

Grain prices in the Russian Empire: did convergence come by train?*

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Abstract

Commodity prices across regions are not randomly distributed. Prices in one region may be correlated with those in another region, and to a large extent, price differences depend on the proximity of regions. Locational patterns of economic activity and transport infrastructure are crucial for understanding inter-regional trade, therefore, introducing a new transportation system may affect existing commodity prices. This paper studies the impact of 1) the proximity of regions on grain prices; 2) the railroad development on grain prices in the Russian Empire. I use a unique geo-coded dataset consisting of annual grain (rye, oats, wheat, and barley) prices, cultivated area, harvest data, population structure, and annual information on the railroad construction in gubernias (regional units) of the Russian Empire in the period from 1860 to 1913.

I show that the data on prices in provincial cities of the Russian Empire yield strong empirical support for convergence in grain prices across gubernias during the period under consideration. I find that estimates of the speed of grain price convergence in the Russian Empire are consistent with those of the US states during the comparable time period.

Spatial autocorrelation analysis of regional grain prices points to the need for taking into account the role of proximity in regional price convergence. Finally, using data on railroads commissioning, I find that the effect of railways on grain price convergence was significant. Furthermore, the effect of railways on price gap reduction depended on the time that passed after a pair of gubernias had linked by railroads. The numerical values of the regression coefficients are not very high. One possible reason for this is that the railway system was introduced in the pre-existing trade network, and the own grain traffic of railroads was rather low.

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Keywords: railways, grain, price, convergence, Russian Empire.

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