (1908, 1909, and 1915).

Table 4: Zemstvo Land Tax Rates, 1890 and 1913 (in current kopeks)				
		Mean	SD	N
1 <i>desiatina</i> = 2.74 acres				
1890 Tax obligation per <i>desiatina</i> of peasant allotment (communal) land, district <i>zemstva</i>		18.0	8.1	354
1890 Tax obligation per <i>desiatina</i> of other types of land, district <i>zemstva</i>		13.9	8.2	354
1913 Average tax obligation per <i>desiatina</i> of peasant allotment land, provincial and district <i>zemstva</i>		62.7		
1913 Average tax obligation per <i>desiatina</i> of all land types (including peasant), provincial and district <i>zemstva</i>		50.8		

Sources: 1890 data from Veselovskii (Vol. 1 [Appendix], p. 190). 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.

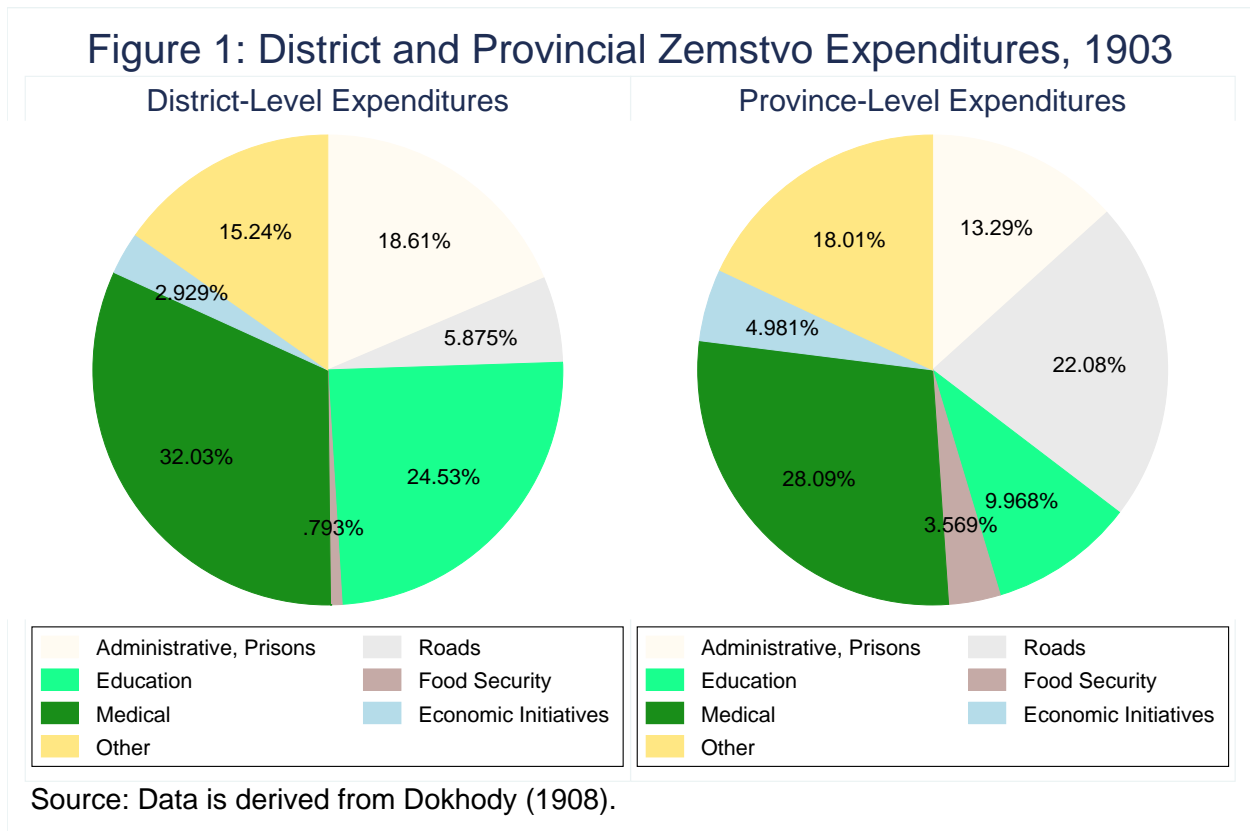


Table 5: Summary Statistics for District (*Uezd*)-Level Data

	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. Education share of <i>zemstvo</i> expenditures, 1903 (%)	21.92	7.66	359
4. Medical share of <i>zemstvo</i> expenditures, 1903 (%)	30.73	7.27	359
5. Road maintenance share of <i>zemstvo</i> expenditures, 1903 (%)	5.54	6.07	359
6. Per capita <i>zemstvo</i> revenues (all sources), 1903 (rubles)	1.04	0.52	359
7. Number of <i>sel'skoe obshchestvo</i> ("rural societies"), 1881	251.68	127.06	359
8. Portion of peasant allotment land in grain cultivation, 1885 (%)	41.51	14.58	358
9. Portion of all land owned by nobility, 1877 (%)	27.49	13.38	312
10. Portion of all land owned by nobility, 1905 (%)	17.17	9.72	312
11. Portion of all land owned communally by peasantry, 1877 (%)	49.31	14.96	312
12. Portion of all land owned communally by peasantry, 1905 (%)	50.04	15.18	312
13. Total population, 1881	126474.6	61054.37	359
14. Total population, 1897	182643.6	123556.8	359
15. Population per acre, 1897 (1881 total acreage of district)	0.35	0.56	359
16. Portion of population born outside province, 1897 (%)	5.40	6.48	359
17. Portion of literate males ages 20-29, 1897 (%)	47.05	14.48	358
18. Portion of males with main occupation in agriculture, 1897 (%)	72.69	15.48	359
19. Portion of population in peasant class, 1897 (%)	92.86	6.5	359
20. Mean male daily planting wage, 1884-1900 (kopeks)	92.86	6.5	359
21. "Contestable" = 1 if $45 < \% \text{ peasant curia votes} < 55$, 1864	0.264	--	359

Sources: 1 and 3-6 from *Dokhody i raskhody* (1908), 2 from Veselovskii (Vol. 1 [Appendix], 1909); 7 and 14 from *Mirskie raskhody* (1886), 9-12 from *Statistika* (multiple vols., 1906), 8 from Korolenko, ed. (1892), 20 from *Svod* (1903), and all others derived from the census data in Troinitskii, ed. (multiple vols., 1905). "%" indicates that the number is a percent (41= 41%).

Table 6: Determinants of District *Zemstvo* Expenditures, 1903

Dependent Variables:	Per Capita Expenditures (kopeks)		Education Expenditure Share		Healthcare Expenditure Share	
	% peasant assembly votes, 1890	1.362** (0.563)	1.205*** (0.422)	0.179*** (0.0592)	0.0667* (0.0380)	-0.0772*** (0.0272)
% pop. in peasant social class, 1897	-0.564 (0.657)	0.301 (1.004)	0.196 (0.118)	0.123 (0.112)	0.0769 (0.0866)	0.0211 (0.114)
Provincial capital (1 if yes)	-22.11** (8.142)	-10.43 (8.794)	2.748* (1.502)	2.265* (1.312)	-3.963*** (1.186)	-5.182*** (1.484)
Number of “rural societies”, 1881	-0.0429* (0.0242)	-0.0260 (0.0155)	-0.00643 (0.00407)	-0.00278 (0.0029)	-0.00577 (0.00381)	-0.00286 (0.00313)
Population per acre, 1897	-13.18** (5.909)	-20.35*** (4.764)	-1.085 (0.663)	0.0951 (0.536)	-1.215 (0.955)	0.437 (0.339)
% pop. born outside province, 1897	0.512 (0.976)	1.077 (1.010)	0.200 (0.135)	0.0219 (0.123)	0.0835 (0.140)	-0.0520 (0.0710)
Mean male daily ag. wage (kopeks), 1884-1900	1.224* (0.694)	-0.272 (0.746)	0.00837 (0.0799)	0.147 (0.102)	-0.128 (0.0787)	-0.0275 (0.0923)
% communal land in crops, 1885	-0.806** (0.344)	-1.138* (0.619)	0.0588 (0.0456)	0.126* (0.0660)	-0.0184 (0.0456)	-0.102* (0.0576)
% males in agriculture, 1897	-0.204 (0.177)	-0.386** (0.171)	-0.0726 (0.0534)	-0.0242 (0.0338)	-0.0123 (0.0414)	0.0319 (0.0329)
% males, 20-29, literate, 1897	0.489 (0.433)	0.213 (0.397)	-0.0141 (0.0555)	0.0508 (0.0390)	-0.0736* (0.0422)	0.00764 (0.0390)
Constant	114.4 (72.64)	138.2 (83.99)	1.601 (14.43)	-3.660 (10.06)	38.60*** (10.88)	37.04*** (13.29)
Observations	356	356	356	356	356	356
R ²	0.347	0.149	0.123	0.078	0.121	0.125
Provincial fixed effects?	No	Yes	No	Yes	No	Yes

Note: *** p<0.01, ** p<0.05, * p<0.1 Regressions are estimated by OLS (with and without fixed effects) with robust and clustered (by province) standard errors in parentheses. The explanatory variables are described in the text and summarized in Table 5. All “%” variables (including the dependent shares) are in percentage points – i.e. 80% = 80.

Table 7: Panel Analysis of District *Zemstvo* Expenditures, 1877 and 1903

Dependent Variables:	Per Capita Expenditures (kopeks)		Education Expenditure Share		Healthcare Expenditure Share	
% peasant assembly votes	1.217*	1.028	-0.00926	0.000061	-0.0294	0.0287
	(0.662)	(1.120)	(0.0448)	(0.0617)	(0.0450)	(0.0639)
% peasant assembly votes x "Contestable"		0.359		-0.0188		-0.109
		(1.015)		(0.0845)		(0.0853)
Year (1 if 1903, 0 if 1877)	72.20***	71.32***	8.088***	8.129***	10.78***	11.06***
	(7.505)	(9.382)	(0.673)	(0.697)	(0.719)	(0.702)
Population per acre	-15.12***	-15.15***	0.143	0.144	-0.179	-0.169
	(2.251)	(2.212)	(0.0921)	(0.0960)	(0.246)	(0.212)
Constant	21.28	25.35	14.14***	13.95***	21.04***	19.78***
	(27.89)	(37.49)	(1.837)	(2.049)	(1.835)	(2.042)
Observations	703	703	681	681	702	702
R ²	0.633	0.634	0.556	0.556	0.615	0.618
F-Test (% peasant votes, interaction term)		4.33**		0.05		1.04
District fixed effects?	Yes	Yes	Yes	Yes	Yes	Yes

Note: *** p<0.01, ** p<0.05, * p<0.1 Observations come from either 1877 or 1903 data. See Table 5 for the relevant source information. Regressions are linear with district and year fixed effects. Robust and clustered (by district) standard errors are in parentheses. "Contestable" is a dummy variable = 1 if the peasant electoral share was between 45 and 55 in 1864 – i.e. the peasants were "marginal" voters in these districts. The F-test is a test for whether the coefficients on the % peasant vote and the interaction terms are jointly significant. There are some observations from 1877