

**Ferreira, José T. A. S.; Steel, Mark F. J.**

**A constructive representation of univariate skewed distributions.** (English) Zbl 1119.62311  
J. Am. Stat. Assoc. 101, No. 474, 823-829 (2006).

Summary: We introduce a general perspective on the introduction of skewness into symmetric distributions. Through inverse probability integral transformations we provide a constructive representation of skewed distributions, where the skewing mechanism and the original symmetric distributions are specified separately. We study the effects of the skewing mechanism on, e.g., modality, tail behavior and the amount of skewness generated. The representation is used to introduce novel classes of skewed distributions, where we induce certain prespecified characteristics through particular choices of the skewing mechanism. Finally, we use a Bayesian linear regression framework to compare the new classes with some existing distributions in the context of two empirical examples.

**MSC:**

**62E10** Characterization and structure theory of statistical distributions  
**62F15** Bayesian inference

Cited in **3** Reviews  
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