Alexandra Cermeño (Lund) & Carlos Santiago-Caballero (Carlos III de Madrid)

'All roads lead to market integration? Lessons from a spatial analysis of the wheat market in eighteenth-century Spain'

Defining the moment when the Spanish market became fully integrated is crucial to explain its long-term economic performance. The traditional literature argued that it was not until the nineteenth century, with the introduction of the railroad, that markets became integrated in Spain. The reasons for the delay were the difficulties imposed by geography and the lack of efficient transportation alternatives to roads like canals and navigable rivers. However, a revisionist literature pointed out that by the eighteenth century, Spain had already reached significant levels of market integration. Our study builds up within this historiographical debate using alternative data and methods to the typically used in the literature. We focus on the analysis of a large cross-section of local level wheat price observations and study their spatial autocorrelation instead of focusing on convergence and covariance of price time series.

This paper uses newly collected data from a large-scale census (*Catastro de la Ensenada)* to investigate the scale and causes of market integration in eighteenth century Spain. We analyse the prices of wheat for 5,176 municipalities and test for their spatial autocorrelation using Local Moran's Indexes which identify patterns on the similarity of data across space. Our results are consistent with the revisionist literature which finds integrated regional clusters which are not, however, well integrated at the national level. To further investigate the reasons of the regional integration and global dis-integration, we calculate the prices' coefficients of variation for the neighboring 50 km buffers from each municipality. We then test econometrically which geographic and market variables had an impact on this pattern using Ordinary Least Squares and Two Stage Least Squares regressions, and explore the need to adjust for spatial interactions using Spatial Auto Regressive models. We find that these patterns are heavily influenced by geographic variables, but also that the road network developed and used by travellers and tradesmen helped market integration and helped to soften the negative effects of geographical barriers. Our results suggest that unfavourable geographical conditions can be overcome by investments in transportation infrastructures given that certain circumstances hold (i.e., decent prospects of market potential).