It is interesting to note some comparative static results on the optimal patent term. Table 1 illustrates these results:

(i) The higher the elasticity of demand η, the lower is T, everything else being constant.

(ii) The larger the cost reduction B, the lower is T, everything else being constant.

There are basically two reasons why one might expect a shorter optimal patent life for large cost reductions[78]:

(a) large cost reductions quickly pay for themselves, and
(b) with monopoly pricing, a large cost reduction produces a large deadweight loss.

Therefore optimal social policy should call for an early termination of these deadweight losses. The same arguments apply to the elasticity of demand. The larger the value of η, the larger is the value of the associated deadweight losses. Consequently, the optimal social policy should be a shorter patent life in order to reduce the size of this deadweight loss.

Dore et al. consider a generalized invention possibility function B(R) which exhibits increasing as well as decreasing returns to scale and incorrectly argue that the optimal patent term depends on the variable elasticity of cost reduction with respect to research (output elasticity of research). If a generalized invention possibility function is specified, it can easily be shown that the optimal patent term depends on the variable degree of sharpness (the curvature) of the invention possibility function rather than the output elasticity of research.

[78] F.M. Scherer, 1972, *op. cit.*