This article provides empirical evidence on technical efficiency differences and efficiency distribution for three Kenyan manufacturing subsectors, namely food, metal and textile, using an unbalanced panel data covering two periods. Econometric production frontiers are estimated for each subsector in each period. The confidence predictions for these efficiencies were, however, found to be quite wide. The results indicate variation of technical efficiency estimates of the sampled firms in each period. The technical efficiency distribution for each subsector changed not only in relation to itself, but also in relation to the other subsectors across the two periods of analysis. The efficiency distribution of the firms for both food and textile (metal) subsectors improved (declined) during the study period but with the food subsector firms remaining relatively inefficient. The improvement of the technical efficiency distribution for both the textile and food subsectors is an indication of intra-plant improvement during the period of analysis. The decline of the technical efficiency distribution for the metal subsector suggests that the market orientation during the structural reform period did not promote firm efficiencies or the firms were slow in responding to the reforms.