Combining the two features, spillover benefits of innovations through diffusion of new knowledge economy-wide and increasing returns to scale that result in above-normal profit-generating, imperfectly competitive international markets, the pattern of trade is determined. A country that is well endowed with human capital specializes relatively in performing (human capital intensive) R&D and develops a comparative advantage in high-tech manufacturing. At the same time, a country with an abundance of unskilled labor devotes relatively few resources to industrial research and ultimately finds itself importing high-technology goods and exporting traditional manufactures.

- **"New Growth Theory" and the Patent Term**

In the GH theory, entrepreneurs invest resources in order to develop unique goods. "Product designs are assumed to be proprietary information, either because their details can be kept secret or because *patents* effectively deter unauthorized uses."[63] GH also assume that innovators can appropriate the returns to product innovations which enable them to manufacture new products, but not the returns to general knowledge (applied science) which serves as an input in the innovative activity. The diffusion of innovation is central to international spillovers through trade in commodities and to long-run comparative advantage.

The institution of patents is thus essential in the new growth theory. What is the optimal patent term in these models? Without formally setting up the model, it is clear that the diffusion of innovations can only take place if the patent term is shorter rather than longer. Also, the successive cycles of innovations make the earlier generation of products and the innovations they embody obsolete. This was illustrated in the computer example above. This is a significant modification of the Berkowitz and Kotowitz conclusion that no patent system is in the interest of trading economies. Even a small trading economy would have to provide IP protection if it wants to benefit from international technology inflows. Otherwise, advanced countries will pass it by.

Thus, the theory of the optimal patent term must be integrated into the "new growth theory". One result is that the BK conclusion is modified: *A positive but not necessarily a long patent term is optimal for a trading economy.*

[63] Gene M. Grossman and Elhnan Helpman, 1991, *op. cit.*, p. 43.