

A Correction on the Equations

In the “Notes on the Use of an Augmented Production Function to Explain the First and Second Industrial Revolutions” posted to my website on July 13 the following equation appears:

$$q = A k^* l a^*$$

This equation is incorrect. The correct equation is:

$$q = A (k^*)^\alpha (l a^*)^{[1-(\alpha+\beta)]}$$

Note that as industrialization spreads in the United States during the 19th century, and as agriculture mechanizes, the growth of k^* exceeds the growth of $l a^*$. The parameter α increases and the parameter $[1-(\alpha+\beta)]$ falls. Productivity per augmented labor input grows primarily because of capital deepening – the rising value of k^* - and disembodied technological progress associated with the growth of the residual factor A (ideas, social infrastructure, scale economies, and shifts of resources out of farming into manufacturing).

One consequence of this is that the share of income accruing to owners of capital tends to rise and the share of income accruing to owners of land falls. To some extent the populist reaction to rapid growth of large-scale “visible hand” business in the post-Civil War period reflects this reality.