No issue has been the subject of greater debate among both practicing and academic accountants than asset valuation (and hence income measurement). The debate on this issue has been going on for over 50 years (e.g., Paton [1922] and Canning [1929]) and, at times, at a high level of intensity. The primary issue is whether historical cost of assets should be adjusted for price changes and, if so, how. Following Ijiri’s [1967; 1968] characterization of valuation rules as linear aggregation functions, Sunder [1978] developed a scheme of algebraic representation of valuation rules (e.g., historical cost, general price-level-adjusted, current value, etc.) as a function of the set of price indexes used to adjust the historical data. A mean-squared difference between current and an estimated value of baskets of assets summarizes the ability of various valuation rules to approximate current value. This mean-squared difference is an inverse measure of accuracy of valuation rules, and some of its mathematical properties were derived by Sunder [1978].

In this paper we first derive additivity as another important mathematical property of the accuracy of valuation rules and then present an unbiased statistical estimator of accuracy. These analytical results enable us to conduct empirical estimations of accuracy of valuation rules using the Producer Price Index database in Sunder and Waymire [1983].