

The Organizational Demography of the Qing Civil Service

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The Qing dynasty (1644-1911) civil service was one of the largest and most important ‘modern’ organizations anywhere before the twentieth century. By modern, we mean that it was highly centralized, had well-articulated procedures for hiring, evaluation and promotion, and had clearly-defined requirements for the qualifications of its employees. A large subset of its employees were selected based on their performance on standardized examinations. It consisted of 13,000-15,000 officials at any given time, and they administered a country with an area similar to that of the continental United States and with a population that ranged from 150,000,000 at the beginning of the Qing to 400,000,000 at the end of the Qing.

The employees of such a large organization represent a population in its own right, with structure and dynamics determined by patterns of entry, promotion and exit. New hires are analogous to births, length of service analogous to age, and exits from employment analogous to death. Meanwhile, the population was internally differentiated on a number of characteristics, including bureaucratic rank, qualifications and basis of appointment. These subgroups had different rates of promotion and eventually exit that helped shape the overall composition of the civil service.

We have a unique opportunity to analyze the Qing civil service as a population because we have complete records of almost all civil servants between 1850-1912. Since 2014, we have been constructing a database on Qing officials called the China Government Employee Database – CGED-Q. It includes complete employment records compiled from a detailed roster of nearly all civil servants (*Jinshenlu* 縉紳錄) that the Qing government published every three months. We have transcribed the surviving editions for the period 1850-1912 and linked the records of individual officials recorded in these editions to produce a longitudinal database that follows the careers of everyone who served during this period. We describe the database in detail later.

We apply demographic techniques to these data to characterize the composition and dynamics of the population of civil officials, including their rates of entry and exit, life table measures of duration of service, the composition of the population in terms of qualifications, and the role of differentials in rates in shaping composition. We pay particular attention to differences in the structure and composition of the civil service between the capital Beijing and the provincial and county administrations, and changes over time in the last half of the nineteenth century. For the latter, we assess the implications of major disruptions like the Taiping Rebellion, during which time the central government lost control of a number of provinces, as well as other changes in the last half of the nineteenth century.

We also investigate and compare age composition and dynamics for subsets of officials who can be linked to data that provides their year of birth and/or year of death. This allows us to produce the first estimates ever of the average age at entry into and exit from service for specific subgroups of officials. We will also compare age distributions of subsets of officials according to whether their selection into a source was prospective or retrospective. As we describe below, for one set of officials, the data on year

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of birth is prospective in the sense that it includes exam degree holders who were eligible for office, regardless of whether they actually later held office, or how long they served. For another set of officials, the data is retrospective in that it comes from other sources that only recorded officials after they achieved some measure of distinction. Comparison of these two subsets of officials will provide insight into the implications of the selection biases of the latter sources.

The resulting analysis will make a number of contributions. At the very least, it will provide a new understanding of basic features of the Qing civil service in terms of its size, composition and change over time, and the turnover and career lengths of officials. Beyond providing important insight into late imperial Chinese history, we hope that more broadly this will generate interest in the study of the demography of organizations, and inspire the construction of databases of the personnel of large organizations in past times. Such databases would not only be interesting in their own right for the study of 'modern' organizations before the 20th century, but also as sources to be linked to the other population databases under construction for many societies.

Data

Our data on Qing civil servants comes from the China Government Employee Database-Qing (CGED-Q). Construction of this database is ongoing. The CGED-Q links information on family background, exam qualifications, and civil service careers from originally separate sources. CGED-Q information on appointment and career mobility in the civil service is drawn from the *Jinshenlu* (縉紳錄). This was a roster published every three months that listed government officials by name with province and county of origin, Banner status, examination degree or other title, geographic location, government office, and other details. Each edition recorded 13,000-15,000 officials. The government produced official editions for its internal use, and based on these official editions commercial publishers produced unofficial editions that often included additional information.

The *Jinshenlu* recorded officials at all ranks, from low-level officials in county governments all the way up to high officials in the central government. Based on analysis of data already entered, we have published a paper that introduces the *Jinshenlu* data, summarizes its strengths and weaknesses, and presents initial descriptive findings (Ren et al. 2016). As of September 2018 we have entered 2.77 million records of 269,517 civil officials in 196 quarterly editions of the JSL. 166 of these are from the period between 1850 and 1912, accounting for two-thirds of the editions during that period. The only years between 1850 and 1912 for which we have no editions entered are 1853, 1862 and 1863. For the remaining years, coverage in the database is mostly quarterly, though there are some gaps of six to twelve months because of missing editions.

We have transformed the entries in the originally cross-sectional *Jinshenlu* into longitudinal career histories via nominative linkage. Such linkage is much more straightforward in our historical Chinese data than in data from Western sources because for the elite Han Chinese males during the Qing who worked as civil servants, the combination of surname, given name, province and county of origin and time period was almost always unique. Elite males typically had given names that included Chinese characters selected to showcase their erudition. Moreover, lineages avoided repetition of male given names, so it was extremely unusual for a male to share the same given name with any living relative.

We obtain age for a subset of officials who can be linked to sources that record their year of birth and/or year of death. For our analysis, the most important are officials who held national (*jinshi* 進士) or

provincial (*juren* 舉人) examination degrees and were recorded in privately-compiled records of degree holders called *tongnianchilu* (同年齒錄). These records included year of birth and other details, allowing for the computation of age. In a sense they are prospective, and allow us to follow well-defined sets of candidates eligible for appointment from the time before they were appointed. They record all or most of the officials who took the exam at a particular sitting. For another subset of officials, the China Biographical Database (CBDB) provides years of birth and death from information about them scraped from local gazetteers. We are more cautious with the CBDB data because the information in gazetteers was essentially retrospective. Gazetteers tended to record local residents who had distinguished themselves in some fashion or another, so were biased towards officials who survived long enough in office to achieve distinction.

Because *tongnianchilu* were compiled and distributed privately by graduates of specific sitting of national or provincial exams, the spatial and temporal coverage of surviving editions are uneven. Thus far we have entered data on ancestry from *tongnianchilu* for 2079 holders of national-level exam degrees (*jinshi*) who passed the exam in 1835, 1856, 1865, 1868, 1871, 1876, 1880, 1889, 1890, and 1895. We are in the process of locating and entering data on *jinshi* from sittings of the exam between 1850 and 1912. We have also acquired *tongnianchilu* data for 5,025 holders of the provincial exam degree (*juren*) from sittings of the exam in different years in a variety of provinces. At present most of the data are for provincial degree holders who sat for the exam in Jiangsu, Anhui, Shanxi, Henan and what is now Hebei.² We are currently expanding this sample.

Results

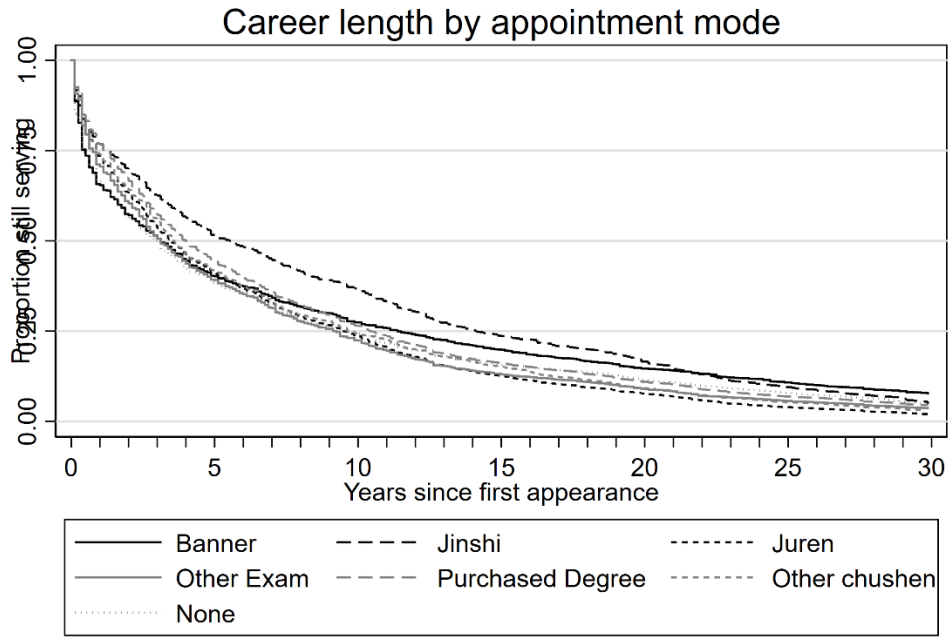
We present examples of the results that will be included in the full paper. Figure 1 presents the results of a life table analysis of the length of employment according to the qualifications that were the basis for the official's initial appointment. According to these results, most officials, regardless of their qualifications, served for only a short period. For every category except holders of the national exam degree (*jinshi*). Only half served for more than three years, and only one quarter served for more than ten years. Only *jinshi* degree holders had somewhat longer careers, with half serving for more than 5 years, and one quarter serving more than 15 years. The finding that careers for most officials lasted for only a few years has come as a surprise to many, but in fact there have been no previous quantitative studies that have established the based parameters of careers.

Figure 2 presents the age distribution of officials who qualified on the basis of having a provincial exam degree (*juren*) who could be linked to a *tongnianchilu*. What is striking is how old these officials were. The modal age was between 45 and 65, with a peak between 55 and 60. In other analyses we have shown that this was because of the remarkable length of time that *juren* had to wait after they earned their degrees before they were given an appointment. Half waited twenty or more years. In fact, we have found that serving *juren* were older than holders of national degrees who held office, because the latter tended to be given appointments immediately after their earned their degree.

² We are grateful to Yifei Huang for sharing the data he compiled for graduates who took the exam in Anhui and Jiangsu (Jiangnan 江南) and which he analysed in Huang (2016).

Huang, Yifei. 2016. Essays in Economic History and Applied Microeconomics. PhD Dissertation, California Institute of Technology.

任玉雪 (Ren Yuxue), 陳必佳, 郝小雯, 康文林 (Cameron Campbell), 李中清 (James Z. Lee). 2016. <清代縉紳錄量化數據庫與官僚群體研究>. 清史研究. 第四期: 61-77.



Based on time of first and last appearance in JSL. Restricted to officials entering in or after 1850. 78111

