Shares of each of the 37 material input purchases to total material expenditures were then calculated by industry. The product of these shares, multiplied by the relevant industry selling price indices, were summed to produce a weighted material price index for each industry. This was set equal to 1 in 1980.

$$\text{Weighted Material Price Index}_{(i)}\ (1980 = 1) = \sum_{j=1}^{37} \text{share}_{(j)} * \text{price index}_{(j)}$$

where i = industries 1 to 30
j = materials 1 to 37

Technical coefficients, defined as ratios of total real material input costs to total real output by industry, were constructed from the constant-dollar I-O tables. These coefficients, which reflect the changing composition of material input usage across industries over time, were then regressed on an annual time trend over the period 1971 to 1980. Where significant statistical relationships existed, an equation was formed to project the coefficients over the 1981 to 1984 period. In all other instances, they were held constant at 1980 levels. All coefficients were then transformed into an index number set equal to 1 in 1980.

Over the period 1981 to 1984, unit material costs were calculated by multiplying the value of unit material costs in 1980 by the indexed coefficient and the weighted material price index.

$$\text{Unit Material Costs}_{(i)}(1981 \text{ to } 1984) = \text{Unit Material Costs}_{(i)}\ (1980) * \text{Indexed Coefficient}_{(i)} * \text{Weighted Material Price Index}_{(i)}$$

where i = industries 1 to 30