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## Speed under Sail, 1750-1850

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Title: Speed under Sail, 1750-1850

Authors: Kelly, Morgan  
Ó Gráda, Cormac

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**Abstract:** We measure technological progress in oceanic shipping by using a large database of daily log entries from ships of the British and Dutch navies and East India Companies to estimate daily sailing speed in different wind conditions from 1750 to 1850. Against the consensus, dating back to North (1958, 1968), that the technology of sailing ships was static during this period, we find that average sailing speed in a moderate breeze (the usual summer conditions in the North Atlantic) rose by one third between 1780 and 1830; with greater increases at lower wind speeds. About one third of this improvement occurs when hulls are first copper plated in the 1780s, but the rest appears to be the result of incremental improvements in sails, rigging, and hull profiles.

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