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Steven M. Gonek* (gonek@math.rochester.edu), Department of Mathematics, University of Rochester, Rochester, NY 14627. *Finite Euler product approximations of the Riemann zeta-function.*

We discuss a family of approximations of the Riemann zeta-function and a closely related function formed from finite Euler products, the pole of the zeta-function at $s = 1$, and any zeros the zeta-function might have in the right half of the critical strip. The analysis is unconditional and suggests that if the Riemann Hypothesis is false, then the zeta-function's zeros “arise” in two ways. (Received September 10, 2013)