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'The Qing State's influence on China's manufacturing sector of the 1910s: New measurements at the provincial level'

The Qing Empire's investment in new technology and new methods of production during the political and economic reforms in the late Qing period of the 1860s–1910s presents another picture of China's early industrialisation and modernisation before WWII. China's industrialisation was region-specific with several well-known industrial centres stood out early on in the 1910s. This study will first provide for the first time the measurements for the Qing state investment related to industrialisation and then try to examine whether the regional distribution of manufacturing production could be affected by these investments initialised and financed by the Qing state since the 1860s. This study will add to our knowledge regarding the role of a state and the history of industrialisation.

This study will provide quantitative indicators for the Qing state investment in new technology and production at the provincial level. Based on previous historical research, I will first reorganise the Qing state investments into several major categories: education and training, military production, state-owned factories, telegraphy and railways. The data will be collected and constructed at provincial levels and for two periods: during the Self-Strengthening Movement of the 1860s–1890s and the period until the end of the Qing regime, i.e. the 1890s–1910s. I will use an Exploratory Factor Analysis to extract common dimensions from the various categories of the Qing state investment across all sample provinces. The preliminary result shows that the Qing state investment in the concerned period could be captured by military-related and infrastructure-related directions of investment. The new indicators show that the Qing state's investment target shifted from military-related to infrastructure-related direction after the First Sino-Japanese War (1894–95). The indicators will also reveal provincial variations in directions of state investment. Before 1896 the Qing state investment was concentrated in a few provinces. In 1910, almost all provinces were involved in these state investments, which reveals a pattern of geographical expansion of China's early industrialisation.

Then, this study will explore the relationship between the Qing state investment and the provincial industrial performance of the 1910s, and evaluate the Qing state's intervention in China's early industrialisation. This study will use the official industrial census published in the 1910s, and the dataset on China's early manufacturing sector will cover 22 provinces and 31 industries. The preliminary result from regression analysis shows that in general military-related state investment may have had a negative impact on provincial manufacturing output. The post-1896 military-related investment otherwise may have had a positive influence on the heavy industry in a few provinces. This result seems to be reasonable since the investment in capital-intensive military production could benefit the heavy industry such as chemicals, iron and steel, considering the Qing state's strong intention of strengthening the national defence. However, the infrastructure-related investment that consists of mostly railway construction may harm industrial production. In particular, the Qing state investment may have failed to generate private investment in factory production relative to traditional family handicrafts, which may explain the slow industrialisation in the late Qing period.