

A PROBABILITY DISTRIBUTION ASSOCIATED WITH EVENTS WITH MULTIPLE OCCURRENCES

John PANARETOS

University of Patras, Greece

Evdokia XEKALAKI

Athens University of Economics, Greece

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Abstract: The paper discusses extensions of the well-known hypergeometric and negative hypergeometric distributions for describing data with multiple counts. The derivation of these extensions is based on certain urn schemes that allow for sampling clusters of items rather than individual items. The obtained distributions are then examined with respect to their properties, interrelations as well as relations to other existing distributions.

Keywords: cluster hypergeometric distribution, cluster negative hypergeometric distribution, cluster binomial distribution, cluster Polya distribution.