Not zero, and then some!

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To prove the prime number theorem is to show that $\zeta(1+it) \neq 0$. Showing that $\zeta(s)$ is 'even more non-zero' near $s = 1 + it$ is surely better... we get the prime number theorem and then some. The same remark applies to primes in arithmetic progressions and $L(1, \chi)$. The more 'non-zero' it is, the better! I shall discuss recent work on this, available at arXiv:2107.09230, which is joint with Mike Mossinghoff (CCR, Princeton) and Valeriia Starichkova (UNSW Moscow).

[1] Mossinghoff, Starichkova, T., Explicit lower bounds on $|L(1, \chi)|$, https://arxiv.org/abs/2107.09230