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Title: A Turán–Kubilius type inequality on shifted products **Author(s):** Joël Rivat and András Sárközy

In 1934 Turán proved that if $f(n)$ is an additive arithmetic function satisfying certain conditions, then for almost all $m \leq n$ the value of $f(m)$ is “near” the expectation $\sum_{p \leq n} \frac{f(p)}{p}$. Later Kubilius sharpened this result by proving that the conditions in Turán’s theorem can be relaxed, and still the same conclusion holds. In an earlier paper we studied whether this result has a sum set analogue, *i.e.*, if $f(n)$ is an additive arithmetic function and A, B are “large” subsets of $\{1, 2, \dots, n\}$, then for almost all $a \in A, b \in B$, the value of $f(a + b)$ is “near” the expectation? We proved such a result under an assumption which is slightly milder than Turán’s condition, but is not needed in Kubilius estimate. In this paper we prove the multiplicative analogue of this theorem by proving a similar result with $ab + 1$ in place of $a + b$.

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