

Philip Slavin (Stirling)

‘Calorific divergence’: Towards the history of global arable productivity, c.1200-1900  
– some preliminary insights

The proposed paper offers a global outlook on agricultural productivity development in a very long run (c.1200-1900), focusing on the arable sector. On the basis of both published and unpublished statistical data from a wide geographic range and chronological coverage (including, but limited to, medieval/early-modern Europe, Mamluk Middle East, the Ottoman Empire, Imperial Russia, Imperial China and Colonial Americas), the paper aims at (1) establishing comparative rates of agricultural productivity, in both absolute and relative terms, over several benchmark periods; (2) explaining dynamic, yet persistent existence of international inequality within the agricultural sector.

To establish comparative rates of agricultural productivity, the paper will estimate (1) seed ratios; (2) arable/calorific output per land-unit; (3) seeding rates (expressed as a share of annual harvests invested in seed); (4) [subject to the progress of the current project] labour productivity rates. The paper will then estimate the annual calorific requirements of different regions in relation to the total arable output, to determine which regions were characterised by one of the three following conditions: (1) arable output exceeded annual requirements and, thus, produced marketable/export surpluses; (2) arable output produced just sufficient quantities, with little or no room for exports; (3) arable output produced less than what was required and, thus, depended on grain imports. The paper will then ask if the first condition was an indicator of prosperity or (to the contrary) backwardness; if the second condition would necessary lead to 'Boserupian' improvements and, by extension, economic growth; and if the third condition is a necessary indicator of wealthy, post-Malthusian and industrial societies.

The results and conclusions of the paper will be placed within a wider context of ongoing historiographic and intellectual debates and 'big' questions, including the roots of the 'Great Divergence', the Industrial Revolution, international inequality, and the interaction between exogenous (natural), endogenous (institutional) and 'real' (demographic) factors.