Profitability change can be decomposed into the product of a total factor productivity (TFP) index and an index measuring changes in relative prices. Many TFP indexes can be further decomposed into measures of technical change, technical efficiency change, scale efficiency change and mix efficiency change. The class of indexes that can be decomposed in this way includes the Fisher, Törnqvist and Hicks-Moorsteen TFP indexes, but not the Malmquist TFP index of Caves, Christensen and Diewert (1982). This paper develops data envelopment analysis (DEA) methodology for computing and decomposing the Hicks-Moorsteen index. The empirical feasibility of the methodology is demonstrated using country-level agricultural data covering the period 1970-2001. The paper explains why relatively small countries tend to be the most productive, and why favourable movements in relative prices tend to simultaneously increase net returns and decrease productivity. Australia appears to have experienced this relative price effect since at least 1970. Thus, if Australia is a price-taker in output and input markets, Australian agricultural policy-makers should not be overly concerned about the estimated 15% decline in agricultural productivity that has taken place over the last three decades.