1154-03-317 **Andreas Blass*** (ablass@umich.edu), Mathematics Dept., University of Michigan, Ann Arbor, MI 48109. *Choice from finite sets — a topos view.* Preliminary report.

Work of Mostowski, Gauntt, and Truss provided finite group-theoretic characterizations for ZF-provability of implications of the form "For every set $I$, if every $I$-indexed family of sets with cardinalities in $Z$ admits a choice function, then so does every $I$-indexed family of $n$-element sets." Such an implication admits the topos-theoretic formulation "In any slice topos of a model of ZF, if every object of cardinality (in the internal sense) in $Z$ has a global point, then so does every object of cardinality $n$." I abbreviate this as "Slice topoi of models of ZF satisfy $Z \to n$." The group-theoretic equivalent turns out to be "Topoi of $G$-sets for arbitrary (finite) groups $G$ satisfy $Z \to n$." **Theorem:** These statements are also equivalent to "All topoi satisfy $Z \to n$." (Received August 30, 2019)